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## Revision of the western Palearctic species of *Dusona* Cameron

(Hymenoptera, Ichneumonidae, Campopleginae)

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The western Palearctic species of *Dusona* Cameron are revised. Fifteen new synonymies are indicated, and lectotypes are designated for five taxa. In a checklist, 109 valid names of identified species, 23 nomina dubia and 110 junior synonyms (including five infrasubspecific names) are listed. A key is provided for 109 species. Detailed descriptions of 46 species are given, among these ten new species (63 trans-palearctic species having been described by Hinz & Horstmann 2004).

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### Introduction

This paper is an extension of an earlier revision of the eastern Palearctic species of *Dusona* Cameron (Hinz & Horstmann 2004). It is based on type revisions by Hinz (1957, 1961, 1962, 1963a, 1963b, 1972, 1973, 1975, 1976, 1977, 1979, 1990) and on his collection that is deposited in the ZSM. In addition, large series of *Dusona* specimens from the M. Schwarz collection and from museums in Edinburgh and Linz, smaller series from the H. Schnee collection and from museums in Leiden, London and Madrid, and specimens of rare or doubtful species from the K. Schmidt and the K. Zwakhals collections and from museums in Helsinki, Paris, Santa Cruz de Tenerife, Stockholm, Vienna and Wageningen were studied. Several types were re-examined.

Ten species are described as new, none from the British Isles (despite the large amount of material studied), three from central Europe (a low number, in view of the very large amount of material studied), three from Spain, one from Italy, two from eastern Europe and one from Turkey. Apparently the fauna of northern, western and central Europe is well known now, and also the fauna of southern and eastern Europe, and of the Near East is rather well known. Few specimens from northwestern Af-

rica were examined; all belonged to species already described from Europe. No specimen was seen from Egypt, and also Shaumar (1966) reported no *Dusona* species from this country.

Several old authors (Audouin, Brischke, Christ, Gmelin, Pollich, Schrank, Sulzer) described species of Ichneumonidae from Europe, which possibly belong to *Dusona* Cameron, but the descriptions are insufficient and the types are lost. These names remain nomina dubia.

The recent studies were supported by many colleagues: E. Diller and S. Schmidt (Zoologische Staatssammlung, Munich, Germany = ZSM) allowed me to remove temporarily the *Dusona* material of the Hinz collection from Munich to my home in Würzburg. G. Broad (Natural History Museum, London, U.K.), S. Csösz (Magyar Természettudományi Múzeum, Budapest, Hungary), R. Danielsson (Zoologiska Institutionen, Lund, Sweden), A. Freitag (Musée Zoologique, Lausanne, Switzerland), F. Gusenleitner (Biologiezentrum, Landesmuseum, Linz, Austria), A. G. Irwin (Norfolk Museums Service, Norwich, U.K.), I. Izquierdo and M. Paris (Museo Nacional de Ciencias Naturales, Madrid, Spain), Y. Jongema (Laboratory of Entomology, Wageningen, Netherlands), D. R. Kasparyan (Zoological Institute, Russian Academy of Sciences, St.

Petersburg, Russia), J.-P. Kopelke (Naturmuseum Senckenberg, Frankfurt, Germany), P. Malinen (Zoological Museum, Helsinki, Finland), G. Ortega (Museo de Ciencias Naturales, Santa Cruz de Tenerife, Spain), J. Sawoniewicz (Białystok, Poland), K. Schmidt (Heidelberg, Germany), H. Schnee (Markleeberg, Germany), M. Schwarz (Kirchschlag, Austria), M. R. Shaw (National Museums of Scotland, Edinburgh, U.K.), A. Taeger (Deutsches Entomologisches Institut, Müncheberg, Germany), E. Tremblay (Museo Zoologia, Napoli, Italy), H. Vårdal (Naturhistoriska Riksmuseet, Stockholm, Sweden), C. Villemant (Muséum National d'Histoire Naturelle, Paris, France), M. Vizek (Naturhistorisches Museum, Vienna, Austria), R. de Vries (Nationaal Natuurhistorisch Museum, Leiden, Netherlands), and C. J. Zwakhals (Arkel, Netherlands) sent types and other material for comparison. C. W. Moeliker (Natuurmuseum, Rotterdam, Netherlands) informed me about two types in the Rotterdam museum. M. R. Shaw assisted me with the English language. I am indebted to them all.

### Explanations of terms

Special terms used in the descriptions of Ichneumonidae were defined and figured by Townes (1969: 36 ff.). Some important characters used for the differentiation of *Dusona* species were described and figured by Hinz & Horstmann (2004: 5 ff.). Short definitions of some terms are given here.

**Antennal carina:** Carina surrounding the antennal socket. The descriptions refer to the dorsal part only.

**Black lateral stripe:** A structure on either side of the 3<sup>rd</sup> gastral tergite in most of those species in which the epipleurum is not separated from its tergite. It is a horizontal carina on the inside of the tergite, well separated from the ventrolateral edge, which is marked with black, the black colour showing through the tergite.

**Epipleurum (= laterotergite):** Lateral part of the 3<sup>rd</sup> gastral tergite, which is completely or partly or not at all separated from the remaining part of that tergite by a horizontal crease or bulge. If the epipleurum is separated from its tergite, it is usually folded in and concealed on the inside of the latter, the crease being marked with black. If the epipleurum is separated only on the anterior 0.3 or less of the tergite, it is sometimes folded back secondarily and pendent as a triangular or semicircular lobe. If the epipleurum is not separated from its tergite, the former horizontal crease is often replaced by a black lateral stripe.

**Genal carina:** Carina separating the temple and the gena from the occiput.

**Glymma:** A large or small groove or pit on either side of the petiole.

**Lateral area of the petiole:** A narrow area on either side of the petiole, being bordered by fine carinae or defined by a change in the sculpture of the surface (coriaceous instead of smooth).

**Median longitudinal carinae:** Carinae of the propodeum bordering the area superomedia and the area petiolaris laterally.

**Mesopleurum:** The descriptions usually refer to the central part only. The speculum and the depression in front of the speculum are mentioned separately.

**Oral carina:** Carina separating the occiput from the mouth opening.

**Petiolar suture:** Suture separating the 1<sup>st</sup> gastral sternite from its tergite.

**Pleural carina:** Carina bordering the metapleurum dorsally and posteriorly, thus separating it from the propodeum.

**Prepectal carina (= epicnemial carina):** Carina separating the mesopleurum and mesosternum from the prepectus (= epicnemium). The ventral part lies between its junctions with the transverse carinae; the pleural parts extend between their junctions with the transverse carinae and the anterior edges of the mesopleura.

**Punctuation:** In a dense punctuation the punctures are for the greater part wider than their interspaces. In a dispersed punctuation the punctures are for the greater part narrower than their interspaces. In a rather dense punctuation many punctures are as wide as their interspaces.

**Radial wrinkles:** Wrinkles on the ventral part of the frons, running upwards and sideways from the dorsal part of the antennal carina.

**Red colour:** The colour of the median gastral tergites of most species is described as red, but it varies between light reddish brown and dark reddish brown both within and between several species.

**Spiracular carina:** Carina connecting the propodeal spiracle with the pleural carina.

**Tangential lines on eyes and temples:** Imaginary lines defined to describe the slope of the temples.

**Tarsal claws:** The hind tarsal claws are described as short (about as long as the empodium) or elongated (distinctly longer than the empodium).

**Thyridium:** The thyridium is described as circular (1.0-1.5 times as long as wide), oval (about 2.0 times as long as wide) or elongated (more than 2.5 times as long as wide).

**Transverse carina:** Carina separating the ventral from the pleural part of the prepectus.

**Yellow colour:** The yellow colour of the median gastral tergites in some *Dusona* species is rather often partly replaced by dark brown or black marks (with a different pattern in different specimens). Possibly this is a post-mortem effect which is not taken into account in the key.

## Definitions of indices

Epipleural index: Ratio of the length of the crease or bulge separating the epipleurum from the 3<sup>rd</sup> gastral tergite to the lateral length of that tergite.

Genal index: Ratio of the length of the oral carina between its junction with the genal carina and the base of mandible to the basal width of a mandible.

Malar space index: Ratio of the shortest distance between the rim bordering the mandibular groove and the eye (= malar space) to the basal width of a mandible.

Nervellar index: Ratio of the length of the upper (anterior) branch of the nervellus (between its junctions with the mediella and the discoidella) to the total length of the nervellus.

Ocellar index: Ratio of the shortest distance between the eye and the hind ocellus to the longest diameter of the hind ocellus.

Ovipositor index: Ratio of the visible length of the ovipositor sheaths (seen from the side, in normal position) to the length of a hind basitarsus.

Spiracular index: Ratio of the length of the spiracular carina (or, if that carina is obliterated, the distance between the spiracle and the pleural carina) to the length of the spiracle.

Thyridial index: Ratio of the shortest distance between the thyridium and the anterior edge of the 2<sup>nd</sup> gastral tergite to the length of the thyridium.

Tibial spur index: Ratio of the length of the shorter to the length of the longer spur of the mid tibia.

## Taxonomic notes

### *Campoplex adjunctus* Förster forma *discrepans* Habermehl

Lectotype (♀) here designated: “Würzburg 1.6.20 Dr. Enslin”, “Karlstadt”, “*Campoplex adjunctus* Först. ♀” (Mus. Frankfurt). A paralectotype (♂) from Worms is also present in Frankfurt. The taxon is a junior homonym of *C. discrepans* Förster and a junior synonym of *Dusona genalis* (Thomson) (syn. nov.).

### *Campoplex adriaansei* Teunissen

This taxon is a junior synonym of *Dusona carpathica* (Szépligeti) (syn. nov.), according to some specimens in the Hinz collection (ZSM) determined as *C. adriaansei* by Teunissen. The holotype of *C. adriaansei* is preserved in the Rotterdam museum; a postal loan was refused.

### *Campoplex anceps* Holmgren

Lectotype (♀) here designated (labelled by Hinz): “Hlm” (= Stockholm), “Bhn” (= Boheman) (Mus. Stockholm).

### *Campoplex angustifrons* Förster

*Dusona angustifrons* (Förster) is variable and poorly differentiated from related species, in particular from *D. minor* (Provancher) (see key, couplet 49). Usually the flagellum is filiform, with the shortest segment being 0.9-1.0 times as long as wide, but in some specimens the flagellum is slightly fusiform and the shortest segment is 0.8-0.9 times as long as wide, and some specimens are intermediate in this character. In most specimens the genal carina is clearly bent forwards subventrally, but in the holotype (♀) of *Campoplex obreptans* Förster, which is tentatively synonymised with *D. angustifrons* (Hinz 1963: 2), the genal carina is almost straight subventrally. Possibly *D. angustifrons* as defined here represents a species group.

### *Campoplex annexus* Förster

The lectotype (♀) of this taxon (Bachmeier 1979: 73) was misinterpreted as conspecific with *Dusona limnobia* (Thomson) by Hinz (1962: 2) and subsequent authors. In fact it belongs to *Dusona americana* (Ashmead) (syn. nov.). Therefore *D. annexa* (Förster) is the valid name for *D. americana*, and it is not a senior synonym of *D. limnobia* (as erroneously published by Hinz & Horstmann 2004: 46). *D. oyamadai* Hinz is another synonym of *D. annexa* (syn. nov.), according to a female and a male from Sakhalin (Russia) in the Hinz collection (ZSM).

### *Campoplex blandus* Förster and *C. remotus* Förster

Both taxa were described in the same paper. Thomson (1887: 1085) synonymised them and used *C. blandus* as the valid name of the species, thus acting as first reviser (article 24.2.2 of the Code). Although Dalla Torre (1901: 151) and most subsequent authors used *C. remotus* as the valid name, the decision by Thomson should be followed. *C. blandus* cannot be considered as nomen oblitum under article 23.9 of the Code, because the name was used after 1899 by several authors as the valid name of a taxon (see Yu & Horstmann 1997: 152).

### *Campoplex brevicornis* Brischke

The Brischke collection was destroyed, and the types preserved in it are lost. Two syntypes (1♀, 1♂) are preserved in the Strobl collection in Admont (Strobl 1904: 65), and I studied them many years ago. Both are damaged. The female might belong to *Dusona carpathica* (Szépligeti), but I noted a few differences. I could not place the male. The types should be re-examined, but at present they are unavailable.

### ***Campoplex bucculentus* Holmgren**

In this species, the prepectal carina is very variable. In some specimens the ventral part merges with the pleural part (and both are low), in others the ventral part merges with the transverse carina (and both are raised). In the latter case, the pleural part of the prepectal carina is present medially and ventrally, or it is present only medially, or it is completely obliterated.

### ***Delopia canariensis* Hinz**

This taxon was described as a subspecies of *Dusona semiflava* (Costa). But it differs from this species and from the closely related *D. dubitor* Hinz by the characters noted in the key (couplet 77), and should be accorded full species status (stat. nov.). Prior to its description (Hinz 1990: 267), material of this taxon from the Canary Isles was mentioned by Horstmann (1980: 133) under the name *D. semiflava* and by Rey & Izquierdo (1985: 318) under the name *D. dubitor*.

### ***Campoplex carinifer* Teunissen**

This taxon is a junior synonym of *Dusona montana* (Roman) (syn. nov.), according to three paratypes (♀♀) of *C. carinifer* in the Teunissen collection (Mus. Leiden) and some specimens in the Hinz collection (ZSM) determined as *C. carinifer* by Teunissen. In his description of the species, Teunissen (1947: 269) forgot to mention the locality label and the depository of the holotype (♀). It could not be found.

### ***Campoplex contumax* Förster and *C. prominulus* Förster**

Both taxa were described in the same paper. Thomson (1887: 1068) synonymised them and used *C. prominulus* as the valid name of the species, thus acting as first reviser (article 24.2.2 of the Code). Although Dalla Torre (1901: 140) and most subsequent authors used *C. contumax* as the valid name, the decision by Thomson should be followed. *Campoplex prominulus* cannot be considered as nomen oblitum under article 23.9 of the Code, because the name was used after 1899 by several authors as the valid name of a taxon (see Yu & Horstmann 1997: 145).

### ***Campoplex cornellus* Teunissen**

This taxon is tentatively placed here as a junior synonym of *Dusona angustifrons* (Förster) (? syn. nov.), according to a label added by Teunissen to the holotype (♀) of his species preserved in the Rotterdam museum (Moeliker in lit.). The type should be examined, but a postal loan was refused.

### ***Campoplex crassipes* Thomson**

The holotype (♀) of this taxon (Hinz 1963b: 339) is a rather large specimen of *Dusona aversa* (Förster) (syn. nov.).

### ***Campoplex debilis* Förster**

The holotype (♀) of this taxon (Hinz 1962: 10) is a faded specimen of *Dusona flagellator* (Fabricius) (syn. nov.).

### ***Campoplex facialis* Holmgren**

Apparently the lectotype of this taxon (Hinz 1963b: 343), the gaster of which is lacking, is a female (sculpture of propodeum, colour pattern of mandible). It is a junior synonym of *Dusona annexa* (Förster) (Thomson 1887: 1088) (see above). *Campoplex facialis* Holmgren is a junior homonym of *C. facialis* Boie and was renamed *C. mariae* by Dalla Torre (1901: 146).

### ***Dusona flagellator* (Fabricius)**

A variety of this species from Kazakhstan was described by Hinz & Horstmann (2004: 72). Apparently the same variety occurs in Europe (see key, couplets 61 and 64). Its status is still unknown.

### ***Campoplex incompletus* Bridgman**

The holotype (♂) of this taxon (Hinz 1972: 47) is very similar to *Dusona tenuis* (Förster) and differs only by colour characters (see key, couplet 101). Several males of *D. incompleta* (Bridgman) from Scotland, England and France were studied (Mus. Edinburgh, London, ZSM). One female from Spain (ZSM) is tentatively associated with these males. Possibly *D. incompleta* is a dark morph of *D. tenuis*. *Campoplex incompletus* sensu Morley (1915: 87) belongs to *D. leptogaster* (Holmgren), and *D. incompleta* sensu Aubert (1981: 21) belongs to *D. tenuis*.

### ***Campoplex kriebbaumeri* Costa**

The holotype (♀) of this taxon (Scaramozzino 1994: 18) belongs to *Casinaria* Holmgren (comb. nov.).

### ***Delopia lautareti* Hinz**

The types of this taxon (Coll. Hinz/ZSM) belong to *Dusona genalis* (Thomson) (syn. nov.).

### ***Campoplex libauensis* Strand**

The holotype (♀) of this taxon (Oehlke 1963: 407) from Libau (= Liepaja/Latvia) belongs to *Dusona anceps* (Holmgren) (syn. nov.).

### ***Campoplex limnobi* Thomson**

Previous interpretations and descriptions of *Dusona limnobia* (Thomson), including the description by Hinz & Horstmann (2004: 46 f.) under the name *D. annexa* (Förster), also contain the hitherto undescribed species *D. rubidatae* spec. nov. Both species and the closely related species *D. annexa* (syn. *Casinaria americana* Ashmead; see above) are differentiated in the key (couplets 120-121). Specimens previously determined as *D. americana*, *annexa* or *limnobia* should be re-examined.

### ***Campoplex mactator* Förster**

In this species, the frons is usually slightly depressed above the antennal sockets, and the depressions are covered with distinct radial wrinkles. In two rather small females (58 flagellar segments; body length 14 mm) from Finland (Mus. Helsinki, ZSM), the depressions are somewhat deeper and coriaceous, whereas the radial wrinkles are short and inconspicuous. The significance of this variation is unknown.

### ***Campoplex nobilitatus* Holmgren**

Lectotype (♀) here designated: "Fg" (= Fogelsång/Scåne), "85." (characteristic number used in the Thomson collection for material determined by Holmgren), Thomson collection (Mus. Lund). The taxon is a junior synonym of *Dusona myrtilla* (Desvignes) (Morley 1915: 76).

### ***Campoplex notabilis* Förster**

*Dusona notabilis* (Förster) has not been well understood. Its interpretation is here restricted to material from Europe placed to *D. scolor* Hinz by Hinz & Horstmann (2004: 151) (see below). *D. notabilis* differs from the latter by: body length 7-9 mm; mesopleurum distinctly coriaceous and rather dull between the punctures; propodeum without distinct transverse wrinkles or with a few transverse wrinkles in the sulcus; maxillary palpus dark brown. Specimens previously determined as *D. notabilis* should be re-examined.

### ***Campoplex pineticola* Holmgren**

In populations of *Dusona pineticola* (Holmgren) in central Europe (Germany, Austria, Switzerland, France; ZSM) the hind tibia is yellowish red or yellowish brown medially, narrowly black basally and narrowly brown apically, and the 5<sup>th</sup> gastral tergite is yellowish red. The holotype of *Campoplex litigious* Habermehl from Black Forest, Germany (Hinz 1963a: 117) belongs to this morph. Hinz (1985: 307)

described a subspecies *sibirica* from Siberia (Chita, Irkutsk), in which both the hind tibia and the 5<sup>th</sup> gastral tergite are black. But short series of *D. pineticola* from England and Scotland (Mus. Edinburgh) and from central Sweden (Mus. Stockholm) agree in colour with the subspecies *sibirica*, which therefore appears to occur in northern Europe too. Unfortunately, the lectotype of *C. pineticola* which does not bear a locality label but might originate from southern Sweden (Hinz 1963b: 342) is intermediate in colour pattern. Therefore, in this paper the subdivision of *D. pineticola* into subspecies is not accepted.

### ***Campoplex praecox* Teunissen**

This taxon is a junior synonym of *Dusona pulchripes* (Holmgren) (syn. nov.), according to two paratypes (♀♀) of *C. praecox* in the Wageningen museum and one paratype (♀) in the Hinz collection (ZSM). The holotype (♀) could not be found in the Wageningen museum.

### ***Heterocharops pugillatoroides* Constantineanu**

Constantineanu (1932: 77) proposed this name as a junior synonym of *Campoplex pugillator* (Linnaeus). Therefore both the genus and the species names are unavailable (article 11.6 of the Code).

### ***Dusona pulmentariae* Hinz**

Contrary to the information given in the original description (Hinz 1963a: 119), the holotype (♀) of this taxon (from Bisamberg near Vienna) is preserved in the Vienna museum.

### ***Campoplex rufipes* Holmgren**

The lectotype (♂) of this taxon (Hinz 1963b: 343) from "Itl." (= Jemtland/Sweden) belongs to *Dusona alticola* (Gravenhorst) (syn. nov.). *Campoplex rufipes* Holmgren is a junior homonym of *C. rufipes* Gravenhorst and was renamed *C. infelix* by Dalla Torre (1901: 144).

### ***Dusona scolor* Hinz**

The material from Europe mentioned by Hinz & Horstmann (2004: 151) under this name belongs to *Dusona notabilis* (Förster) (see above). The material of *D. scolor* from Siberia (including the holotype) differs from *D. notabilis* by: body length 6-7 mm; mesopleurum slightly coriaceous and distinctly shining between the punctures; sulcus of propodeum with transverse wrinkles posteriorly (♀) or medially and posteriorly (♂); maxillary palpus yellowish red.



### *Campoplex sericeus* Brischke

Lectotype (♀) here designated: “Zoppot 7/8 1879” (= Sopot/Poland), Strobl collection (Mus. Admont) (see Strobl 1904: 65). The taxon is a junior homonym of *Campoplex sericeus* Holmgren and a junior synonym of *Dusona vidua* (Gravenhorst) (Schmiedeknecht 1908: 1590).

### *Campoplex stenocarus* Thomson

This taxon, the holotype of which is lost (Fitton 1982: 21), is a junior synonym of *Dusona minor* (Provancher) (syn. nov.), according to a non-type (♀) of *C. stenocarus* in the Thomson collection (Mus. Lund) (Hinz 1963b: 339) and material of *D. minor* from the Nearctic region in the Hinz collection (ZSM).

### *Campoplex stygius* Förster

This taxon is characterized by the shape of the antennal carina and by the position of the propodeal spiracle and the absence of the spiracular carina (see key, couplet 93), but it is variable in two important characters used in the key. The ventral part of the prepectal carina merges with the pleural part, or with the transverse carina. And the anterior part of the ventrolateral edge of the 3<sup>rd</sup> gastral tergite is sometimes bent inwards, thus forming an epipleurum (epipleural index 0.1-0.2), although a black lateral stripe is situated clearly distant from the ventrolateral edge.

### *Campoplex subaequalis* Förster

The lectotype (♂) of this taxon (Hinz 1962: 7) belongs to *Dusona rugifer* (Förster) (syn. nov.), both taxa being described in the same paper. *D. rugifer* is considered here as the valid name of the species.

### *Campoplex subsulcatus* Holmgren

Apparently the holotype of this taxon (Hinz 1963b: 343), the genitalia of which are lacking, is a female (proportions of basal flagellar segments, sculpture of propodeum). Possibly the apex of the gaster was already lacking when Holmgren (1872: 66) described the species. The taxon is a junior synonym of *Dusona circumspectans* (Förster) (Yu & Horstmann 1997: 145).

### *Dusona tenerifae* Hinz

This species was described from the Canary Isles and is rather often collected on Tenerife. One ♂ from Bigastro (near Murcia/Spain) (Mus. Madrid) differs from *Dusona tenerifae* Hinz by the characters noted in the key (couplet 46). It is treated here as a variety of *D. tenerifae*, but it might represent a separate species.

The specimen is damaged (parts of the antennae and the hind legs broken off) and is unsuited for a description. In contrast, the specimen mentioned by Hinz (1977: 50) supposedly from Austria (ZSM) agrees well with *D. tenerifae*. So far, it is the only specimen of the typical morph known from a locality outside of the Canary Isles. In my opinion, an incorrect locality label cannot be ruled out.

### *Campoplex tschekii* Holmgren

Lectotype (♀) here designated: “Dgb.” (= Degeberga/Scåne), “59” (characteristic number used in the Thomson collection for material determined by Holmgren), Thomson collection (Mus. Lund). Holmgren (1872: 54) described the species from a pair collected in copula. Both specimens are preserved in the Thomson collection, the ♂ being labelled as paralectotype. The taxon is a junior synonym of *Dusona aversa* (Förster) (Thomson 1887: 1079).

## Checklist of western Palearctic species

Those taxa the types of which were recently revised by the present author are marked with an asterisk.

- Dusona abominator* Hinz, 1985\*
- Dusona admontina* (Speiser, 1908) (nom. nov. for *C. rufiventris* Strobl)
- Campoplex rufiventris* Strobl, 1904 (praeocc.)
- Dusona aemula* (Förster, 1868)\*
- Campoplex disseptus* Förster, 1868
- Campoplex parvulus* Förster, 1868
- Campoplex discrepans* Förster, 1868
- Campoplex filicornis* Holmgren, 1872
- Dusona affinis* (Brischke, 1880) (nomen dubium)
- Dusona albobasalis* spec. nov.
- Dusona alpigena* Hinz, 1972\*
- Dusona alpina* (Strobl, 1904)
- Campoplex lateralis* Kriechbaumer, 1883 (praeocc.)
- Dusona alticola* (Gravenhorst, 1829)
- Campoplex floricola* Gravenhorst, 1829
- Campoplex rufipes* Holmgren, 1872\* (praeocc.) (syn. nov.)
- Campoplex infelix* Dalla Torre, 1901 (nom. nov. for *C. rufipes* Holmgren) (syn. nov.)
- Dusona latiseta* Hinz, 1961
- Dusona anceps* (Holmgren, 1860)\*
- Campoplex disparilis* Förster, 1868
- Campoplex auriculatus* Förster, 1868
- Campoplex costulatus* Bridgman et Fitch, 1885
- Campoplex costulatus* Bridgman, 1886 (praeocc.)
- Campoplex libauensis* Strand, 1918\* (syn. nov.)
- Dusona andalusica* spec. nov.
- Dusona angustata* (Thomson, 1887)

- Dusona angustifrons* (Förster, 1868)\*  
*Campoplex obreptans* Förster, 1868\* (? syn.)  
*Campoplex zonellus* Förster, 1868\*  
*Campoplex cornellus* Teunissen, 1947 (? syn. nov.)
- Dusona annexa* (Förster, 1868)\*  
*Casinaria americana* Ashmead, 1890\* (syn. nov.)  
*Campoplex facialis* Holmgren, 1872\* (praeocc.)  
*Campoplex mariae* Dalla Torre, 1901 (nom. nov. for *C. facialis* Holmgren)  
*Dusona oyamadai* Hinz, 1994 (syn. nov.)
- Dusona areolator* (Holmgren, 1856) (nomen dubium)
- Dusona auricator* Aubert, 1864\*
- Dusona aurita* (Kriechbaumer, 1883)
- Dusona aversa* (Förster, 1868)  
*Campoplex dubiosus* Förster, 1868\*  
*Campoplex tschekii* Holmgren, 1872\*  
*Campoplex crassipes* Thomson, 1887\* (syn. nov.)
- Dusona baueri* Hinz, 1973\*
- Dusona bellipes* (Holmgren, 1872)  
*Dusona vernalis* Hinz, 1957\*
- Dusona bicolor* (Brischke, 1880) (nomen dubium)
- Dusona bicoloripes* (Ashmead, 1906)\*  
*Campoplex foersteri* Roman, 1942\*
- Dusona blanda* (Förster, 1868)  
*Campoplex remotus* Förster, 1868  
*Campoplex forsselli* Holmgren, 1872  
*Casinaria punctiventris* Woldstedt, 1877
- Dusona breviceps* spec. nov.
- Dusona brevicornis* (Brischke, 1880) (nomen dubium)
- Dusona brischkei* (Dalla Torre, 1901) (nom. nov. for *C. lateralis* Brischke) (nomen dubium)  
*Campoplex lateralis* Brischke, 1892 (praeocc.)
- Dusona bucculenta* (Holmgren, 1860)  
*Campoplex melampus* Förster, 1868
- Dusona calceata* (Brauns, 1895)
- Dusona canariensis* (Hinz, 1990)\*
- Dusona carinifrons* (Holmgren, 1860)  
*Campoplex minax* Förster, 1868  
*Campoplex geometrae* Rudow, 1883
- Dusona carpathica* (Szépligeti, 1916)\*  
*Campoplex adriaansei* Teunissen, 1947 (syn. nov.)
- Dusona carpinellae* (Schrank, 1802) (nomen dubium)
- Dusona castanipes* (Thomson, 1887)\*
- Dusona circumcinctus* (Förster, 1868)  
*Campoplex subcinctus* Förster, 1868 (praeocc.)  
*Campoplex subcinctus* var. *lateralis* Ulbricht, 1916 (infrasubspecific)
- Dusona circumspectans* (Förster, 1868)  
*Campoplex vagulus* Förster, 1868  
*Campoplex subsulcatus* Holmgren, 1872\*
- Dusona compressa* (Sulzer, 1776) (nomen dubium)
- Dusona compressa* (Christ, 1791) (praeocc.) (nomen dubium)
- Dusona compressa* (Schrank, 1802) (praeocc.) (nomen dubium)
- Dusona confusa* (Förster, 1868)  
*Campoplex lacunosus* Kriechbaumer, 1883  
*Campoplex consimilis* Schmiedeknecht, 1908
- Dusona consobrina* (Holmgren, 1872) (nomen dubium)
- Dusona constantineanui* Hinz, 1977
- Dusona cultrator* (Gravenhorst, 1829)  
*Campoplex cultrator* var. *nigriventris* Ulbricht, 1916 (infrasubspecific)
- Dusona disclusa* (Förster, 1868)
- Dusona dositheae* (Audouin, 1834) (nomen dubium)
- Dusona dubitor* Hinz, 1977\*
- Dusona einbecki* Hinz, 1977\*
- Dusona erythrogaster* (Förster, 1868)  
*Campoplex indefessus* Förster, 1868
- Dusona exsculpta* (Brischke, 1880) (nomen dubium)
- Dusona falcator* (Fabricius, 1775)\*
- Dusona fatigator* (Förster, 1868)\*
- Dusona filator* Hinz, 1985\*
- Dusona flagellator* (Fabricius, 1793)\*  
*Campoplex debilis* Förster, 1868\* (syn. nov.)  
*Campoplex heterocerus* Förster, 1868
- Dusona fundator* (Hinz, 1990)\*
- Dusona genalis* (Thomson, 1887)\*  
*Campoplex adjunctus* f. *discrepans* Habermehl, 1922\* (praeocc.) (syn. nov.)  
*Delopia lautareti* Hinz, 1990\* (syn. nov.)
- Dusona gracillima* (Dalla Torre, 1901) (nom. nov. for *C. gracilis* Brischke) (nomen dubium)  
*Campoplex gracilis* Brischke, 1888 (praeocc.)
- Dusona habermehli* (Kriechbaumer, 1898)
- Dusona hastulatae* spec. nov.
- Dusona hispanica* spec. nov.
- Dusona holmgrenii* (Dalla Torre, 1901) (nom. nov. for *C. uncinctus* Holmgren)  
*Campoplex uncinctus* Holmgren, 1872\* (praeocc.)
- Dusona humilis* (Förster, 1868)  
*Campoplex eurynotus* Holmgren, 1872
- Dusona incompleta* (Bridgman, 1889)\*
- Dusona inermis* (Förster, 1868)
- Dusona infesta* (Förster, 1868)  
*Campoplex terrificus* Förster, 1868  
*Campoplex infestus* var. *moldavicus* Constantineanu, 1932 (infrasubspecific)
- Dusona insignita* (Förster, 1868)  
*Campoplex bistrigosus* Holmgren, 1872
- Dusona intelligator* Aubert, 1966\*
- Dusona irregularis* spec. nov.
- Dusona juvenilis* (Förster, 1868)  
*Ichneumon victor* Thunberg, 1824 (praeocc.)  
*Campoplex monozonus* Förster, 1868  
*Campoplex monozonus* var. *rufifemur* Ulbricht, 1926 (infrasubspecific)  
*Campoplex victor* var. *rufifemur* Ozols, 1959
- Dusona lamellator* Aubert, 1960\*
- Dusona leptogaster* (Holmgren, 1860)

- Campoplex macrostylus* Förster, 1868  
*Campoplex silvicola* Habermehl, 1922  
*Dusona libertatis* (Teunissen, 1947)\*  
*Dusona limnobia* (Thomson, 1887)\*  
*Dusona lividariae* Hinz, 1963  
*Dusona longiseta* Hinz, 1961  
*Dusona luteipes* (Thomson, 1887)\*  
*Dusona mactator* (Förster, 1868)  
*Campoplex similatorius* Holmgren, 1872  
*Dusona mercator* (Fabricius, 1793)\*  
*Ichneumon venditor* Thunberg, 1824 (emendation)  
*Campoplex oxyacanthae* Boie, 1855  
*Campoplex mesoxanthus* Förster, 1868\*  
*Dusona meridianator* Aubert, 1960\*  
*Dusona minuta* (Holmgren, 1856) (nomen dubium)  
*Dusona minor* (Provancher, 1879)  
*Campoplex stenocarus* Thomson, 1887\* (syn. nov.)  
*Dusona mixta* (Pollich, 1781) (nomen dubium)  
*Dusona montana* (Roman, 1929)  
*Campoplex carinifer* Teunissen, 1947\* (syn. nov.)  
*Dusona myrtilla* (Desvignes, 1856)  
*Campoplex tenthredinum* Tschek, 1871  
*Campoplex nobilitatus* Holmgren, 1872\*  
*Dusona nebulosa* Horstmann, 2004\*  
*Dusona nidulator* (Fabricius, 1804)\*  
*Campoplex nitidulator* Holmgren, 1856  
*Campoplex vindex* Förster, 1868  
*Campoplex circumscriptus* Förster, 1868  
*Campoplex martialis* Förster, 1868  
*Campoplex bifidus* Thomson, 1887  
*Campoplex nitidulator* var. *obscurus* Kiss, 1926\*  
*Dusona notabilis* (Förster, 1868)\*  
*Dusona oblitterata* (Holmgren, 1872)  
*Campoplex limiventris* Kriechbaumer, 1883  
*Dusona occisor* (Schränk, 1776) (nomen dubium)  
*Dusona opaca* (Thomson, 1887)  
*Dusona perditor* (Förster, 1868)  
*Campoplex transversostriatus* Schmiedeknecht, 1908  
*Dusona peregrina* (Wollaston, 1858)\*  
*Dusona petiolaris* (Brischke, 1880) (nomen dubium)  
*Dusona petiolor* (Fabricius, 1804)\*  
*Campoplex lapponicus* Holmgren, 1860  
*Campoplex callizonus* Förster, 1868  
*Campoplex punctatus* Bridgman et Fitch, 1885  
*Campoplex punctatus* Bridgman, 1886 (praeocc.)  
*Campoplex terebrator* var. *niger* Kiss, 1924\* (praeocc.)  
*Dusona pineticola* (Holmgren, 1872)\*  
*Campoplex litigiousus* Habermehl, 1922\*  
*Dusona pineticola sibirica* Hinz, 1985\* (syn. nov.)  
*Dusona polita* (Förster, 1868)  
*Campoplex flavipalpus* Förster, 1868  
*Campoplex spoliator* Förster, 1868  
*Campoplex medianus* Förster, 1868  
*Campoplex trisculptus* Holmgren, 1872  
*Campoplex femorator* Bridgman et Fitch, 1885  
*Campoplex femorator* Bridgman, 1886 (praeocc.)  
*Campoplex splendens* Thomson, 1887  
*Campoplex latungulus* Thomson, 1887  
*Dusona prominula* (Förster, 1868)  
*Campoplex contumax* Förster, 1868  
*Campoplex foveolatus* Förster, 1868  
*Dusona pugillator* (Linnaeus, 1758)\*  
*Campoplex canaliculatus* Förster, 1868 (praeocc.)  
*Dusona pulchripes* (Holmgren, 1872)  
*Campoplex praecox* Teunissen, 1947 (syn. nov.)  
*Dusona pulmentariae* Hinz, 1963\*  
*Dusona recta* (Thomson, 1887)  
*Dusona rossica* Hinz, 1979  
*Dusona rubidatae* spec. nov.  
*Dusona rufonigra* (Brischke, 1880) (nomen dubium)  
*Dusona rugifer* (Förster, 1868)\*  
*Campoplex subaequalis* Förster, 1868\* (syn. nov.)  
*Campoplex punctus* Kriechbaumer, 1883\*  
*Dusona rugulosa* (Förster, 1868)  
*Dusona sagittatae* spec. nov.  
*Dusona semiflava* (Costa, 1883)  
*Campoplex flaviscapus* Thomson, 1887  
*Dusona signator* (Brauns, 1895)  
*Dusona sobolicida* (Förster, 1868)  
*Campoplex ulceratus* Holmgren, 1872  
*Dusona spinipes* (Thomson, 1887)  
*Dusona spinulosa* (Brischke, 1880) (nomen dubium)  
*Dusona splendor* Hinz, 1985  
*Dusona stenogaster* (Förster, 1868)  
*Campoplex monticola* Habermehl, 1922  
*Dusona stragifex* (Förster, 1868)\*  
*Campoplex adjunctus* Förster, 1868\*  
*Campoplex areolatus* Brauns, 1895\*  
*Dusona stygia* (Förster, 1868)  
*Dusona subfalcata* (Gmelin, 1790) (nomen dubium)  
*Dusona subimpressa* (Förster, 1868)  
*Campoplex transitorius* Kiss, 1924\*  
*Dusona surrata* (Schränk, 1781) (nomen dubium)  
*Dusona temnator* Hinz & Horstmann, 2004\*  
*Dusona tenerifae* Hinz, 1977  
*Dusona tenuis* (Förster, 1868)\*  
*Campoplex proximus* Förster, 1868\*  
*Campoplex anxius* Förster, 1868\*  
*Campoplex peraffinis* Förster, 1868\*  
*Campoplex agnatus* Förster, 1868\*  
*Dusona terebrator* (Förster, 1868)  
*Campoplegidea terebrator* f. *postpetiolata* Aubert, 1959 (infrasubspecific)  
*Dusona thomsoni* Hinz, 1963\*  
*Dusona tibialis* (Brischke, 1880) (praeocc.) (nomen dubium)  
*Dusona tricolorator* Aubert, 1970\*  
*Dusona turcator* spec. nov.  
*Dusona tyrolensis* spec. nov.  
*Dusona ucrainica* Hinz, 1972\*



- Dusona validicornis* (Holmgren, 1856) (nomen dubium)  
*Dusona variator* (Hinz, 1990)\*  
*Dusona vidua* (Gravenhorst, 1869)  
*Campoplex sericeus* Brischke, 1880\* (praeocc.)  
*Dusona vigilator* (Förster, 1868)  
*Dusona xenocampa* (Förster, 1868)\*  
*Campoplex polyxanthus* Strobl, 1904  
*Campoplex balticus* Habermehl, 1926  
*Dusona yezoensis* (Uchida, 1928)

### Key

The key is not strictly dichotomous. In several cases, variable or intermediate species can be traced through both halves of a couplet.

1. Epipleurum of the 3<sup>rd</sup> gastral tergite separated from the tergite by a crease at least anteriorly and folded in, the crease straight, usually marked with black. If the epipleural index is 0.4 or less, the epipleurum is sometimes folded back secondarily and pendent, the former crease is present as a bulge, and the ventrolateral edge of the epipleurum runs close to this bulge. Black lateral stripe, if present, usually on the bulge or close to it.....2.
- Epipleurum of the 3<sup>rd</sup> gastral tergite completely fused with the tergite, the ventrolateral edge thin and more or less rounded, the epipleurum rarely discernible as a small triangular or semicircular pendent lobe anteriorly (e.g. in *D. intelligator*). Black lateral stripe, if present, distinctly distant from the ventrolateral edge and divergent from it. (Some species which are intermediate or variable in these characters can be traced through both halves of the couplet.) .....38.
2. Gaster black. Hind tibia black proximally and distally, yellowish white medially. ....3.
- At least the 3<sup>rd</sup> gastral tergite marked with red. (In some aberrant specimens of other species the gaster is black, but usually the colour pattern of the hind tibia is different.) .....4.
3. 45-46 flagellar segments. Mesopleurum with rather dense or dense punctation on a finely coriaceous and shining background. Speculum for the greater part smooth and shining. Sulcus of the propodeum irregularly wrinkled, with a longitudinal keel posteriorly. Glymma present. Epipleural index 0.8. Body length 11-13 mm. ..  
..... *myrtilla* (Desvignes, 1856) ♀♂
- 30-34 flagellar segments. Mesopleurum with fine dispersed punctation on a distinctly coriaceous and dull background. Speculum coriaceous and rather dull. Sulcus of the propodeum transversely striate medially and posteriorly. Glymma absent. Epipleural index 0.4-0.5. Body length 6-8 mm.... *vidua* (Gravenhorst, 1829) ♀♂
4. Antennal carina strongly raised and conspicuously modified dorsally. Frons slightly or distinctly depressed above the antennal carinae. Epipleural index 0.2-0.5. 52-63 flagellar segments. Body length 14-18 mm. ....5.
- Antennal carina at most slightly raised and not conspicuously modified dorsally. Frons at most slightly depressed above the antennal carinae. ....7.
5. Rim of the antennal carina with a transversely striate nose-like projection dorsally, in addition the rim slightly bent upwards to a rather narrow crescent-shaped plate. Frons slightly or distinctly depressed above the antennal carinae, with radial wrinkles in these depressions, with a bulge between them (the radial wrinkles sometimes almost lacking). Epipleurum of the 3<sup>rd</sup> gastral tergite folded in, often folded back secondarily and pendent as a narrow band, the crease not marked with black, a black lateral stripe present above the crease. Epipleural index 0.2-0.3. 58-63 flagellar segments. Body length 14-18 mm. (See also couplet 42.) .....  
..... *mactator* (Förster, 1868) ♀♂
- Rim of the antennal carina conspicuously bent upwards to a crescent-shaped plate (ear-like), with fine transverse striae. Frons with distinct radial wrinkles, without a bulge medially. Epipleurum of the 3<sup>rd</sup> gastral tergite folded in, the crease marked with black. ....6.
6. Rim of the antennal carina strongly bent upwards. Frons with strong radial wrinkles reaching or almost reaching the median ocellus. Hind femur black, at most inconspicuously marked with red distally. Epipleural index 0.4-0.5. 53-57 flagellar segments. Body length 15-16 mm. ....  
..... *infesta* (Förster, 1868) ♀♂
- Rim of the antennal carina slightly bent upwards (a variable character). Frons with radial wrinkles reaching 0.3-0.5 the distance to the median ocellus. Hind femur conspicuously marked with yellowish red distally. Epipleural index 0.2-0.4. 52-58 flagellar segments. Body length 14-17 mm. (See also couplet 23.) .....  
..... *pugillator* (Linnaeus, 1758) ♀♂

7. Genal carina raised ventrally, joining the strongly raised oral carina some distance from the base of the mandible, the junction not distinctly shifted downwards. 58-66 flagellar segments. Body length 14-18 mm. ....8.
  - Genal carina not raised ventrally. Oral carina not distinctly raised. ....9.
8. Genal carina distinctly raised also medially behind the eye. Glymma distinct. Epipleural index 0.2-0.6. Hind tibia light yellow. Median gastral tergites yellow. 58-62 flagellar segments. Body length 14-16 mm. ....
  - ..... *libertatis* (Teunissen, 1947) ♀♂
  - Genal carina not raised medially behind the eye. Glymma absent or very small and inconspicuous. Epipleural index 0.2-0.3. Hind tibia reddish brown. Median gastral tergites red, partly marked with black. 63-66 flagellar segments. Body length 17-18 mm. ♂ unknown. ....
    - ..... *rugulosa* (Förster, 1868) ♀
9. Ventral part of the prepectal carina merging with the transverse carina, the pleural part lower or obliterated at the junction. Epipleural index 0.2-0.4. ....10.
  - Ventral part of the prepectal carina merging with the pleural part, both of equal height at the junction, the transverse carina at most as high, often lower or obliterated at the junction, rarely raised some distance from the junction. ....14.
10. 32-39 flagellar segments. Body length 5.5-8 mm. ....11.
  - 47-62 flagellar segments. Body length 8-17 mm. ....12.
11. Genal carina joining the oral carina at the base of the mandible. Hind tibia black, sometimes tinged with dark brown. Gaster from the posterior 0.2-0.3 of the 2<sup>nd</sup> gastral tergite onwards reddish brown. Posterior tergites tinged with black dorsally in the ♀, broadly black dorsally or completely black in the ♂. 35-39 flagellar segments. Body length 7-8 mm. (See also couplet 57.) .....*erythrogastrer* (Förster, 1868) ♀♂
  - Genal carina joining the oral carina close to the base of the mandible, genal index 0.1. Hind tibia marked with white or yellowish brown medially on the dorsal side. Gaster black posteriorly (from the 4<sup>th</sup> or the 5<sup>th</sup> tergite onwards). 32-35 flagellar segments. Body length 5.5-7 mm. ....*habermehli* (Kriechbaumer, 1898) ♀♂
12. Frons with a strong median longitudinal keel, which is raised medially. 58-65 flagellar segments. Body length 14-17 mm. ....
  - .....*carinifrons* (Holmgren, 1860) ♀♂
  - Frons with a rather fine median longitudinal carina. 47-53 flagellar segments. Body length 8-12 mm. (Aberrant specimens of *D. stygia* may run here; for characters separating this species from *D. genalis* and *perditor* see couplet 93.) ....
    - .....13.
13. Temples not strongly constricted behind the eyes, tangential lines on eyes and temples intersect on the propodeum or the 1<sup>st</sup> gastral segment. Pleural carina and spiracular carina distinct. Gaster rather stout, 2<sup>nd</sup> tergite less than twice as long as wide. Gaster black anteriorly and posteriorly, red medially. 49-53 flagellar segments. Body length 9-11 mm. (See also couplet 22.) .....*genalis* (Thomson, 1887) ♀♂
  - Temples strongly constricted behind the eyes, tangential lines on eyes and temples intersect on the mesoscutum. Pleural carina often partly indistinct and replaced by several wrinkles. Spiracular carina obliterated. Gaster slender, 2<sup>nd</sup> gastral tergite more than twice as long as wide. Median gastral tergites black dorsally, red laterally. 47-49 flagellar segments. Body length 12 mm. ....*perditor* (Förster, 1868) ♀♂
14. Only the 2<sup>nd</sup> and 3<sup>rd</sup> gastral tergites marked with red. Hind femur red or marked with red. Hind tibia yellowish brown, sometimes narrowly marked with brown basally. Propodeum deeply depressed, the sulcus distinctly transversely striate. Glymma present. 52-59 flagellar segments. Body length 12-16 mm. ....
  - .....*cultrator* (Gravenhorst, 1829) ♀♂
  - Gaster more extensively marked with red, at least the 4<sup>th</sup> tergite marked with red, and/or hind femur black, and/or distinctly smaller with less flagellar segments. ....15.
15. Epipleural index 0.2-0.7. Epipleurum of the 3<sup>rd</sup> gastral tergite folded in, sometimes folded back secondarily and pendent, in the latter case the former ventrolateral crease present as a bulge close to the ventrolateral edge of the epipleurum. Black lateral stripe, if present, usually on the bulge or close to it. ....16.
  - Epipleural index 0.7-0.8. Epipleurum of the 2<sup>nd</sup> gastral tergite folded in, the crease usually marked with black. (Species with intermediate specimens can be traced through both halves of the couplet.) .....31.

16. Petiole on either side with a long row of small transverse grooves or short transverse wrinkles in front of the glymma. Epipleural index 0.2. Epipleurum usually folded in, the crease marked with black, in addition with a black lateral stripe almost parallel with the crease and close to it. 46-48 flagellar segments. Body length 10-11 mm. ....*insignita* (Förster, 1868) ♀♂
- Petiole smooth or with few wrinkles laterally in front of the glymmae. ....17.
17. Genal index 0.1-0.2. 41-45 flagellar segments, Body length 8-10 mm. ....18.
- Genal index 0.3-0.5. (Genal index 0.2-0.3 in *D. rossica* and in some specimens of *D. genalis*. These species are larger with 49-56 flagellar segments; see couplet 22.).....19.
18. Speculum finely coriaceous or partly smooth, shining. Impression in front of the speculum with fine longitudinal striae medially and ventrally as well as dorsally. Hind tibia yellowish medially (in some specimens dark yellowish brown), tinged with brown apically. Epipleural index 0.5. 41-44 flagellar segments. Body length 8-9 mm. ....*prominula* (Förster, 1868) ♀♂
- Speculum coriaceous, rather dull. Impression in front of the speculum with fine longitudinal striae dorsally, the ventral 0.6 coriaceous and without striae. Hind tibia yellow medially, broadly black apically, the apical ring extending over 0.2-0.3 of the tibia. Epipleural index 0.2-0.3. 42-45 flagellar segments. Body length 8-10 mm. ....*recta* (Thomson, 1887) ♀♂
19. 2<sup>nd</sup> gastral tergite dorsally black at least on the posterior edge, usually completely black dorsally, sometimes tinged with red in front of the posterior edge. Hind femur black. Epipleural index 0.1-0.3. ....20.
- 2<sup>nd</sup> gastral tergite red posteriorly. (In aberrant specimens of some species the 2<sup>nd</sup> gastral tergite is dorsally black or dark brown posteriorly, but in these the hind femur is marked with red and/or the epipleural index is at least 0.4.).....21.
20. Speculum coriaceous, dull. Impression in front of the speculum coriaceous and granulate-strigose, with fine short longitudinal striae, which merge with an area without punctation anteriorly. Gaster black dorsally, red ventrolaterally, the posterior sternites of both sexes and the genital claspers of the ♂ reddish or brown. 49-52 flagellar segments. Body length 11-12 mm. (See also couplet 107.) .....*alpina* (Strobl, 1904) ♀♂
- Speculum slightly coriaceous, somewhat shining. Impression in front of the speculum with moderately long striae at least dorsally and medially, which merge with the punctation anteriorly. Gaster black anteriorly and posteriorly, red medially (sometimes partly tinged with black), the posterior tergites and sternites of both sexes and the genital claspers of the ♂ black. 45-55 flagellar segments. Body length 9-12 mm. ....*vigilator* (Förster, 1868) ♀♂
21. Temple 0.9-1.0 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum or the 1<sup>st</sup> gastral segment. 49-56 flagellar segments. Gaster stout, 2<sup>nd</sup> gastral tergite at most 1.5 times as long as wide. Gaster black anteriorly and posteriorly, red medially. Epipleural index 0.2-0.5 (rarely 0.6). (Aberrant specimens of *D. stygia* may run here; for characters separating this species from *D. genalis* and *rossica* see couplet 93.) .....22.
- Temple 0.6-0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the mesoscutum or scutellum. (In *D. castanipes* and *irregularis* with moderately long temples the 2<sup>nd</sup> gastral tergite is 2.0-2.4 times as long as wide.) Epipleural index often 0.6-0.7 (exceptions: *D. pugillator*, *luteipes* and *rugifer*; see couplets 23, 25 and 30). ....23.
22. 49-53 flagellar segments. Genal index 0.3-0.4. Hind femur black. Hind tibia yellowish brown medially, distinctly black or dark brown basally and apically, the apical ring extending over 0.2-0.3 of the tibia. Body length 9-11 mm. (See also couplet 13.).....*genalis* (Thomson, 1887) ♀♂
- 56 flagellar segments. Genal index 0.2. Hind femur red or marked with red. Hind tibia yellowish red, narrowly marked with brown basally and apically, the apical ring extending over less than 0.1 of the tibia. Body length 14-15 mm. ....*rossica* Hinz, 1979 ♀♂
23. Frons slightly depressed above the antennal carinae. Antennal carina usually slightly raised and its rim bent upwards, with fine transverse striae (a rather variable character). Epipleural index 0.2-0.4. Hind femur black, conspicuously marked with yellowish red distally. Propodeum broadly and deeply depressed, with distinct transverse wrinkles in the sulcus. 52-58 flagellar segments. Body length 14-17 mm. (See also couplet 6.) .....*pugillator* (Linnaeus, 1758) ♀♂
- Frons not depressed above the antennal carinae Antennal carina low and narrow. Epipleural index 0.4-0.7 (exception: *D. luteipes*; see couplet 25). ....24.

24. Median and posterior gastral tergites to a variable extent black dorsally and red ventrolaterally. (If the 3<sup>rd</sup> and 4<sup>th</sup> tergites are completely red, then the posterior tergites are broadly marked with red laterally. If the posterior tergites are completely black, then the 3<sup>rd</sup> and 4<sup>th</sup> tergites are black dorsally and red laterally.) Flagellum stout, 2<sup>nd</sup> segment 1.3-1.5 times as long as wide. Hind femur red or marked with red. 2<sup>nd</sup> gastral tergite at least twice as long as wide. 44-48 flagellar segments. Body length 11-12 mm. .... *castanipes* (Thomson, 1887) ♀♂
- Gaster with the anterior and posterior tergites black, the median tergites red, at least the 3<sup>rd</sup> tergite for the greater part or completely red (not black dorsally and red laterally).....25.
25. Hind femur and hind tibia completely light red. Epipleural index 0.3. Body length 8 mm. Propodeum rather narrowly depressed, for the greater part irregularly wrinkled, with short transverse wrinkles in the longitudinal furrow. Both flagellar tips broken off in the only known specimen. ♂ unknown.....  
..... *luteipes* (Thomson, 1887) ♀
- Hind femur conspicuously marked with black basally. Epipleural index 0.4-0.7. Body length 9-14 mm. ....26.
26. Propodeum not depressed or slightly depressed, irregularly wrinkled, often with a longitudinal keel or a few longitudinal wrinkles posteriorly (intermediate specimens should be tried here first). ....27.
- Propodeum slightly or distinctly depressed, with transverse wrinkles in the sulcus at least posteriorly (sculpture rather variable).....28.
27. Frons on either side with a small raised point between eye and antennal socket (these points rarely absent). Hind femur black. Hind tibia brown or black medially. 4<sup>th</sup> gastral tergite red. 5<sup>th</sup> tergite often partly or completely red. 45-55 flagellar segments. Body length 9-12 mm. ♂ unknown in the western Palearctic Region. ....  
..... *bicoloripes* (Ashmead, 1906) ♀
- Frons without raised points between eye and antennal socket. Hind femur red on the distal 0.4-0.5. Hind tibia yellow or yellowish red medially. 4<sup>th</sup> gastral tergite marked with black. 5<sup>th</sup> tergite black. 46 flagellar segments. Body length 14 mm. .... *irregularis* spec. nov. ♀♂
28. Frons on either side with a small raised point between eye and antennal socket (these points sometimes inconspicuous). Hind femur red on
- the distal 0.2. Hind tibia yellowish red, scarcely darkened basally and apically, at most marked with light brown. 5<sup>th</sup> gastral tergite red or marked with red. 54-55 flagellar segments. Body length 11-13 mm. .... *bellipes* (Holmgren, 1872) ♀♂
- Frons without raised points between eye and antennal socket. Hind femur often completely black. Hind tibia yellow to dark brown medially, marked with dark brown or black basally. 5<sup>th</sup> gastral tergite black. ....29.
29. 42-47 flagellar segments. Speculum smooth or almost smooth, strongly shining. Mesopleurum slightly coriaceous and distinctly shining between the punctures. Metapleurum with dispersed or rather dense punctation, slightly coriaceous and distinctly shining between the punctures. Gaster distinctly shining posteriorly. (Some specimens are less shining, but are characterized by the lower number of flagellar segments.) Hind tarsal claws with about eight pectinate teeth situated basally, medially and subapically. Hind tibia yellowish brown medially, narrowly dark brown basally and apically. Body length 10-12 mm. ....  
..... *polita* (Förster, 1868) ♀♂
- 48-57 flagellar segments. Speculum slightly coriaceous, shining. Mesopleurum distinctly coriaceous and rather dull between the punctures. Metapleurum with dense or rather dense punctation, coriaceous between the punctures, sometimes rugose-punctate. (Some specimens are rather shining, but are characterized by the higher number of flagellar segments.) Hind tarsal claws with about six pectinate teeth situated basally and medially.....30.
30. Hind tibia broadly yellow medially, narrowly brown basally and apically. ♂ with the apices of the front and mid coxae and the mid trochanter yellow, and with a rather narrow area petiolaris (a rather variable character, the difference discernible only by direct comparison of specimens). Epipleural index 0.4-0.5 in the ♀, 0.7 in the ♂. 51-59 flagellar segments. Body length 12-14 mm..... *rugifer* (Förster, 1868) ♀♂
- Hind tibia yellowish red to reddish brown medially, narrowly black basally, brown to black apically, the apical mark sometimes absent. ♂ with the front and mid coxae and the mid trochanter black, and with a rather broad area petiolaris (a rather variable character, the difference discernible only by direct comparison of specimens). Epipleural index about 0.7 in both sexes. 48-53 flagellar segments. Body length 10-13 mm. .... *stragifex* (Förster, 1868) ♀♂



31. Mesopleurum with wrinkles and without punctation centrally, densely rugose-punctate dorsally and ventrally. (In some small specimens the mesopleurum is rugose-punctate also centrally. These differ from *D. admontina* by having the posterior gastral tergites black.) Median longitudinal carinae of propodeum complete anteriorly. Petiolar suture complete. 1<sup>st</sup> gastral sternite coriaceous medially. Posterior gastral tergites black. 38-43 flagellar segments. Body length 7-8 mm. ....*leptogaster* (Holmgren, 1860) ♀♂
- Mesopleurum distinctly punctate centrally, sometimes rugose-punctate.....32.
32. Mesopleurum densely rugose-punctate, the interspaces coriaceous, rather dull. Petiolar suture complete. 1<sup>st</sup> gastral sternite finely coriaceous medially. Posterior gastral tergites red or distinctly marked with red. 34-39 flagellar segments. Body length 7-9 mm. (Some specimens of *D. leptogaster* run here; see couplet 31.).....*admontina* (Speiser, 1908) ♀♂
- Mesopleurum with distinctly separated punctures at least dorsally and ventrally. Posterior gastral tergites black. (In *D. castanipes* and *montana* the posterior gastral tergites are marked with red. These species differ from *D. admontina* by having the flagellum with 43-46 segments.) .....33.
33. Petiole distinctly sculptured laterally in front of the deep glymmae, with long rows of transverse wrinkles or with irregular wrinkles. (In some specimens of *D. terebrator* the petiole is sculptured in front of the glymmae, but they differ from *D. nidulator* in other characters. See couplet 37.) Mesopleurum smooth and shining between the punctures. Hind tibia yellowish red, almost not marked with black basally, distinctly marked with black apically. Spiracular carina indistinct or obliterated. 1<sup>st</sup> gastral sternite coriaceous medially. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.3. Ovipositor index 0.5-0.6. 48-52 flagellar segments. Body length 12-13 mm.....*nidulator* (Fabricius, 1804) ♀♂
- Petiole smooth or with fine sculpture laterally in front of the glymmae, at most with some transverse wrinkles anteriorly. 1<sup>st</sup> gastral sternite often smooth medially. Number of flagellar segments often lower. ....34.
34. 2<sup>nd</sup> flagellar segment 1.8-2.5 times as long as wide in the ♀, 2.2 times in the ♂. Glymma absent, at most a small and shallow furrow present. Hind tibia rather dark yellowish brown, black basally, not distinctly darkened apically. Propodeum not depressed or slightly depressed, in some parts with fine transverse wrinkles, in particular posteriorly. 43-45 flagellar segments. Body length 11-12 mm. ....*montana* (Roman, 1929) ♀♂
- 2<sup>nd</sup> flagellar segment usually stouter. Glymma present. ....35.
35. Genal index 0.9. Hind leg black. Propodeum with complete costulae and median longitudinal carinae, slightly depressed and with transverse wrinkles between the longitudinal carinae. Petiolar suture complete. 1<sup>st</sup> gastral sternite coriaceous and dull medially. 45-47 flagellar segments. Body length 12-13 mm.....*yezoensis* (Uchida, 1928) ♀♂
- Genal index 0.4-0.6. Hind femur sometimes marked with red. Hind tibia usually marked with yellowish red to brown medially. ....36.
36. Temple 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Palpi yellowish. Mandible broadly yellow medially. Hind femur black. Propodeum hardly impressed, for the greater part irregularly wrinkled, with a short median longitudinal keel and some longitudinal wrinkles posteriorly. 4<sup>th</sup> gastral tergite for the greater part black, with a narrow reddish longitudinal band dorsally (in the only known specimen). 50 flagellar segments. Body length 12 mm. ♀ unknown.....*holmgrenii* (Dalla Torre, 1901) ♂
- Temple 0.6-0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the mesoscutum or scutellum (intermediate in *D. castanipes*; in this species the hind femur is marked with red, and the 4<sup>th</sup> gastral tergite has a different colour pattern).....37.
37. Maxillary palpus blackish in both sexes. Mandible blackish in the ♀, sometimes marked with yellowish red medially in the ♂. Median longitudinal carinae of the propodeum complete or almost complete, joining the costulae anteriorly. Ovipositor index 1.0. Mesopleurum coriaceous and rather dull between the punctures. Hind tibia distinctly marked with black basally and apically. 2<sup>nd</sup> gastral tergite red on the posterior 0.4-0.5. 39-44 (rarely up to 49) flagellar segments. Body length 9-11 mm. (Small specimens of *D. nidulator*, in which the petiole is almost smooth in front of the glymmae, run here, but they differ from *D. terebrator* in other characters. See couplet 33.).....*terebrator* (Förster, 1868) ♀♂

- Maxillary palpus yellow and mandible broadly marked with yellow in the ♂. Mandible marked with yellow in the ♀. Median longitudinal carinae of the propodeum often obliterated or covered with wrinkles. Ovipositor index 0.5-0.7.....24.
- 38. Antennal carina distinctly raised dorsally and its rim distinctly widened either to a crescent-shaped transversely striate plate (ear-like) or to a nose-like transversely striate projection. Frons above the antennal carinae often depressed.....39.
- Antennal carina not raised dorsally and/or its rim not distinctly modified. In some species the carina is slightly raised, but its rim is not widened to a dorsal crescent-shaped plate or to a nose-like projection (*D. alticola*, *auriculator*, *rubidatae*, *sobolicida*). In other species the carina is low, but its rim is widened to a smooth crescent-shaped plate (*D. angustifrons*, *temnator*) or to a small transversely striate projection (*D. fundator*, *stygia*). .....43.
- 39. Genal carina straight or slightly bent forwards and sideways subventrally, not raised, joining the oral carina at the base of the mandible. Antennal carina raised dorsally and its rim bent upwards (ear-like). Frons somewhat depressed above the antennal sockets, with radial wrinkles, with a bulge between these depressions and a strong carina on top of it. Glymma small and shallow or absent. 41-43 flagellar segments. Body length 9-10 mm. ....*ucrainica* Hinz, 1972 ♀♂
- Genal carina joining the oral carina distant from the base of the mandible.....40.
- 40. Genal carina distinctly raised ventrally, joining the distinctly raised oral carina distant from the base of the mandible, both forming a lopsided triangular pyramid, the tip of the latter shifted downwards and situated behind the base of the mandible. Frons distinctly depressed above the antennal sockets, with distinct radial wrinkles. Antennal carina distinctly widened dorsally to a nose-like projection. Ventral part of the prepectal carina merging with the pleural part, the latter joining the anterior edge of the mesopleurum. 50-54 flagellar segments. Body length 10-13 mm. ....*aurita* (Kriechbaumer, 1883) ♀♂
- Genal carina not distinctly raised ventrally.....41.
- 41. Metapleurum with distinct wrinkles centrally and dorsally. Pleural carina partly indistinct and covered with wrinkles. Glymma absent. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2. Antennal carina widened to a nose-like projection dorsally. Spiracular carina indistinct and covered with wrinkles. 50-56 flagellar segments. Body length 14-16 mm. ....*pineticola* (Holmgren, 1872) ♀♂
- Metapleurum coriaceous and punctate centrally. Pleural carina distinct. Glymma present. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.4-0.7. ....42.
- 42. 41-49 flagellar segments. Frons slightly depressed above the antennal sockets, without a median bulge between these depressions, with strong radial wrinkles. Rim of the antennal carina widened to a rather long dorsal projection. Impression in front of the speculum with distinct longitudinal striae. Hind tibia black in the ♀, broadly yellowish white medially in the ♂. Glymma small. Body length 7-9 mm. ....*anceps* (Holmgren, 1860) ♀♂
- 58-63 flagellar segments. Frons distinctly depressed above the antennal sockets, with a median bulge between these depressions, with fine radial wrinkles. Rim of the antennal carina widened to a transversely striate nose-like projection, in addition the rim bent upwards to a rather narrow crescent-shaped plate. Impression in front of the speculum for the greater part coriaceous or granulate-strigose. Hind tibia yellowish red, narrowly medium brown basally and apically. Glymma large. Body length 14-18 mm. (See also couplet 5.).....*mactator* (Förster, 1868) ♀♂
- 43. Genal carina joining the oral carina at the base of the mandible, often at a right angle, the genal carina often bent sideways and forwards close to the junction. ....44.
- Genal carina joining the oral carina some distance from the base of the mandible, often at an acute angle, the genal carina often straight close to the junction. In some species the junction is shifted downwards and is situated behind the mandible. (Some species in which the situation may be difficult to ascertain can be traced through both halves of the couplet.).....67.
- 44. Hind tibia completely light yellow. ....45.
- Hind tibia whitish yellow to black medially, darkened basally and apically. ....47.
- 45. 2<sup>nd</sup> gastral tergite broadly black anteriorly, yellowish red on the posterior 0.3. Ventral part of the prepectal carina and transverse carina both

- rather low. 4<sup>th</sup> tergite for the greater part or completely black. 35-38 flagellar segments. Body length 7-8 mm. .... *pulchripes* (Holmgren, 1872) ♀♂
- 2<sup>nd</sup> gastral tergite yellow, at most with a small dorsal black mark anteriorly. .... 46.
46. Ventral part of the prepectal carina and transverse carina both strongly raised. Mid trochanter yellow. 4<sup>th</sup> tergite completely yellow or the posterior half black. 30-32 flagellar segments. Body length 7-8 mm. Probably only Canary Isles. .... *tenerifae* Hinz, 1977 ♀♂
- Ventral part of the prepectal carina and transverse carina both rather low. Mid trochanter black in the ♂. 4<sup>th</sup> gastral tergite black. Both flagellar tips broken off in the only known specimen. Body length 7.5 mm. ♀ of the variety unknown. Spain. .... *tenerifae* Hinz, 1977 var. ♂
47. Ventral part of the prepectal carina low or slightly raised, at most slightly emarginate medially, merging either with the pleural part or with the transverse carina (sometimes variable within a species). At least 30 flagellar segments. .... 48.
- Ventral part of the prepectal carina distinctly raised (at least submedially behind the front coxae), distinctly emarginate medially, merging with the raised transverse carina (moderately raised in *D. erythrogaster*, but in this species the pleural part of the prepectal carina is lacking; see couplet 57). (*D. carpathica* which is intermediate in this character can be traced though both halves of the couplet.) .... 53.
48. 30-38 flagellar segments. Genal carina joining the oral carina absolutely at the base of the mandible. .... 49.
- 39-50 flagellar segments. Genal carina joining the oral carina close to the base of the mandible, genal index 0.1-0.2 (sometimes difficult to ascertain). .... 51.
49. Hind corner of pronotum produced to a flange, which projects about as far as the tegula (best seen from above) and which is rounded dorsally and excavated ventrally (sometimes less produced, but 5<sup>th</sup> gastral tergite always marked with red). 5<sup>th</sup> gastral tergite red or marked with red. Hind tibia usually blackish, sometimes broadly yellowish brown medially. 32-35 flagellar segments in the ♀, 34-37 segments in the ♂. Body length 6-8 mm. .... *minor* (Provancher, 1879) ♀♂
- Hind corner of pronotum not much produced, distinctly shorter than the tegula (moderately produced in some specimens of *D. angustifrons*). 5<sup>th</sup> gastral tergite black. .... 50.
50. Antennal carina low, its rim more or less bent upwards and widened to a smooth narrow crescent-shaped plate. Flagellum filiform, shortest flagellar segment 0.9-1.0 times, penultimate segment 1.0-1.1 times as long as wide. (Variety: Flagellum slightly fusiform, shortest segment 0.8-0.9 times, penultimate segment 0.9-1.0 times as long as wide.) Ventral part of the prepectal carina low or slightly raised, usually merging with the pleural part (rarely with the transverse carina). Petiole with glymmae at the anterior edge of lateral areas. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.1 (sometimes the red band more extended laterally). 4<sup>th</sup> gastral tergite usually for the greater part or completely red (sometimes marked with black dorsally). 33-37 flagellar segments in the ♀, 36-38 segments in the ♂. Body length 7-9 mm. (Rarely ♀ with 31 flagellar segments; body length 5.5-6 mm.) .... *angustifrons* (Förster, 1868) ♀♂
- Antennal carina low and narrow, its rim at most slightly and inconspicuously bent upwards, not widened to a smooth crescent-shaped plate. Ventral part of the prepectal carina slightly raised, slightly emarginate medially, merging with the transverse carina. .... 62.
51. 2<sup>nd</sup> gastral tergite black dorsally, the following tergites marked with black dorsally and with red laterally (to a variable extent), the 4<sup>th</sup> tergite sometimes completely red. Gaster sternites of both sexes and genital claspers of the ♂ red or reddish brown. 39-42 flagellar segments. Body length 7-8 mm. (See also couplet 90.) .... *thomsoni* Hinz, 1963 ♀♂
- Gaster red medially (including the posterior 0.2-0.3 of the 2<sup>nd</sup> tergite), black anteriorly and posteriorly. Posterior gastral sternites of both sexes and genital claspers of the ♂ black. (Aberant specimens of *D. confusa* may run here; for characters see couplets 110-111.) .... 52.
52. Antennal carina low and narrow, its rim not transversely striate. Genal carina low ventrally, joining the low oral carina slightly above the base of the mandible. Hind femur often red. 39-44 flagellar segments. Body length 7-9 mm. (See also couplet 121.) .... *limnobia* (Thomson, 1887) ♀♂
- Antennal carina slightly raised, somewhat thickened, finely transversely striate. Genal

- carina slightly raised ventrally, joining the slightly raised oral carina behind the base of the mandible. Hind femur black. 44-50 flagellar segments. Body length 8-10 mm. (See also couplet 68.) ..... *sobolicida* (Förster, 1868) ♀♂
53. 24-32 flagellar segments.....54.  
 – 33-47 flagellar segments.....57.
54. Maxillary palpus and mandible blackish. Pleural part of the prepectal carina complete or almost complete. Hind femur reddish brown or brown. Glymma large. Ovipositor index 1.3, ovipositor sheaths distinctly widened subapically (in lateral view). 26-27 flagellar segments in the ♀, 29-30 segments in the ♂. Body length 6 mm. (See also couplet 84.) .....  
 ..... *alticola* (Gravenhorst, 1829) ♀♂
- Maxillary palpus yellow or yellowish red. Mandible marked with yellow.....55.
55. 2<sup>nd</sup> gastral tergite red on the posterior 0.5-0.6. Hind femur black. Glymma distinct. Dorsal 0.3 of the pleural part of the prepectal carina obliterated. Ovipositor index 0.8. 29-30 flagellar segments in the ♀, 30-31 segments in the ♂. Body length 8-9 mm.....*filator* Hinz, 1985 ♀♂
- 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.3. Hind femur red or black. Glymma small or absent. (Specimens of *D. carpathica* with 30-32 flagellar segments run here; see couplet 65. They differ from *D. aemula* and *juvenilis* by: ventral part of the prepectal carina and transverse carina slightly raised; pleural part of the prepectal carina present medially and ventrally, the dorsal 0.4 obliterated.).....56.
56. Pleural part of the prepectal carina distinct medially and dorsally, sometimes obliterated ventrally. 4<sup>th</sup> gastral tergite often marked with red (rarely complete black). Ovipositor index 0.6. 26-30 flagellar segments in the ♀, 28-32 segments in the ♂. Body length 7-8 mm. (Rarely 24 flagellar segments in the ♀, 28 segments in the ♂; body length 5 mm.).....  
 ..... *aemula* (Förster, 1868) ♀♂
- Pleural part of the prepectal carina for the greater part obliterated, often some wrinkles present medially and/or subdorsally. 4<sup>th</sup> gastral tergite usually black, sometimes marked with red laterally. Ovipositor index 1.3. 26-28 flagellar segments in the ♀, 28-31 segments in the ♂. Body length 7-9 mm. ....  
 ..... *juvenilis* (Förster, 1868) ♀♂
57. Pleural part of the prepectal carina obliterated. Hind tibia black, sometimes tinged with dark brown. Gaster from the posterior 0.2-0.3 of the 2<sup>nd</sup> tergite onwards reddish brown. Posterior tergites tinged with black dorsally in the ♀, broadly black dorsally or completely black in the ♂. Glymma present, sometimes small. 35-39 flagellar segments. Body length 7-8 mm. (See also couplet 11.).....  
 ..... *erythrogaster* (Förster, 1868) ♀♂
- Pleural part of the prepectal carina usually present at least medially. Hind tibia whitish yellow to yellowish brown medially at least in the ♂ (exception: *D. hastulatae*, which differs from *D. erythrogaster* by: 40-42 flagellar segments; glymma absent; posterior gastral tergites black). Posterior gastral tergites black in both sexes. ....58.
58. 40-47 flagellar segments.....59.  
 – 33-39 flagellar segments.....62.
59. Hind tibia broadly light yellow medially, narrowly black basally and apically, the apical black ring extending over 0.1-0.2 of the tibia. 2<sup>nd</sup> gastral tergite red on the posterior 0.4-0.6 in the ♀, on the posterior 0.3-0.4 in the ♂. 42-46 flagellar segments. Body length 8-12 mm.....  
 ..... *inermis* (Förster, 1868) ♀♂
- Hind tibia black or tinged with white medially on the dorsal side or narrowly marked with yellow medially, the apical black ring extending over 0.3-0.4 of the tibia.....60.
60. Pleural part of the prepectal carina present only medially, obliterated dorsally and ventrally. Petiole smooth and rounded laterally, without glymmae or lateral areas. Hind tibia black, sometimes tinged with brown medially on the dorsal side. 40-42 flagellar segments,. Body length 8-9 mm..... *hastulatae* spec. nov. ♀♂
- Pleural part of the prepectal carina present medially and ventrally. Petiole with small glymmae or narrow lateral areas.....61.
61. Temple 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the petiole. Genal carina slightly bent sideways and not bent forwards subventrally. Hind tibia black. Both flagellar tips broken off in the only known ♀. 46 flagellar segments in a ♂ tentatively placed here. Body length 9 mm.....  
 ..... *fatigator* (Förster, 1868) ♀?♂
- Temple 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum or postscutellum. Genal carina slightly raised and distinctly bent sideways and forwards subventrally in the typical morph,



- slightly bent sideways and hardly bent forwards in a variety with less flagellar segments. Hind tibia black in the ♀, sometimes tinged with white subbasally on the dorsal side. Hind tibia rather narrowly marked with whitish yellow in the ♂, distinctly black basally and apically, the apical ring extending over 0.3-0.4 of the tibia. 41-47 flagellar segments in the typical morph, 38-41 segments in a variety. Body length 7-9 mm. (See also couplet 64.) .....  
 ..... *flagellator* (Fabricius, 1793) ♀♂
62. Hind tibia broadly yellowish medially, narrowly marked with black basally and apically, the apical ring extending over 0.15-0.2 of the tibia. Propodeum usually with a distinct narrow longitudinal furrow and with short transverse striae in the furrow. 2<sup>nd</sup> gastral tergite marked with red on the posterior 0.2-0.3, the red mark often tinged with brown or black, the tergite sometimes almost completely black. 3<sup>rd</sup> gastral tergite red, often marked with black dorsally or posteriorly. 4<sup>th</sup> tergite black. Ovipositor stout basally, about 2.5 times as high as the apical width of a hind basitarsus. Ovipositor index 0.9. Glymma absent. 33-34 flagellar segments. Body length 9-11 mm. ....  
 ..... *stenogaster* (Förster, 1868) ♀♂
- Hind tibia yellowish brown medially, marked with black basally and apically, the apical ring extending over 0.2-0.4 of the tibia. 2<sup>nd</sup> gastral tergite red on the posterior 0.2-0.4 (0.1-0.2 in *D. carpathica*). 3<sup>rd</sup> gastral tergite usually completely red. 4<sup>th</sup> tergite red or marked with red (exception: many specimens of *D. carpathica*, in which small glymmae are present; see couplet 65). Ovipositor not unusually stout basally, about 1.5 times as high as the apical width of a hind basitarsus. Ovipositor index 0.5-0.6. Body length 6-9 mm. .... 63.
63. Propodeum with a distinct and rather narrow longitudinal furrow, with distinct transverse striae in the furrow at least medially and posteriorly, often also anteriorly. Ventral part of the prepectal carina and transverse carina strongly raised, the former distinctly emarginate medially. .... 64.
- Propodeum rather broadly and shallowly depressed, without a distinct longitudinal furrow, often with a few longitudinal wrinkles posteriorly, without transverse wrinkles or with some short transverse wrinkles medially or posteriorly. .... 65.
64. Frons with almost smooth areas ventrally above the antennal sockets, without radial wrinkles or with some short radial wrinkles. 32-36 flagellar segments. Flagellum slightly fusiform, shortest segment 0.8-0.9 times as long as wide in the ♀, 0.9-1.0 times in the ♂. Hind tibia broadly yellowish red medially in both sexes, rather narrowly marked with black basally and apically, the apical ring extending over 0.2-0.3 of the tibia, rarely the hind tibia almost completely black and tinged with brown only medially. Propodeum rather coarsely wrinkled beside the longitudinal furrow, the median longitudinal carinae indicated. Petiole with small glymmae (rarely the glymmae obliterated). Body length 8-9 mm. .... *disclusa* (Förster, 1868) ♀♂
- Frons with distinct and rather long radial wrinkles ventrally above the antennal sockets. 38-41 flagellar segments. Flagellum filiform, shortest segment 1.0-1.1 times as long as wide in the ♀, 1.1-1.2 times in the ♂. Hind tibia black in the ♀, sometimes tinged with white subbasally on the dorsal side. Hind tibia for the greater part black in the ♂, marked with whitish yellow medially (often only on the dorsal side), the apical black ring extending over 0.3-0.4 of the tibia. Propodeum with rather fine irregular wrinkles beside the longitudinal furrow, the longitudinal carinae usually obliterated. Petiole without glymmae, with narrow lateral areas. Body length 7.5-8.5 mm. (See also couplet 61.) ....  
 ..... *flagellator* (Fabricius, 1793) var. ♀♂
65. Frons finely rugose-punctate ventrally above the antennal sockets, usually without radial wrinkles. 30-36 flagellar segments. Flagellum slightly fusiform, shortest segment 0.7-0.8 times as long as wide in the ♀, 0.8-0.9 times in the ♂. Ventral part of the prepectal carina and transverse carina slightly raised, the former slightly emarginate medially. Front and mid trochanters black in the ♀, yellow in the ♂. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2 (rarely 0.3). 3<sup>rd</sup> tergite red, sometimes tinged with black dorsally. 4<sup>th</sup> tergite black or broadly marked with black dorsally. Petiole with small glymmae at the anterior edge of lateral areas. Body length 6-8 mm. .... *carpathica* (Szépligeti, 1916) ♀♂
- Frons with almost smooth areas ventrally above the antennal sockets, with or without distinct radial wrinkles. 33-39 flagellar segments. Flagellum filiform, shortest segment 0.9 times as long as wide in the ♀, 1.0 times in the ♂. Ventral part of the prepectal carina and transverse carina strongly raised, the former distinctly emar-

- ginate medially. Front trochanter often marked with yellow or red, mid trochanter black in both sexes. 2<sup>nd</sup> gastral tergite red on the posterior 0.2-0.4. 4<sup>th</sup> tergite red or marked with red, often red anteriorly and black posteriorly. Petiole with or without gymmae. .... 66.
66. Genal carina joining the oral carina absolutely at the base of the mandible. Mandible black in the ♀, narrowly marked with brown in the ♂. Mesopleurum coriaceous between the punctures. Longitudinal carinae of the propodeum obliterated. Sculpture of the propodeum rather variable (with fine or rather coarse irregular wrinkles, sometimes with a few transverse wrinkles, usually with some longitudinal wrinkles posteriorly). 33-39 flagellar segments. Body length 7-9 mm. .... *notabilis* (Förster, 1868) ♀♂
- Genal carina joining the oral carina close to the base of the mandible, genal index 0.1. Mandible broadly yellow medially. Mesopleurum almost smooth between the punctures. Propodeum with fine median longitudinal carinae medially and posteriorly, irregularly wrinkled between the carinae. 37 flagellar segments. Body length 9 mm. ♀ unknown. (See also couplet 100.) ..... *tyrolensis* spec. nov. ♂
67. Genal carina raised ventrally close to the junction with the also raised oral carina, forming a lopsided triangular pyramid, the tip of the latter shifted downwards and situated more or less behind the base of the mandible. .... 68.
- Genal carina not distinctly raised ventrally, its junction with the oral carina situated above the base of the mandible. .... 79.
68. Genal carina slightly raised behind the lower edge of the eye, not raised and sometimes almost obliterated subventrally, slightly raised ventrally, joining the slightly raised oral carina behind the base of the mandible (an inconspicuous and rather variable character). Mesopleurum distinctly coriaceous (rarely almost smooth) centrally between the punctures. Hind tibia broadly yellow or yellowish brown medially, distinctly marked with dark brown or black basally and apically. 2<sup>nd</sup> gastral tergite red on the posterior 0.2-0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, the 4<sup>th</sup> tergite sometimes marked with black posteriorly. Antennal carina slightly raised, not bent upwards, the rim with fine transverse striae. 44-50 flagellar segments. Body length 8-10 mm. (See also couplet 52.) ..... *sobolicida* (Förster, 1868) ♀♂
- Junction of the genal carina and oral carina distinctly raised. Mesopleurum smooth or slightly coriaceous centrally between the punctures. Hind tibia light yellow, not marked with black basally (sometimes with a small brown mark), sometimes marked yellow with black apically. Median gastral tergites yellow, at least the 3<sup>rd</sup> tergite completely yellow. .... 69.
69. Ventral part of the prepectal carina merging with the pleural part, carinae low. Flagellum black distally. Mesopleurum slightly coriaceous between the punctures. Mid leg yellow from the trochanter onwards in the ♀, from the apex of the coxa onwards in the ♂, apical tarsal segments brown. 2<sup>nd</sup> gastral tergite yellow on the posterior 0.2-0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. 36-43 flagellar segments. Body length 8-9 mm. Madeira. .... *peregrina* (Wollaston, 1858) ♀♂
- Ventral part of the prepectal carina merging with the transverse carina, both carinae often distinctly raised. (In some specimens of *D. splendor* the ventral part of the prepectal carina merges with the pleural part, but in this species the flagellum is distinctly light brown distally.) ..... 70.
70. 2<sup>nd</sup> gastral tergite black, only the posterior lateral corners with small yellow marks, sometimes the posterior edge with a very narrow yellow band. .... 71.
- 2<sup>nd</sup> gastral tergite dorsally yellow at least on the posterior 0.1-0.2, laterally yellow on the posterior 0.5-0.7. .... 73.
71. Genal carina moderately raised ventrally, genal index about 0.4. Junction of the genal carina with the oral carina rounded. Hind tibia yellow basally (sometimes with a small blackish mark) and medially, the apex rather broadly marked with black in the ♀, narrowly marked with light brown in the ♂. Mid femur black, only the apex yellow. Mid tibia yellow. Mid tarsus blackish in the ♀, light brown in the ♂. 4<sup>th</sup> tergite narrowly marked with yellow anteriorly in the ♀, often broadly marked with yellow anteriorly in the ♂. 42-43 flagellar segments. Body length 9-10 mm. .... *calceata* (Brauns, 1895) ♀♂
- Genal carina very strongly raised ventrally, genal index 0.7-0.8. Junction of the genal carina with the oral carina more or less pointed. Hind tibia yellow, at most narrowly marked with red or brown basally and apically. 4<sup>th</sup> gastral tergite broadly yellow laterally in both sexes. .... 72.

72. Pleural part of the prepectal carina complete. Mesopleurum with dispersed or rather dense punctation centrally. Speculum for the greater part smooth. Flagellum and hind tarsus black in both sexes. Mid leg yellow from the apex of the coxa onwards in both sexes. Hind tarsal claws short, with about four short pectinate teeth situated basally. 43-46 flagellar segments. Body length 8-9 mm. .... *andalusica* spec. nov. ♀♂
- Pleural part of the prepectal carina present only medially. Mesopleurum with dense or very dense punctation. Speculum with punctures and wrinkles. Flagellum light brown distally in the ♀. Hind tarsus yellow in the ♂. Mid leg yellow from the femur onwards in the ♀, from the trochanter onwards in the ♂. Hind tarsal claws rather long, with about six rather long pectinate teeth situated basally and medially. 49-51 flagellar segments. Body length 11-12 mm. .... *lividariae* Hinz, 1963 ♀♂
73. Flagellum light brown distally. Hind tibia yellow, narrowly marked with brown basally and apically. Frons slightly depressed above the antennal sockets, with a low bulge between these depressions and a distinct longitudinal carina on top of the bulge. Genal carina distinctly but not strongly raised, genal index about 0.3. Mid leg yellow from the apex of the femur onwards in the ♀, from the base of the femur onwards in the ♂, tarsus marked with brown. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3. 47-49 flagellar segments. Body length 9-11 mm. .... *splenditor* Hinz, 1985 ♀♂
- Flagellum black distally. Hind tibia yellow, at most very indistinctly marked with light brown basally and apically. ....74.
74. Temple 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the prescutellar groove. 51-55 flagellar segments. 2<sup>nd</sup> gastral tergite usually with brown or black lateral lines slightly above the ventrolateral edges of the tergite. Body length 11-13 mm. Genal carina not raised medially (behind the centre of the eye). Mid leg yellow from the apex of the femur onwards in the ♀, from the apex of the coxa onwards in the ♂, tarsus marked with brown. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.2-0.3. .... *mercator* (Fabricius, 1793) ♀♂
- Temple 0.7-0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the mesoscutum. 44-50 flagellar segments. 2<sup>nd</sup> gastral tergite with the ventrolateral edges partly marked with black. Body length 9-11 mm. ....75.
75. Genal carina distinctly raised medially and subventrally (behind the ventral half of the eye), strongly raised ventrally, the junction with the oral carina more or less strongly shifted downwards. Genal index 0.6-0.8. ....76.
- Genal carina not raised medially (behind the centre of the eye), sometimes slightly raised subventrally (behind the lower edge of the eye), strongly raised ventrally, the junction with the oral carina not strongly shifted downwards. Genal index 0.4-0.6. (The following three species are weakly differentiated.).....77.
76. Frons scarcely depressed, without a low bulge medially. Junction of the genal and the oral carinae more or less strongly shifted downwards (in some ♀♀ as strongly shifted downwards as in *D. lamellator*). Genal index 0.6-0.8. Mid leg yellow from the distal 0.4-0.8 of the femur onwards in the ♀ (rarely the femur completely yellow), from the apex of the coxa onwards in the ♂, apical tarsal segments brown. Hind tarsal claws of the ♀ with about five rather long pectinate teeth situated subapically as well as basally and medially (pectinate teeth of the hind claws of the ♂ short and inconspicuous). 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3. 46-50 flagellar segments. Body length 9-12 mm. .... *angustata* (Thomson, 1887) ♀♂
- Frons slightly depressed, with a low bulge between these depressions. Junction of the genal and the oral carinae strongly shifted downwards, its tip almost reaching the ventral edge of the mandibles (in lateral view and with the mandibles closed). Genal index 0.8. Mid leg yellow from the base or the apex of the trochanter onwards in the ♀, from the apex of the coxa onwards in the ♂, apical tarsal segments brown. Hind tarsal claws in both sexes with 4-5 short pectinate teeth situated basally and medially. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3-0.4. 46-49 flagellar segments. Body length 11-13 mm. .... *lamellator* Aubert, 1960 ♀♂
77. Clypeus with well separated punctures on the ventral 0.7-0.8. Scape black. Mid leg yellow from the trochanter or the apex of the coxa onwards in both sexes, apical tarsal segments brown. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3-0.4. 43-48 flagellar segments. Body length 10-12 mm. Canary Isles. .... *canariensis* (Hinz, 1990) ♀♂

- Clypeus with well separated punctures on the ventral 0.3-0.5.....78.
- 78. Scape black. Mid leg yellow from the apex of the femur onwards in the ♀, from the apex of the coxa onwards in the ♂, tarsus marked with brown. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3. 44-49 flagellar segments. Body length 9-11 mm.....*dubitor* Hinz, 1977 ♀♂
- Scape usually marked with yellow below (scape black in some ♀♀, marked with a small yellow spot in some ♂♂). Mid leg yellow from the base of the femur onwards (rarely from the trochanter onwards) in the ♀, from the apex of the coxa onwards in the ♂, tarsus marked with brown. 2<sup>nd</sup> gastral tergite usually dorsally yellow on the posterior 0.1-0.2. 44-48 flagellar segments. Body length 9-10 mm. ....*semiflava* (Costa, 1883) ♀♂
- 79. 59-67 flagellar segments. Body length 14-20 mm. Mesopleurum slightly coriaceous and shining between the punctures. Hind tibia yellow, sometimes marked with light red apically. Glymma distinct. Gaster yellow or yellowish red medially. (Large specimens of *D. confusa* and *signator* might be intermediate in body length. *D. confusa* differs by: mesopleurum distinctly coriaceous and dull between the punctures; hind tibia yellow, marked with brown or black basally and apically. *D. signator* differs by: glymma absent; hind tibia yellowish brown, marked with dark brown basally and apically.) .....80.
- At most 58 flagellar segments. Body length at most 14 mm.....81.
- 80. Depression in front of the speculum for the greater part with longitudinal striae. Hind tibia yellow apically. 62-67 flagellar segments. Body length 17-20 mm.....*falcator* (Fabricius, 1775) ♀♂
- Depression in front of the speculum granulate-strigose in the ventral half. Hind tibia marked with light red apically. 59-66 flagellar segments. Body length 14-17 mm. ....*obliterata* (Holmgren, 1872) ♀♂
- 81. Ventral part of the prepectal carina merging with the transverse carina, these carinae often somewhat raised, the pleural part of the prepectal carina lower or obliterated at the junction.....82.
- Ventral part of the prepectal carina merging with the pleural part, both of equal height at the junction, the transverse carina at most as high, often lower or obliterated at the junction, rarely raised some distance from the junction. (These characters have strong infraspecific variability, which could not always be taken into account in the key. Some species can be traced through both halves of the couplet.).....105.
- 82. Hind femur for the greater part red or reddish brown (sometimes only on the inner side) .....83.
- Hind femur black, at most narrowly marked with yellow, red or brown apically.....86.
- 83. Genal index 0.1-0.2. Gaster black anteriorly and posteriorly, red medially. ....84.
- Genal index 0.2-0.3. Gaster reddish brown from the 2<sup>nd</sup> or 3<sup>rd</sup> tergite onwards, sometimes marked with brown or black dorsally. Ovipositor index 0.5-0.6. ....85.
- 84. 26-27 flagellar segments in the ♀, 29-30 segments in the ♂. Body length 6 mm. Maxillary palpus and mandible blackish. Glymma large. Ovipositor index 1.3. (See also couplet 54.).....*alticola* (Gravenhorst, 1829) ♀♂
- 38-44 flagellar segments. Body length 7-10 mm. Maxillary palpus and mandible marked with yellow. Glymma very small or absent. Ovipositor index 0.6.....120.
- 85. Antennal carina low and narrow. Speculum coriaceous and granulate-strigose, dull. Depression in front of the speculum with longitudinal and irregular wrinkles. Propodeum not depressed, for the greater part irregularly wrinkled. 47-49 flagellar segments. Body length 9-11 mm. Canary Isles.....*abdominator* Hinz, 1985 ♀♂
- Antennal carina slightly raised, its rim slightly thickened, smooth. Speculum with fine sculpture, shining. Depression in front of the speculum with strong longitudinal striae. Propodeum slightly depressed, with short transverse wrinkles in the narrow furrow. 43-46 flagellar segments. Body length 8-9 mm. (See also couplet 108.).....*auriculator* Aubert, 1964 ♀♂
- 86. Flagellum light brown distally. Nervellar index 0.5-0.6. Pleural part of the prepectal carina obliterated. Mesopleurum smooth between the punctures. Propodeum scarcely depressed, with short transverse striae anteriorly and medially, with long transverse striae posteriorly. Glymma absent. 45-47 flagellar segments. Body length 8 mm. ....*constantineanui* Hinz, 1977 ♀♂



- Flagellum black distally. Nervellar index 0.6-0.8 (exception: *D. xenocampta*, which differs from *D. constantineanui* by: mesopleurum distinctly coriaceous and dull between the punctures; glymma distinct). .....87.
- 87. Gaster black dorsally, red laterally. Usually the 2<sup>nd</sup> tergite black dorsally, marked with red laterally, the 3<sup>rd</sup> tergite red, marked with black dorsally, the posterior tergites black, marked with red laterally. (If the 3<sup>rd</sup> tergite is completely red, then the 2<sup>nd</sup> tergite is black dorsally and red laterally.) .....88.
- Gaster red (rarely yellow) medially, black anteriorly and posteriorly. Usually the 3<sup>rd</sup> tergite completely red, often also the 4<sup>th</sup> tergite red. 2<sup>nd</sup> tergite often black anteriorly, red posteriorly. (If the 3<sup>rd</sup> tergite is black dorsally and red laterally, then the 2<sup>nd</sup> and 4<sup>th</sup> tergites are completely or almost completely black.) .....93.
- 88. Pleural part of the prepectal carina obliterated or replaced by several wrinkles. Hind tibia dark yellowish brown or black medially. Genal index 0.4. Speculum finely granulate-strigose. Mesopleurum finely coriaceous and shining between the punctures. 48-52 flagellar segments. Body length 11-12 mm. (Some specimens are intermediate between *D. circumcinctus* and *spinipes*; see couplet 92.) .....  
.....*spinipes* (Thomson, 1887) ♀♂
- Pleural part of the prepectal carina usually present at least medially. Hind tibia often yellow or yellowish brown medially. Number of flagellar segments and body length often lower (exception: *D. signator*, which differs by: speculum usually smooth at least ventrally; mesopleurum smooth between the punctures; hind tibia yellowish brown medially). .....89.
- 89. Propodeum not depressed or scarcely depressed, for the greater part irregularly wrinkled, without distinct transverse wrinkles, at most some short transverse wrinkles, usually with a median longitudinal keel posteriorly. Genal index 0.5. Mesopleurum coriaceous between the punctures. 39-46 flagellar segments. Body length 7-9 mm. (In aberrant specimens of *D. circumcinctus* the transverse wrinkles of the propodeum are almost lacking too. Both species are differentiated in couplet 109.) .....  
.....*subimpressa* (Förster, 1868) ♀♂
- Propodeum more or less depressed, with distinct transverse wrinkles at least posteriorly. ....90.
- 90. 39-42 flagellar segments. Body length 7-8 mm. Genal index 0.1. Hind tibia yellowish medially, narrowly black basally, broadly black apically, the apical ring extending over 0.3 of the hind tibia. 2<sup>nd</sup> gastral tergite usually completely black. (See also couplet 51.) .....  
.....*thomsoni* Hinz, 1963 ♀♂
- 44-58 flagellar segments. Body length 8-14 mm. Genal index 0.2-0.5. Hind tibia yellowish or yellowish brown medially, brown or black basally, brown apically, the apical mark often short or absent. ....91.
- 91. Genal index 0.2. Mesopleurum coriaceous and rather dull between the punctures. Propodeum distinctly depressed. 2<sup>nd</sup> gastral tergite black, with small reddish marks on the lower posterior corners. 44-45 flagellar segments. Body length 9-10 mm. ....  
.....*einbecki* Hinz, 1977 ♀♂
- Genal index 0.4-0.5. Mesopleurum finely coriaceous and somewhat shining between the punctures, sometimes smooth. Propodeum scarcely depressed. 2<sup>nd</sup> gastral tergite black dorsally, broadly red laterally. ....92.
- 92. 44-48 flagellar segments. Body length 9-11 mm. Speculum often with fine striae or granulate-strigose ventrally as well as dorsally. Metapleurum usually rugose, punctures not discernible. (See also couplets 88 and 109.) .....  
.....*circumcinctus* (Förster, 1868) ♀♂
- 49-58 flagellar segments. Body length 10-14 mm. Speculum shining, usually smooth at least ventrally. Metapleurum usually with distinct punctures (punctate or rugose-punctate) .....  
.....*signator* (Brauns, 1895) ♀♂
- 93. Antennal carina low, its rim somewhat widened dorsally to a nose-like transversely striate projection. Temples 0.9-1.0 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum. Hind tibia black. Pleural carina indistinct and often partly covered with wrinkles. Spiracular carina obliterated. Spiracular index 0.9-1.0. 44-48 flagellar segments. Body length 10-11 mm. (See also couplet 130.) .....  
.....*stygia* (Förster, 1868). ♀♂
- Antennal carina not widened dorsally to a nose-like projection. ....94.
- 94. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2. Mesopleurum shining, slightly or not at all coriaceous between the punctures. Hind tibia black, rarely tinged with white or brown medially. ....95.

- 2<sup>nd</sup> gastral tergite red on the posterior 0.2-0.7. Mesopleurum often distinctly coriaceous and rather dull between the punctures. (Mesopleurum slightly coriaceous and shining in *D. aversa*, *incompleta* and *tenuis*, which are characterized by having the 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.7.) Hind tibia completely black or marked with whitish yellow or yellowish brown medially. ....98.
- 95. Ovipositor index about 3.0. Hind claws strongly elongated in the ♂, without pectinate teeth in the apical half (not strongly elongated and with pectinate teeth in the apical half in the ♀). Temples slightly constricted behind the eyes, tangential lines on eyes and temples intersect on the 1<sup>st</sup> gastral segment. Temple 0.9-1.0 times as long as the width of an eye. Pleural part of the prepectal carina present medially or medially and ventrally, obliterated dorsally. Mesopleurum with well separated punctures centrally, sometimes a few short wrinkles present. Pleural carina and spiracular carina present. 4<sup>th</sup> gastral tergite for the greater part or completely red. 40-46 flagellar segments. Body length 10-12 mm. ....*longiseta* Hinz, 1961 ♀♂
- Ovipositor index at most 1.4. Hind tarsal claws not strongly elongated in either sex. ....96.
- 96. Mesopleurum rugose-punctate and with wrinkles centrally. Ovipositor index 1.4. Temples distinctly constricted behind the eyes, tangential lines on eyes and temples intersect on the scutellum or propodeum. Temple 0.8-0.9 times as long as the width of an eye. Pleural part of the prepectal carina present medially, sometimes covered with wrinkles. Pleural carina fine. Spiracular carina obliterated or covered with wrinkles. 4<sup>th</sup> gastral tergite usually for the greater part or completely black. 42-45 flagellar segments. Body length 8-10 mm. ....*petiolator* (Fabricius, 1804) ♀♂
- Mesopleurum with well separated punctures centrally, sometimes a few short wrinkles present. (In small specimens of *D. petiolator* the wrinkles are sometimes obliterated. ♂♂ of this species differ from *D. bucculanta* by the shape of the temples and from *D. temnator* by the shape of the antennal carina and the sculpture of the prepectus. ♀♀ are characterized by the ovipositor index.) Ovipositor index 0.7. ....97.
- 97. Temples slightly constricted behind the eyes, tangential lines on eyes and temples intersect on the propodeum or the 1<sup>st</sup> gastral segment. Temple 0.9-1.0 times as long as the width of an eye. Rim of the antennal carina low and narrow dorsally, almost not bent upwards, but distinctly bent inwards. Pleural part of the prepectal carina usually present ventrally and medially, sometimes present only medially or completely obliterated. Pleural carina present. Spiracular carina usually present, sometimes obliterated or covered with wrinkles. 4<sup>th</sup> gastral tergite for the greater part or completely red. 40-47 flagellar segments. Body length 9-11 mm. ....*bucculenta* (Holmgren, 1860) ♀♂
- Temples distinctly constricted behind the eyes, tangential lines on eyes and temples intersect on the scutellum. Temple 0.7 times as long as the width of an eye. Antennal carina low, its rim moderately bent upwards and distinctly bent inwards, forming a smooth narrow crescent-shaped plate. Pleural part of the prepectal carina obliterated, the pleural part of the prepectus evenly rounded, not separated from the mesopleurum, without wrinkles. Pleural carina fine, usually partly covered with wrinkles. Spiracular carina indistinct and covered with wrinkles. 4<sup>th</sup> gastral tergite usually for the greater part or completely black, rarely red. 47-54 flagellar segments. Body length 9-10 mm. ....*temnator* Hinz & Horstmann, 2004 ♀♂
- 98. Ventral part of the prepectal carina strongly raised. (Intermediate specimens should be tried here first.) ....99.
- Ventral part of the prepectal carina slightly or not at all raised. ....102.
- 99. Clypeus densely rugose-punctate ventrally as well as dorsally, only a narrow ventral band less densely punctate. Genal carina almost straight ventrally. Ventral part of the prepectal carina narrowly and not deeply emarginate medially. Tibial spur index 0.4-0.6. 2<sup>nd</sup> gastral tergite red on the posterior 0.4-0.7. 38-44 flagellar segments. Body length 10-12 mm. ....*aversa* (Förster, 1868) ♀♂
- Clypeus with well separated punctures on its ventral 0.4-0.7. Genal carina bent sideways and forwards subventrally. Ventral part of the prepectal carina rather broadly and deeply emarginate medially. Tibial spur index 0.6-0.7. 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.4. Body length 7-9 mm. ....100.
- 100. Genal carina joining the oral carina close to the base of the mandible, genal index 0.1. Genal carina distinct ventrally. Propodeum slightly depressed, with distinct and almost complete

- median longitudinal carinae and with irregular wrinkles in the shallow sulcus between the longitudinal carinae. 37 flagellar segments. Body length 9 mm. ♀ unknown. (See also couplet 66.) .....*tyrolensis* spec. nov. ♂
- Genal carina joining the oral carina distant from the base of the mandible, genal index about 0.3. Genal carina more or less obliterated close to the junction with the somewhat raised oral carina, the gena somewhat depressed (a slightly variable character). Propodeum with a distinct narrow longitudinal furrow and with distinct transverse striae in the furrow. Longitudinal carinae of the propodeum obliterated. .... 101.
101. Front femur black, its distal 0.2 dark yellowish brown, front tibia dark yellowish brown, mid femur and mid tibia black in the ♀. Mandible for the greater part, tegula, front and mid coxae and hind tibia black in the ♂ (sometimes hind tibia tinged with yellowish brown medially). 41-46 flagellar segments. Body length 8-10 mm. ♀ tentatively placed here. ....  
.....*incompleta* (Bridgman, 1889) ♂ ? ♀
- Front femur and front tibia yellowish red, mid femur yellowish red on its distal 0.5 and mid tibia yellowish red in the ♀. Mandible, tegula, front and mid coxae and hind tibia distinctly marked with yellow in the ♂. 44-48 flagellar segments. Body length 8-9 mm. (Some specimens are intermediate between *D. incompleta* and *tenuis*.) .....*tenuis* (Förster, 1868) ♀ ♂
102. Pleural part of the prepectal carina distinct dorsally, joining the anterior edge of the mesopleurum. Nervellar index usually 0.4-0.6 (rarely 0.7). Glymma present. Hind tibia yellowish brown medially in the ♀, whitish yellow medially in the ♂, narrowly black basally, broadly black apically. 45-53 flagellar segments. Body length 8-12 mm. (See also couplet 114.) .....  
.....*xenocampta* (Förster, 1868) ♀ ♂
- Pleural part of the prepectal carina obliterated or replaced by several wrinkles dorsally. Nervellar index 0.6-0.7. Glymma absent. .... 103.
103. Impression in front of the speculum with striae, which merge with an area without punctuation anteriorly. 2<sup>nd</sup> gastral tergite less than twice as long as wide. Hind tibia broadly whitish yellow medially. Flagellum slightly fusiform, shortest segment 0.8-0.9 times as long as wide. 37-39 flagellar segments. Body length 8 mm. (rarely 41 flagellar segments; body length 10 mm.) .....  
.....*sagittatae* spec. nov. ♀ ♂
- Striae in front of the speculum merging with the punctuation anteriorly. 2<sup>nd</sup> gastral tergite more than twice as long as wide. Hind tibia completely black or for the greater part black with a median white mark dorsally or yellowish brown medially. At least 42 flagellar segments. .... 104.
104. Genal index 0.2-0.3. Temple with fine and rather dense punctuation medially. Hind tibia black in the ♀ (rarely tinged with white sub-basally), dorsally marked with white medially or basally and medially in the ♂. Petiole without lateral areas or these areas weakly indicated. Mesopleurum with dense punctuation. 43-46 flagellar segments. Body length 8-9 mm. (See also couplets 125 and 127.) .....  
.....*meridionator* Aubert, 1960 ♀ ♂
- Genal index 0.1-0.2. Temple with very fine and dispersed punctuation medially. Hind tibia yellowish brown medially, narrowly black basally, broadly black apically. Petiole with lateral areas. 42-47 flagellar segments. Body length 8-9 mm. .... 120.
105. 21 flagellar segments in the ♀, 30 segments in the ♂. Body length 6 mm. Hind femur reddish. Hind tibia yellowish red or yellowish brown. Gaster red from the 2<sup>nd</sup> tergite onwards, the 2<sup>nd</sup> tergite marked with black on the anterior 0.2. Posterior tergites black (in the ♂) or tinged with black (in the ♀). ....*baueri* Hinz, 1973 ♀ ♂
- At least 34 flagellar segments. Body usually longer. Hind leg and gaster not as extensively marked with red. .... 106.
106. Gaster black dorsally, red laterally. Usually the 2<sup>nd</sup> tergite black dorsally, marked with red laterally, the 3<sup>rd</sup> tergite red, marked with black dorsally, the posterior tergites black dorsally, red laterally, the genital clasper of the ♂ reddish. .... 107.
- Gaster red (rarely yellow) medially, black anteriorly and posteriorly. Usually the 2<sup>nd</sup> tergite black anteriorly, red posteriorly, the 3<sup>rd</sup> tergite red, the posterior tergites completely black, the genital clasper of the ♂ black. (If the 3<sup>rd</sup> tergite is marked with black dorsally, then the 2<sup>nd</sup> tergite is almost completely black and the posterior tergites are black.) ..... 110.
107. 49-52 flagellar segments. Depression in front of the speculum coriaceous or granulate-strigose. Glymma present. Propodeum slightly depressed, finely rugose anteriorly, with distinct longitudinal or transverse wrinkles posteriorly. Body length 11-12 mm. (See also couplet 20.) ..  
.....*alpina* (Strobl, 1904) ♀ ♂

- 43-48 flagellar segments. Depression in front of the speculum with fine or distinct longitudinal striae, Glymma absent.....108.
- 108. Antennal carina slightly raised, slightly thickened, its rim smooth. Hind femur red or reddish brown. Propodeum with a narrow longitudinal furrow and with short transverse striae in the furrow. 43-46 flagellar segments. Body length 8-9 mm. (See also couplet 85.).....*auricular* Aubert, 1964 ♀♂
- Antennal carina low and narrow. Hind femur black.....109.
- 109. Mesopleurum slightly coriaceous or almost smooth and shining between the punctures. Propodeum slightly depressed, sometimes with a shallow and rather narrow longitudinal furrow, with distinct transverse striae at least posteriorly. (In aberrant specimens the transverse striae are almost completely obliterated.) 44-48 flagellar segments. Body length 9-11 mm. (See also couplet 92.) .....*circumcinctus* (Förster, 1868) ♀♂
- Mesopleurum distinctly coriaceous and rather dull between the punctures. Propodeum not depressed or scarcely depressed, for the greater part irregularly wrinkled, at most with some short transverse wrinkles posteriorly, usually with a longitudinal keel posteriorly. 39-46 flagellar segments. Body length 7-9 mm. (See also couplet 89.).....*subimpressa* (Förster, 1868) ♀♂
- 110. Genal index 0.1-0.2. Hind tibia broadly whitish or light yellow medially, narrowly marked with black basally and apically, the basal mark sometimes lacking, the apical ring 1.0-1.5 times as long as the width of the hind tibia. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.4-0.7, laterally red on the posterior 0.7-1.0.....111.
- Genal index at least 0.2, and/or hind tibia with a different colour pattern, and/or 2<sup>nd</sup> gastral tergite less extensively marked with red.....112.
- 111. Temples strongly constricted behind the eyes, tangential lines on eyes and temples intersect on the mesoscutum. Mesopleurum coriaceous and dull between the punctures. Metapleurum coriaceous and densely rugose-punctate. Median longitudinal carinae of propodeum partly indicated. Glymma present. Median gastral tergites light red. In the ♀, the apex of the hind femur and the sides of the postpetiole are often marked with yellowish red. 47-54 flagellar segments. Body length 11-14 mm. ....*confusa* (Förster, 1868) ♀♂
- Temples slightly constricted behind the eyes, tangential lines on eyes and temples intersect on the postpetiole. Mesopleurum and metapleurum smooth between the punctures. Median longitudinal carinae of propodeum absent. Glymma absent. Median gastral tergites red. 43 flagellar segments. Body length 9 mm. ♀ unknown.....*turcator* spec. nov. ♂
- 112. Depression in front of the speculum granulate-strigose or with fine longitudinal striae, which merge with an area without punctation anteriorly. Mesopleurum distinctly coriaceous between the punctures. Hind tibia yellow or yellowish brown medially, marked with brown or black basally and apically.....113.
- Depression in front of the speculum with fine or strong longitudinal striae or wrinkles, which merge with the punctation anteriorly.....115.
- 113. Dorsal 0.4 of the pleural part of the prepectal carina obliterated. 2<sup>nd</sup> gastral tergite red on the posterior 0.1. Propodeum broadly and not deeply depressed, the sulcus coriaceous anteriorly and medially, with transverse wrinkles posteriorly. 46-47 flagellar segments. Body length 8 mm. ♀ unknown.....*nebulosae* Horstmann, 2004 ♂
- Pleural part of the prepectal carina complete, joining the anterior edge of the mesopleurum (or almost so). 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.5.....114.
- 114. 34-40 flagellar segments. Nervellar index 0.8-0.9. Propodeum rather broadly and not deeply depressed, the sulcus coriaceous anteriorly, with irregular wrinkles and a short longitudinal keel posteriorly. Gaster rather stout, 2<sup>nd</sup> tergite less than twice as long as wide. Body length 6-8 mm.....*humilis* (Förster, 1868) ♀♂
- 45-53 flagellar segments. Nervellar index usually 0.4-0.6. Propodeum rather broadly and deeply depressed, with transverse wrinkles in the sulcus. Gaster slender, 2<sup>nd</sup> tergite at least twice as long as wide. Body length 8-12 mm. (See also couplet 102.) .....*xenocampta* (Förster, 1868) ♀♂
- 115. Hind tibia dark yellowish red, narrowly marked with black basally, hardly darkened apically. Propodeum rather broadly and not deeply depressed, with short transverse wrinkles in the midline and with long transverse wrinkles posteriorly. Spiracular carina indistinct or obliterated. 43-47 flagellar segments. Body length 9-10 mm.....*opaca* (Thomson, 1887) ♀♂

- Hind tibia completely black, or black and white (or light yellow), or yellow to yellowish brown medially and distinctly marked with brown or black basally and apically.....116.
- 116. Hind tibia yellowish brown medially (also on the ventral side), marked with brown or black basally and apically. ....117.
- Hind tibia black, or black and tinged with dark brown medially, or black and marked with white on the dorsal side, or whitish basally and black apically.....122.
- 117. Temple 0.8-0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum or the propodeum. Genal index 0.2-0.3. Mesopleurum slightly coriaceous and shining between the punctures. Hind femur black, rarely marked with reddish brown distally. Glymma usually distinct, sometimes absent. 39-46 flagellar segments. Body length 10-11 mm (rarely 8-9 mm).....*alpigena* Hinz, 1972 ♀♂
- Temple 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the mesoscutum or the scutellum.....118.
- 118. Genal index 0.5. Glymma present. Mesopleurum coriaceous and dull between the punctures. Hind femur black. Median longitudinal carinae of propodeum usually present medially and posteriorly. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.3, laterally red on the posterior 0.5-0.9. 38-42 flagellar segments. Body length 7-9 mm. .... *blanda* (Förster, 1868) ♀♂
- Genal index 0.1-0.25. Petiole without glymmae, with narrow lateral areas.....119.
- 119. Mandible black, at most tinged with brown medially. Hind femur black. Mesopleurum coriaceous and dull between the punctures. 37-38 flagellar segments. Body length 7-8 mm. .... *circumspectans* (Förster, 1868) ♀♂
- Mandible marked with yellow medially in the ♀, for the greater part yellow in the ♂. Hind femur red or black. ....120.
- 120. Antennal carina slightly raised, its rim slightly thickened, with fine transverse striae. 44-49 flagellar segments in the ♀, 45-51 segments in the ♂. Hind femur often black. Genal carina not bent forwards subventrally. Transverse carina present. Mesopleurum coriaceous, dull, with dispersed or rather dense punctation. Body length 7.5-10 mm. (Specimens of *D. sobolicida* in which the genal carina is concealed might run here; see couplet 68. In *D. rubidatae* the genal carina is low ventrally and joins the oral carina clearly above the base of the mandible.).....*rubidatae* spec. nov. ♀♂
- Antennal carina low and narrow. 38-44 flagellar segments. Hind femur often red. ....121.
- 121. Genal carina almost straight subventrally. Transverse carina obliterated posteriorly, ventral part of the prepectal carina always merging with the pleural part. Mesopleurum slightly coriaceous, shining, with dense punctation (rarely with rather dense punctation), in the ♂ often with very dense punctation (a slightly variable character). 38-44 flagellar segments in both sexes. Body length 7-9 mm.....*annexa* (Förster, 1868) ♀♂
- Genal carina bent forwards subventrally. Transverse carina distinct posteriorly, ventral part of the prepectal carina merging with the pleural part or with the transverse carina. Mesopleurum distinctly coriaceous, dull (rarely slightly shining), with rather dense or dense punctation (dense punctation often in the ♂). 39-43 flagellar segments in the ♀, 41-44 segments in the ♂. Body length 7-9 mm. (See also couplet 52.) .....*limnobia* (Thomson, 1887) ♀♂
- 122. Hind tibia black and marked with white on the dorsal side, or whitish basally and medially and marked with black apically. Propodeum distinctly and rather narrowly depressed, with short transverse wrinkles in the longitudinal furrow. ....123.
- Hind tibia black, sometimes tinged with dark brown medially. Propodeum often rather broadly and shallowly depressed (exception: *D. meridionator*). (*D. meridionator*, in which the hind tibia is black in the ♀ and marked with white in the ♂, can be traced through both halves of the couplet.) .....126.
- 123. Flagellum light brown (rarely dark brown) distally. Metapleurum and propodeum coarsely wrinkled, the propodeum almost completely areolated, but the carinae partly indistinct or covered with wrinkles. Hind tibia light yellow basally and medially, the distal 0.3 black (with much contrast). 4<sup>th</sup> gastral tergite for the greater part or completely black. 36-40 flagellar segments. Body length 6-9 mm. ....*pulmentariae* Hinz, 1963 ♀♂
- Flagellum black (exception: some specimens of *D. albobasalis*). Metapleurum and propodeum not coarsely wrinkled. Hind tibia often with a



- different colour pattern (exceptions: ♂♂ of *D. albobasalis* and *tricolorator*, which are characterized by the sculpture of the metapleurum and propodeum). ..... 124.
124. Temple with dispersed punctation medially. 36-37 flagellar segments. Glymma small. Mesopleurum smooth between the punctures. Hind tibia black ventrally and on the distal 0.3, whitish dorsally on the proximal 0.7 in the ♀. Hind tibia whitish basally and medially (also on the ventral side), black apically in the ♂. 2<sup>nd</sup> tergite red on the posterior 0.1-0.2. Body length 7-9 mm. .... *tricolorator* Aubert, 1970 ♀♂
- Temple with dense or rather dense punctation medially. 40-46 flagellar segments. Glymma absent. .... 125.
125. Hind tibia broadly marked with white basally and medially on the dorsal side in the ♀, marked with white basally and medially on the dorsal and ventral side in the ♂ (sometimes brown ventrally). Temple 0.75 times as long as the width of an eye in the ♀, tangential lines on eyes and temples intersect on the propodeum. Temple 0.9-1.0 times as long as the width of an eye in the ♂, tangential lines on eyes and temples intersect behind the apex of the gaster. Mesopleurum slightly coriaceous or smooth between the punctures. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2, sometimes completely black. 40-45 flagellar segments. Body length 7-8 mm. .... *albobasalis* spec. nov. ♀♂
- Hind tibia black in the ♀ (rarely marked with white subbasally on the dorsal side), distinctly marked with white subbasally or basally and subbasally on the dorsal side in the ♂. Temple 0.7-0.8 times as long as the width of an eye in both sexes, tangential lines on eyes and temples intersect on the scutellum or propodeum. Mesopleurum slightly or distinctly coriaceous between the punctures. 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.4. 43-46 flagellar segments. Body length 8-9 mm. (See also couplets 104 and 127.) ..... *meridionator* Aubert, 1960 ♀♂
126. Temple 0.7-0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum (rarely on the propodeum). ..... 127.
- Temple 0.9-1.0 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum or the 1<sup>st</sup> gastral segment. .... 129.
127. Temple with dense or rather dense punctation medially. Propodeum distinctly and rather narrowly depressed, with short transverse wrinkles in the longitudinal furrow. Petiole without glymmae or lateral areas (narrow lateral areas sometimes weakly indicated). 43-46 flagellar segments. Body length 8-9 mm. ♂ in couplet 125. (See also couplet 104.) ..... *meridionator* Aubert, 1960 ♀
- Temple with dispersed punctation medially. Propodeum rather broadly and shallowly depressed. Petiole with narrow lateral areas and/or with glymmae. .... 128.
128. Genal index 0.4. Shortest flagellar segment 1.3 times as long as wide. Areola stalked, receiving the 2<sup>nd</sup> recurrent vein at the middle. Glymma small or absent. 2<sup>nd</sup> gastral tergite 2.5-3.0 times as long as wide. Maxillary palpus yellowish. 40-43 flagellar segments. Body length 8.5-9.5 mm. .... *breviceps* spec. nov. ♀♂
- Genal index 0.6. Shortest flagellar segment 0.9 times as long as wide. Areola pointed or narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein distinctly distad of the middle. Glymma large. 2<sup>nd</sup> gastral tergite about 1.5 times as long as wide. Maxillary palpus blackish in the ♀, dark brown in the ♂. 42-44 flagellar segments. Body length 7-9 mm. .... *variator* (Hinz, 1990) ♀♂
129. Antennal carina low, its rim somewhat widened dorsally to a nose-like projection (sometimes inconspicuous), with fine transverse striae. Mesopleurum slightly or distinctly coriaceous between the punctures. .... 130.
- Antennal carina low and narrow dorsally, its rim unmodified. Pleural carina distinct. Spiracular carina present. .... 131.
130. Pleural carina distinct. Spiracular carina present, sometimes indistinct. Spiracular index 0.5-0.7. Propodeum irregularly wrinkled. Glymma distinct. 48-52 flagellar segments. Body length 9-10 mm. .... *fundator* (Hinz, 1990) ♀♂
- Pleural carina indistinct and often partly covered with wrinkles. Spiracular carina obliterated. Spiracular index 0.9-1.0. Propodeum with transverse wrinkles posteriorly. Glymma indistinct or absent. 44-48 flagellar segments. Body length 10-11 mm. (See also couplet 93.) ..... *stygia* (Förster, 1868) ♀♂
131. Median longitudinal carina of the frons very fine or obliterated. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2. Nervellar index 0.7-0.8. .... 95.
- Median longitudinal carina of the frons distinct. 2<sup>nd</sup> gastral tergite red (sometimes dark reddish brown) on the posterior 0.5-0.7. .... 132.

132. 39-42 flagellar segments. Nervellar index 0.7-0.8. Propodeum for the greater part irregularly wrinkled, sulcus at most with some transverse wrinkles posteriorly. Body length 9-10 mm. ....  
 .....*hispanica* spec. nov. ♀ ?♂
- 45-49 flagellar segments. Nervellar index 0.5-0.7. Longitudinal furrow of the propodeum with distinct transverse wrinkles medially and posteriorly. Body length 11 mm. ....  
 .....*intelligator* Aubert, 1966 ♀♂

### Descriptions

Descriptions of 63 trans-palaearctic species were already published by Hinz & Horstmann (2004). *D. annexa* was described under the name *D. americana*.

#### *Dusona abdominalator* Hinz, 1985

♀: Body length 9-11 mm. Temples strongly constricted behind the eyes, 0.65 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.9 of the mesoscutum. Ocellar index 0.6-0.7. Frons not depressed, coriaceous and with fine punctation, partly with wrinkles, with a fine median longitudinal carina which sometimes is partly obliterated, and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.3 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus slightly concave, finely coriaceous and with rather dense or dense punctation ventrally, its apex truncate medially. Malar space index 0.4. Genal carina low and straight ventrally, joining the low oral carina distant from the base of the mandible at an acute angle. Genal index 0.3. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 47-49 segments, slender, filiform, slightly attenuated distally, 2<sup>nd</sup> segment 2.1 times, shortest segment 1.0-1.1 times, penultimate segment 1.1-1.2 times as long as wide. Pronotum for the greater part rugose-punctate and with longitudinal wrinkles, finely coriaceous and densely punctate in the dorsal posterior corner. Mesoscutum coriaceous, dull, with dense or very dense punctation, partly rugose-punctate. Scutellum with lateral carinae on the anterior 0.4-0.5, finely coriaceous and with dispersed punctation. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, distinctly raised, narrowly emarginate medially. Transverse carina raised posteriorly, obliterated anteriorly and medi-

ally. Pleural part of the prepectal carina low, present ventrally and medially, the dorsal 0.3 obliterated. Mesopleurum finely coriaceous, slightly shining, with distinct and dense punctation. Speculum for the greater part coriaceous and granulate-strigose, dull, a small ventral part finely coriaceous and shining. Depression in front of the speculum coriaceous and with fine longitudinal and irregular wrinkles, which merge with the punctation anteriorly. Metapleurum coriaceous and densely rugose. Pleural carina fine. Areolet large, stalked, receiving the 2<sup>nd</sup> recurrent vein at or near the middle. Nervellus slightly inclivous, weakly or distinctly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.7. Hind femur 5.8 times as long as high. Hind tarsal claws short, with a few short pectinate teeth situated basally. Propodeum extending to 0.3 of the hind coxae, not depressed, areolated, but the carinae partly covered with wrinkles. Area superomedia, area petiolaris and lateral areas with transverse or irregular wrinkles, the area superomedia sometimes coriaceous and without wrinkles anteriorly. Propodeal spiracle large, 2.6 times as long as wide. Spiracular carina narrow. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 3.8 times, 2<sup>nd</sup> tergite 1.5 times as long as wide. Petiole smooth laterally, without glymmae or lateral areas. Petiolar suture fine, partly obliterated. 1<sup>st</sup> gastral sternite for the greater part smooth, with few transverse striae posteriorly. Thyridium oval. Thyridial index 1.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with black lateral stripes well above the ventrolateral edge (the stripes sometimes indistinct). Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown. Mandible tinged with reddish brown medially. Wings hyaline. Stigma dark brown medially. Front and mid legs reddish brown from the femur onwards, the tarsi tinged with dark brown. Hind femur and hind tibia dark reddish brown, the femur sometimes partly tinged with black. Gaster dark reddish brown from the 2<sup>nd</sup> tergite onwards, the 2<sup>nd</sup> tergite black on the anterior 0.2, the posterior tergites sometimes tinged with dark brown. Pilosity whitish.

♂: Pleural carina sometimes partly obliterated. Propodeum rounded, in most parts with irregular wrinkles, the carinae almost obliterated. Petiole sometimes with fine longitudinal striae laterally. 1<sup>st</sup> gastral sternite sometimes finely coriaceous. Front trochanter and apex of the front coxa marked with yellowish red. Genital clasper dark reddish brown. In other characters similar to the ♀.

*Dusona albobasalis* spec. nov.

Holotype (♀): "SQ-S-Chotin, 26.7.1993, leg. H. Halada" (near Komárno/Slovakia) (Mus. Linz). – Paratypes: 2♀♀, 2♂♂ with the same dates (1♀, 1♂ Mus. Linz, 1♀, 1♂ ZSM); 1♂ "Moldavia, Kišinëv env., June 1995, I. Pavličok lgt." (Mus. Linz); 1♀, "Khoher. zap., Varvarino, sosn. ostepn. polyany, Kasparyan, 2 VII 1977" (Voronezh province/Russia) (Mus. St. Petersburg); 1♂ same locality, 8.7.1977 (Mus. St. Petersburg); 1♂ "Białystok P, 7.8.70, ..., leg. J. Sawoniewicz" (Poland) (Coll. Sawoniewicz).

♀: Body length 7-8 mm. Temples slightly constricted behind the eyes, 0.75 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum. Ocellar index 1.1. Frons not depressed, coriaceous and with very dense punctation, with a fine median longitudinal carina and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat, with dense punctation on a slightly coriaceous background ventrally, its apex slightly rounded medially. Malar space index 0.5. Genal carina low, slightly bent sideways, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.15. Temple with fine and dense punctation on a very finely coriaceous background medially. Flagellum with 41-42 segments, slender, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.9 times, shortest segment 1.1 times, penultimate segment 1.3 times as long as wide. Pronotum with strong and dense punctation on a smooth background laterally, with indistinct wrinkles ventrally. Mesoscutum coriaceous, dull, with dense or very dense punctation. Scutellum with lateral carinae on the anterior 0.5, with dense punctation. Prescutellar groove smooth medially, with longitudinal striae laterally. Prepectal carina low, ventral part merging with the pleural part, the latter complete or almost complete dorsally. Transverse carina obliterated. Mesopleurum with distinct dense punctation on a very finely coriaceous or smooth background. Speculum with fine striae dorsally, granulate-strigose and shining ventrally, punctate posteriorly. Depression in front of the speculum with distinct striae, which merge with the punctation anteriorly. Metapleurum with dense or very dense punctation on a very finely coriaceous background. Pleural carina complete. Areolet rather small, short-stalked, receiving the 2<sup>nd</sup> recurrent vein close to the middle. Nervellus distinctly reclivous, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.4. Hind femur 4.4 times as long as high. Hind tarsal claws short, with about four short pectinate teeth situated basally. Propodeum extending to 0.6 of the hind coxae, with a narrow and rather deep

longitudinal furrow, for the greater part irregularly wrinkled, with distinct short transverse wrinkles in the furrow, carinae obliterated. Propodeal spiracle rather small, 3.2 times as long as wide. Spiracular carina slightly widened. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 4.7 times, 2<sup>nd</sup> tergite 1.7 times as long as wide. Petiole without glymmæe, with weakly indicated narrow lateral areas, smooth in front of these areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium elongated. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster slightly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish red. Mandible yellowish red dorsally and medially. Flagellum dark brown or light brown distally. Tegula yellow. Wings hyaline. Stigma light yellowish brown medially. Front leg from the trochanter onwards yellowish red, trochanter brownish ventrally, tarsus brownish distally. Mid femur yellowish red on the distal 0.4-0.6. Mid tibia for the greater part whitish yellow, marked with light red ventrally and apically. Mid tarsus yellowish proximally, dark brown distally. Hind tibia on the proximal 0.7 broadly whitish yellow dorsally, narrowly blackish ventrally, completely black on the distal 0.3. Hind tarsus black, the segments narrowly yellow basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Rarely 2<sup>nd</sup> tergite completely black and 3<sup>rd</sup> and 4<sup>th</sup> tergites tinged with black dorsally. Pilosity whitish.

♂: The ♂ distinctly differs from the ♀ in the shape of the temples, but agrees well in most other characters (except some sexual differences in colour pattern). Temples almost not constricted behind the eyes, 0.9-1.0 times as long as the width of an eye, tangential lines on eyes and temples intersect behind the apex of the gaster. Genal index 0.25. Flagellum with 40-45 segments. Pronotum with longitudinal wrinkles ventrally. Tibial spur index 0.5-0.6. Petiole without lateral areas. Petiolar suture partly indicated. Maxillary palpus yellow. Mandible for the greater part yellow. Flagellum dark brown distally. Front leg from the apex of the coxa onwards yellow. Mid leg from the apex of the coxa onwards yellow, trochanter and femur marked with brown ventrally, tarsus brown distally. Sometimes mid leg as dark as in the ♀ (coxa, trochanter, trochantellus and proximal 0.5 of femur black). Hind tibia whitish yellow basally and medially (also on the ventral side), black on the distal 0.3 (the black mark shorter dorsally than ventrally). Sometimes hind tibia brownish on the ventral

side basally and medially (but broadly white on the dorsal side). Hind tarsus dark brown. Sometimes the 4<sup>th</sup> gastral tergite extensively marked with black or the 5<sup>th</sup> tergite marked with red. In other characters similar to the ♀.

### *Dusona alpigena* Hinz, 1972

♀: Body length 10-11 mm. Temples slightly constricted behind the eyes, 0.8-0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum or the propodeum. Ocellar index 1.0. Frons scarcely depressed, coriaceous and finely rugose-punctate, partly rugose, with a distinct median longitudinal carina and with short radial wrinkles, which extend to 0.25 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.4 of the clypeus coriaceous and densely rugose. Clypeus slightly concave, finely coriaceous and with rather dense punctuation ventrally, its apex truncate medially. Malar space index 0.5. Genal carina low and rather straight ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.2-0.3. Temple finely coriaceous and with distinct fine dispersed punctuation medially. Flagellum with 40-44 segments, slender, filiform, the distal 0.3 slightly attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 1.0-1.1 times, penultimate segment 1.2 times as long as wide. Pronotum densely rugose-punctate laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum distinctly coriaceous, dull, with fine and dense punctuation, partly with fine wrinkles. Scutellum with lateral carinae on the anterior 0.8, coriaceous and with distinct and dense punctuation. Prescutellar groove almost smooth, with fine longitudinal striae. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.2 of the latter obliterated or covered with wrinkles. Transverse carina present or obliterated. Mesopleurum finely coriaceous and with distinct rather dense or dense punctuation, somewhat shining. Speculum finely granulate-strigose and with some fine longitudinal striae, somewhat shining. Depression in front of the speculum with distinct rather long striae, which merge with the punctuation anteriorly. Metapleurum finely and densely rugose or rugose-punctate. Pleural carina distinct. Areolet rather large, stalked, receiving the 2<sup>nd</sup> recurrent vein distinctly distad of the middle. Nervellus slightly reclinous, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.6. Hind femur 5.0

times as long as high. Hind tarsal claws short, with about five short pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, distinctly and rather narrowly depressed, for the greater part irregularly wrinkled, with short transverse wrinkles in the midline, with a short longitudinal keel posteriorly, longitudinal carinae obliterated or indistinct and covered with wrinkles. Propodeal spiracle large, 2.6 times as long as wide. Spiracular carina distinct and for the greater part narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 3.5 times, 2<sup>nd</sup> tergite 1.5 times as long as wide. Petiole with distinct lateral areas and small glymmae, the glymmae sometimes obliterated, smooth in front of the glymmae. Petiolar suture fine, obliterated anteriorly. 1<sup>st</sup> gastral sternite for the greater part with fine sculpture, shining, with fine transverse striae posteriorly. Thyridium oval. Thyridial index 1.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster slightly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown basally, yellowish brown medially and apically. Mandible yellowish brown medially. Wings hyaline. Stigma dark brown medially. Front leg yellowish brown from the femur onwards, the femur basally marked with brown ventrally, the apical tarsal segment brown. Mid leg yellowish brown from the distal 0.4-0.6 of the femur onwards, the tarsus marked with brown. Hind tibia broadly yellowish brown medially, distinctly marked with black basally and apically, the apical ring extending over 0.1-0.2 (rarely 0.3) of the tibia. Hind tarsus for the greater part blackish, the proximal 0.3-0.5 of the basitarsus yellowish brown. 2<sup>nd</sup> gastral tergite red on the posterior 0.15-0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, the 4<sup>th</sup> tergite rarely darkened posteriorly. Pilosity whitish.

♂: Flagellum with 42-46 segments, the shortest segment 0.9 times as long as wide. Propodeum with a narrower depression, the longitudinal carinae indicated or almost complete. Mandible yellow dorsally and medially. In other characters similar to the ♀.

**Variety:** Some specimens are distinctly smaller: body length 8-9 mm; flagellum with 39-41 segments. In addition, the propodeum is less deeply depressed, and the red colour of the legs is somewhat more extended: mid femur for the greater part reddish brown, hind femur marked with reddish brown distally. The status of this morph is unknown.



***Dusona alpina* (Strobl, 1904)**

♀: Body length 11-12 mm. Temples strongly constricted behind the eyes, 0.65 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.8 of the mesoscutum. Ocellar index 0.9. Frons slightly depressed above the antennal sockets, finely coriaceous and with fine dispersed punctation, with a fine and partly obliterated median longitudinal carina and with indistinct short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.3 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat or slightly concave, distinctly coriaceous and with distinct rather dense punctation ventrally, its apex truncate medially. Malar space index 0.3. Genal carina low and almost straight ventrally, joining the scarcely raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.4. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 49-52 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 2.1 times, shortest segment 0.9 times, penultimate segment 1.15 times as long as wide. Pronotum finely and densely rugose and rugose-punctate laterally on the dorsal 0.2, with longitudinal wrinkles or striae ventrally. Mesoscutum coriaceous, dull, with fine and dense punctation. Scutellum with lateral carinae on the anterior 0.8, coriaceous and densely rugose-punctate. Prescutellar groove smooth. Prepectal carina low, the ventral part merging with the pleural part, the latter complete, joining the anterior edge of the mesopleurum. Transverse carina obliterated. Mesopleurum coriaceous, dull, with distinct fine rather dense or dense punctation. Speculum coriaceous, rather dull, partly granulate-strigose. Depression in front of the speculum granulate-strigose, partly with fine striae, which merge with a narrow area without punctation anteriorly. Metapleurum finely coriaceous and with fine and dense punctation, somewhat shining. Pleural carina complete. Areolet rather large, stalked, receiving the 2<sup>nd</sup> recurrent vein basad of the middle. Nervellus vertical or slightly reclivous, weakly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 4.8 times as long as high. Hind tarsal claws short, with about four rather long pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, the longitudinal carinae fine, almost complete. Area superomedia almost not depressed, coriaceous, partly with fine irregular wrinkles. Area petiolaris distinctly and broadly depressed, for the greater part irregularly wrinkled, with some distinct transverse or longitudinal wrinkles and/or with a short longitudinal keel posteriorly. Propodeal spiracle long and narrow, 4.5 times as long as wide. Spiracular carina

narrow. Spiracular index 0.6. 1<sup>st</sup> gastral tergite 4.0 times, 2<sup>nd</sup> tergite 2.0 times as long as wide. Petiole with distinct small or rather large glymmae, smooth in front of the glymmae. Petiolar suture very fine or obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum indistinctly separated from the 3<sup>rd</sup> gastral tergite anteriorly, folded in or pendent, epipleural index 0.1-0.2. Black lateral stripe distinct, almost joining the epipleurum anteriorly, divergent from the ventrolateral edge posteriorly. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown or black. Mandible yellowish brown medially. Wings hyaline. Stigma dark yellowish brown medially. Front leg yellowish red from the trochantellus onwards, trochantellus and femur tinged with dark brown ventrally, sometimes also the trochanter marked with yellowish red dorsally. Distal 0.2 of the mid femur and mid tibia yellowish brown. Mid tarsus dark brown. Hind tibia dark yellowish brown or brown medially on the dorsal side, distinctly black basally and apically, the apical ring extending over 0.2-0.3 of the tibia. Hind tarsus blackish. 2<sup>nd</sup> gastral tergite black dorsally, laterally red on the posterior 0.2-0.3. The following tergites black dorsally, red laterally, rarely the 3<sup>rd</sup> and 4<sup>th</sup> tergites partly red also dorsally. Gaster sternites red. Pilosity whitish.

♂: Propodeum less distinctly depressed, with distinct longitudinal wrinkles and/or with a distinct longitudinal keel posteriorly. Maxillary palpus yellow medially and apically. Mandible yellow medially. Front leg from the trochanter onwards yellow or yellowish red, only the femur tinged with brown ventrally. Mid femur marked with yellow distally, mid tibia and mid tarsus yellow, the apical tarsal segment brown. Hind tibia yellowish or yellowish brown medially. Gaster sternites brown. Genital clasper yellowish red. In other characters similar to the ♀.

***Dusona andalusica* spec. nov.**

Holotype (♀): "21/6", "3522.", "Andalusia. Staudinger." (southern Spain) (Mus. St. Petersburg). – Paratype (♂): "25/4", "3521.", "Andalusia. Staudinger." (ZSM).

♀: Body length 8 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior half of the mesoscutum. Ocellar index 0.5. Frons hardly depressed above the antennal sockets, coriaceous and densely rugose-punctate, with a fine median longitudinal carina and with distinct



radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and very densely rugose-punctate and rugose. Clypeus for the greater part flat, slightly concave ventrally, the ventral 0.5 with strong and dense punctation on a slightly coriaceous background, its apex slightly rounded medially. Malar space index 0.25. Genal carina slightly raised medially (behind the eye), very strongly raised ventrally close to the junction with the very strongly raised oral carina, both forming a lopsided triangular pyramid, the tip of the latter pointed, shifted downwards and situated behind the mandible. Gena deeply depressed close to the junction, the depression as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.7. Temple slightly coriaceous and with fine dispersed punctation medially. Flagellum with 43 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.5 times, shortest segment 0.9 times, penultimate segment 1.0 times as long as wide. Pronotum slightly coriaceous and densely rugose-punctate laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and with distinct and dense punctation, partly rugose-punctate. Scutellum with lateral carinae on the anterior 0.2, with distinct and very dense punctation. Prescutellar groove smooth medially, with fine longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae rather strongly raised, the former rather narrowly and not deeply emarginate medially. Pleural part of the prepectal carina distinct and complete, joining the anterior edge of the mesopleurum. Mesopleurum with dispersed and rather fine punctation on a smooth background. Speculum for the greater part smooth, with some punctures and wrinkles dorsally and posteriorly. Depression in front of the speculum with longitudinal striae dorsally and medially, which merge with the punctation anteriorly, smooth ventrally. Metapleurum distinctly rugose and with longitudinal wrinkles. Pleural carina complete. Areolet large, narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus almost vertical, weakly intercepted. Nervellar index 0.8. Tibial spur index 0.6. Hind femur 5.5 times as long as high. Hind tarsal claws short, with about four short pectinate teeth situated basally. Propodeum extending to 0.6 of the hind coxae, with a distinct and rather narrow longitudinal furrow, with distinct transverse wrinkles in and beside the furrow, the lateral areas with transverse wrinkles too, without longitudinal carinae, but with the posterior transverse carina present laterally. Propodeal spiracle large, 2.4 times as long as wide. Spiracular carina slightly widened. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 5.9 times, 2<sup>nd</sup> tergite 3.6 times as long as wide. Petiole smooth

laterally, without glymmae or lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster strongly compressed posteriorly. Ovipositor sheaths slender subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma medium brown medially. Front and mid legs from the apex of the coxa onwards yellow. Mid tarsus brownish distally. Hind tibia yellow. 2<sup>nd</sup> gastral tergite dorsally with a very narrow yellow band on the posterior edge, with yellow marks on the posterior lateral corners. 3<sup>rd</sup> tergite yellow. 4<sup>th</sup> tergite yellow anteriorly, black posteriorly, the black mark extending to half of the tergite dorsally. Pilosity whitish.

♂: Body length 9 mm. Flagellum with 46 segments. Mesopleurum with rather dense punctation on a smooth background centrally. Nervellar index 0.7. Spiracular index 0.6. In other characters similar to the ♀ (also in the colour of the legs and the gaster).

#### *Dusona angustata* (Thomson, 1887)

♀: Body length 9-10 mm. Temples strongly constricted behind the eyes, 0.75 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.8 of the mesoscutum. Ocellar index 0.8. Frons scarcely depressed above the antennal sockets, densely rugose and rugose-punctate, with a few transverse wrinkles, with a distinct median longitudinal carina and with distinct radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina narrow, slightly raised (inconspicuous). Face and dorsal 0.7 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat dorsally, slightly concave subventrally, coriaceous and with rather dense or dense punctation ventrally, its apex truncate or slightly rounded medially. Malar space index 0.2. Genal carina distinctly raised behind the ventral half of the eye, strongly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter pointed, shifted downwards and situated behind the base of the mandible. Gena deeply depressed close to the junction, the depression 0.8-1.0 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.6. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 46-49 segments, slightly fusiform, 2<sup>nd</sup> segment 1.5 times,

shortest segment 0.7-0.8 times, penultimate segment 1.0-1.1 times as long as wide. Pronotum densely rugose-punctate and rugose laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, with very dense punctation. Scutellum with lateral carinae on the anterior 0.3-0.4, coriaceous and densely rugose-punctate. Prescutellar groove smooth. Ventral part of the prepectal carina distinctly raised, strongly raised submedially behind the front coxae, scarcely emarginate medially, merging with the slightly raised transverse carina. Pleural part of the prepectal carina low, complete or the dorsal 0.2 covered with wrinkles. Mesopleurum with distinct rather dense or dense punctation on a smooth background, with longitudinal wrinkles posteriorly in front of the metapleurum. Speculum shining, finely granulate-strigose, with some fine longitudinal striae, a ventral part smooth. Depression in front of the speculum with distinct rather long striae, which merge with the punctation anteriorly. Metapleurum with distinct longitudinal wrinkles dorsally, rugose and rugose-punctate ventrally. Pleural carina distinct. Areolet large, pointed, receiving the 2<sup>nd</sup> recurrent vein at or slightly basad of the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 5.5 times as long as high. Hind tarsal claws short, with about five rather long pectinate teeth situated subapically as well as basally and medially. Propodeum extending to 0.6 of the hind coxae, broadly and deeply depressed, with strong transverse wrinkles in the sulcus and in the lateral areas, longitudinal carinae and costulae partly present. Propodeal spiracle large, 3.5 times as long as wide. Spiracular carina distinct, broad. Spiracular index 0.2. 1<sup>st</sup> gastral tergite 6.2 times, 2<sup>nd</sup> tergite 2.8 times as long as wide. Petiole with distinct lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 2.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster strongly compressed posteriorly. Ovipositor sheaths slightly widened medially and subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus yellow or yellowish brown. Mandible yellow dorsally and medially. Tegula yellow, with a brown mark. Wings hyaline. Stigma medium brown medially. Front femur yellow on the distal 0.7-0.8. Front tibia and front tarsus yellow. Mid femur yellow on the distal 0.2 (rarely completely yellow). Mid tibia yellow. Mid tarsus for the greater part dark brown. Hind tibia yellow. Hind tarsus black, the basitarsus yellow basally. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3, laterally yellow on the posterior 0.7,

the ventrolateral edges partly marked with black. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. Pilosity whitish.

♂: Flagellum filiform, the distal 0.2 attenuated, the shortest segment 0.9 times as long as wide. Hind tarsal claws with about four rather short pectinate teeth situated basally and medially. Maxillary palpus yellow. Mandible broadly yellow medially. Front and mid legs from the apex of the coxa onwards yellow, apical tarsal segments brown. In other characters similar to the ♀.

**Variety:** Some ♀♀ from southern Europe are slightly larger (body length 11-12 mm; 46-50 flagellar segments), the junction of the genal carina and the oral carina is strongly shifted downwards (about as far as in *D. lamellator*), and the genal index is 0.8. In other characters they agree with ♀♀ from central Europe. The significance of this variation is unknown.

#### *Dusona aversa* (Förster, 1868)

♀: Body length 10-12 mm. Temples distinctly constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Ocellar index 1.1-1.5. Frons not depressed, coriaceous and densely rugose and rugose-punctate, with a distinct median longitudinal carina, without radial wrinkles. Antennal carina low and narrow. Face and clypeus coriaceous and densely rugose and rugose-punctate, only a narrow apical band of the clypeus less densely punctate. Clypeus slightly rounded basally, flat or slightly concave subapically, its apex slightly rounded medially. Malar space index 0.35. Genal carina low and straight subventrally, joining the low oral carina distant from the base of the mandible at an acute angle. Genal index 0.4. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 38-40 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 0.9-1.0 times, penultimate segment 1.3 times as long as wide. Pronotum densely punctate on an almost smooth background laterally on the dorsal 0.3, densely rugose and rugose-punctate ventrally, with some longitudinal wrinkles. Mesoscutum coriaceous, with fine and very dense punctation. Scutellum with lateral carinae on the anterior 0.7, with distinct punctation on an almost smooth background, partly rugose-punctate. Prescutellar groove smooth. Ventral part of the prepectal carina strongly raised, narrowly and not deeply emarginate medially, merging with the distinctly raised transverse carina. Pleural part of the prepectal carina low, present medially, often obliterated ventrally and dorsally, sometimes almost complete. Mesopleurum distinctly and rather

densely or densely punctate on a finely coriaceous and shining background. Speculum for the greater part with fine longitudinal striae, a small ventral part almost smooth. Depression in front of the speculum with rather long striae, which merge with the punctation anteriorly. Metapleurum or densely rugose-punctate on an almost smooth background. Pleural carina distinct. Areolet rather narrow, narrowly sessile, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein about at the middle. Nervellus slightly reclivous, weakly intercepted. Nervellar index 0.7. Tibial spur index 0.4-0.5. Hind femur 4.3 times as long as high. Hind tarsal claws short, with about four rather short pectinate teeth situated basally and medially. Propodeum extending to 0.5 of the hind coxae, broadly and rather deeply depressed, for the greater part with fine irregular wrinkles, with short transverse wrinkles in the midline and long transverse wrinkles posteriorly, carinae almost completely obliterated. Propodeal spiracle rather large, 3.3 times as long as wide. Spiracular carina narrow. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 4.3 times, 2<sup>nd</sup> tergite 2.1 times as long as wide. Petiole without glymmae, narrow lateral areas indicated, smooth in front of these areas. Petiolar suture fine, partly obliterated. 1<sup>st</sup> gastral sternite smooth, rarely with some fine wrinkles. Thyridium oval. Thyridial index 2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with fine or distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus dark brown. Mandible sometimes tinged with brown medially. Wings hyaline. Stigma medium brown medially. Front femur dorsally and apically and front tibia reddish brown or dark brown. Front basitarsus yellowish basally. Mid and hind tibiae rarely tinged with dark brown medially on the dorsal side. 2<sup>nd</sup> gastral tergite red on the posterior 0.4-0.6. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, sometimes with dark dorsal marks. Pilosity whitish.

♂: Ocellar index 1.0-1.4. Flagellum with 41-44 segments. Tibial spur index 0.5-0.6. Rarely front femur apically and front and mid tibiae light reddish brown. In other characters similar to the ♀.

#### *Dusona baueri* Hinz, 1973

♀: Body length 6 mm. Temples slightly constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the 2<sup>nd</sup> gastral segment. Ocellar index 1.0. Frons

not depressed, coriaceous and finely rugose and rugose-punctate, with a fine median longitudinal carina and with short radial wrinkles. Antennal carina low and narrow. Face coriaceous and with fine dense punctation, partly with fine wrinkles. Clypeus flat basally and medially, bent inwards subapically, for the greater part coriaceous and with fine rather dense punctation, smooth subapically, its apex broadly and shallowly emarginate. Malar space index 0.4. Genal carina low and almost straight subventrally, joining the low oral carina distant from the base of the mandible at an acute angle. Genal index 0.25. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 21 segments, slightly clavate, 2<sup>nd</sup> segment 2.0 times, penultimate segment (which is the shortest segment) 0.9 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, densely and finely rugose-punctate. Scutellum with lateral carinae on the anterior 0.4, coriaceous and with fine rather dense punctation. Prescutellar groove smooth. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.3 of the latter obliterated. Transverse carina present, low. Mesopleurum coriaceous, rather dull, with fine rather dense or dense punctation. Speculum finely granulate-strigose, slightly shining. Depression in front of the speculum with fine rather long striae, which merge with the punctation anteriorly. Metapleurum coriaceous and densely rugose-punctate and rugose. Pleural carina present. Areolet rather large, narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein distinctly distad of the middle. Nervellus inclivous, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 5.6 times as long as high. Hind tarsal claws somewhat elongated, with about two small pectinate teeth situated basally. Propodeum extending to 0.5 of the hind coxae, broadly and shallowly depressed, coriaceous and for the greater part with irregular wrinkles, with fine and short transverse wrinkles in the midline, with some longitudinal wrinkles posteriorly, carinae almost completely obliterated. Propodeal spiracle small, oval, 2.0 times as long as wide. Spiracular carina narrow. Spiracular index 0.8. 1<sup>st</sup> gastral tergite 4.3 times, 2<sup>nd</sup> tergite 1.2 times as long as wide. Petiole with very small glymmae, smooth in front of these glymmae. Petiolar suture fine, for the greater part obliterated. 1<sup>st</sup> gastral sternite for the greater part smooth, with some fine transverse striae posteriorly. Thyridium small, oval. Thyridial index 2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster slightly compressed posteriorly. Ovipositor

sheaths rather narrow subapically (in lateral view). Ovipositor index 0.85.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma medium brown medially. Front and mid legs light red from the apex of the coxa onwards. Hind leg red from the trochanter onwards. Gaster dark reddish brown from the 2<sup>nd</sup> tergite onwards, anterior 0.2 of the 2<sup>nd</sup> tergite black, posterior tergites and sternites partly tinged with black. Pilosity whitish.

♂: Apex of the clypeus truncate. Flagellum with 30 segments, almost filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 1.1 times, penultimate segment 1.2 times as long as wide. Propodeum without short transverse wrinkles in the sulcus. Petiole with small lateral areas laterally (instead of glymmae). Posterior gastral tergites and sternites black. Genital clasper dark brown. In other characters similar to the ♀.

*Dusona breviceps spec. nov.*

Holotype (♀): “San Martin de Luiña – Asturias, Trampa Malaise, 17-23/VIII-92, C. Rey leg.” (Spain) (Mus. Madrid). – Paratypes: 2♀, 11 ♂♂ from the same locality, dates 17.-29.8.1992 (Mus. Madrid, 1♀, 2♂♂ ZSM); 1♀ Lluvea, Voto, Cantabria (Spain), 3.-10.8.2001 (Mus. Madrid); 4♂♂ same locality, dates 5.-30.8.2000 (Mus. Madrid).

♀: Body length 8.5-9 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the prescutellar groove. Ocellar index 0.8. Frons slightly depressed above the antennal sockets, coriaceous and densely rugose-punctate, with a narrow median longitudinal carina and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.4 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat, coriaceous and with dispersed or rather dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina low and almost straight ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.4. Temple finely coriaceous and with very fine and very dispersed punctation medially. Flagellum with 40-43 segments, filiform, slender, the distal 0.2 attenuated, 2<sup>nd</sup> segment 2.1 times, shortest segment 1.3 times, penultimate segment 1.5 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.2, with distinct longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, with very dense punctation. Scutellum with

lateral carinae on the anterior 0.6, coriaceous and with rather dense punctation. Prescutellar groove almost smooth medially, with some fine longitudinal striae laterally. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.2-0.3 of the latter obliterated. Transverse carina obliterated. Mesopleurum coriaceous and with distinct dense punctation, slightly shining. Speculum granulate-strigose and with fine striae. Depression in front of the speculum with distinct striae, which merge with the punctation anteriorly. Metapleurum coriaceous and finely and densely rugose. Pleural carina fine, complete. Areolet rather small, stalked, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus slightly reclivous, rather weakly intercepted. Nervellar index 0.6-0.8. Tibial spur index 0.6. Hind femur 5.6 times as long as high. Hind tarsal claws short, with about three distinct pectinate teeth situated basally. Propodeum extending to 0.4 of the hind coxae, with a rather broad and shallow sulcus, for the greater part irregularly wrinkled, with short transverse wrinkles in the midline medially and posteriorly (rarely without transverse wrinkles), carinae for the greater part obliterated, median longitudinal carinae partly indicated. Propodeal spiracle rather small, 2.6 times as long as wide. Spiracular carina narrow. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 4.7 times, 2<sup>nd</sup> tergite 2.8 times as long as wide. Petiole with distinct narrow lateral areas, sometimes with small glymmae at the anterior edge of these areas, smooth in front of the lateral areas. Petiolar suture partly present. 1<sup>st</sup> gastral sternite for the greater part smooth, with some fine transverse striae posteriorly. Thyridium elongated. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish brown. Mandible yellowish brown dorsally and medially. Tegula yellowish brown or dark brown. Wings hyaline. Stigma brownish black. Front leg yellowish brown from the trochanter onwards, tibia yellow dorsally. Mid femur reddish brown, tinged with black basally. Mid tibia yellow dorsally, reddish brown ventrally. Mid tarsus yellowish proximally, brown distally. Hind leg black, tibia tinged with dark brown medially, basitarsus narrowly yellowish basally. 2<sup>nd</sup> gastral tergite dark red on the posterior 0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. 5<sup>th</sup> tergite red, dorsally marked with black posteriorly (to a variable extent). Pilosity whitish.

♂: Mandible broadly yellowish medially. Tegula yellow or yellowish brown. Front and mid trochanters



and trochantelli yellow. In other characters similar to the ♀.

***Dusona calceata* (Brauns, 1895)**

♀: Body length 9-10 mm. Temples strongly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the prescutellar groove. Ocellar index 1.1. Frons slightly depressed above the antennal sockets, coriaceous and distinctly and densely rugose, partly with transverse wrinkles, with a distinct median longitudinal carina and with indistinct radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus densely rugose-punctate and rugose. Clypeus flat, distinctly and densely punctate on a smooth background ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina low medially behind the eye, strongly raised subventrally and ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter rounded, shifted downwards and situated behind the base of the mandible. Gena deeply depressed close to the junction, the depression 0.6 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.4. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 42-43 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.5 times, shortest segment 0.65 times, penultimate segment 1.1 times as long as wide. Pronotum densely rugose-punctate on a smooth background laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum densely rugose-punctate on a smooth background. Scutellum with lateral carinae on the anterior 0.3, densely punctate on a smooth background. Prescutellar groove smooth medially, with some longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae distinctly raised, the former scarcely emarginate medially. Pleural part of the prepectal carina present medially and ventrally or only medially, or completely obliterated and replaced by some wrinkles. Mesopleurum distinctly and densely punctate on a smooth background. Speculum with distinct longitudinal striae dorsally and medially, almost smooth ventrally. Depression in front of the speculum with distinct striae, which merge with the punctation anteriorly. Metapleurum densely rugose-punctate and rugose on a smooth background. Pleural carina distinct. Areolet large,

short-stalked, receiving the 2<sup>nd</sup> recurrent vein at or slightly distad of the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.8. Tibial spur index 0.7. Hind femur 4.2 times as long as high. Hind tarsal claws slightly elongated, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.4 of the hind coxae, broadly and not deeply depressed, the sulcus for the greater part with irregular wrinkles, with short transverse wrinkles in the midline (these sometimes obliterated) and long transverse wrinkles posteriorly, the lateral areas with strong transverse wrinkles, longitudinal carinae obliterated. Propodeal spiracle large, 2.4 times as long as wide. Spiracular carina narrow, sometimes indistinct. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 3.9 times, 2<sup>nd</sup> tergite 1.7 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 0.7. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus blackish basally, yellowish brown apically. Mandible narrowly tinged with brown medially. Wings hyaline. Stigma yellowish brown medially. Front femur black basally and ventrally, yellow dorsally and apically. Front tibia and front tarsus yellow. Mid femur narrowly yellow apically. Mid tibia yellow. Mid tarsus blackish. Hind tibia yellow basally and medially, sometimes with a small blackish mark basally, distinctly black apically, the apical ring narrow dorsally, extending over 0.1-0.2 of the tibia, rather broad ventrally, extending over 0.3-0.4 of the tibia. 2<sup>nd</sup> gastral tergite for the greater part black, the posterior edge with a narrow yellow band dorsally and the posterior lateral corners with small yellow marks. 3<sup>rd</sup> tergite yellow. 4<sup>th</sup> tergite narrowly yellow anteriorly. Pilosity whitish.

♂: Flagellum slightly fusiform, shortest segment 0.85 times, penultimate segment 1.0 times as long as wide. Longitudinal carinae of the propodeum indicated posteriorly. Mandible narrowly yellow medially. Front trochanter and front trochantellus marked with yellow. Front femur for the greater part yellow, marked with black ventrally. Mid tarsus light brown. Hind tibia for the greater part yellow, the distal 0.1-0.2 marked with light brown. 4<sup>th</sup> gastral tergite sometimes broadly yellow anteriorly. In other characters similar to the ♀.



***Dusona canariensis* (Hinz, 1990)**

♀: Body length 10-12 mm. Temples strongly constricted behind the eyes, 0.6-0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.6-0.7 of the mesoscutum. Ocellar index 0.5. Frons scarcely depressed above the antennal sockets, coriaceous and densely rugose-punctate, with a distinct median longitudinal carina and with radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.2-0.3 of the clypeus densely rugose and rugose-punctate. Clypeus for the greater part flat, slightly concave ventrally, densely punctate (with well separated punctures) on a smooth background medially and ventrally, its apex truncate medially. Malar space index 0.3. Genal carina low medially behind the eye, strongly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter pointed, shifted downwards and situated behind the base of the mandible. Gena deeply depressed close to the junction, the depression 0.7 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.5. Temple finely coriaceous and with very fine dispersed punctuation medially. Flagellum with 43-48 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 0.8 times, penultimate segment 1.0 times as long as wide. Pronotum densely rugose laterally on the dorsal 0.1, with longitudinal wrinkles ventrally. Mesoscutum finely coriaceous, partly with a smooth background, densely punctate or rugose-punctate. Scutellum with lateral carinae on the anterior 0.4, finely coriaceous and very densely punctate. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former almost not emarginate medially. Pleural part of the prepectal carina distinct medially, indistinct ventrally, covered with wrinkles on the dorsal 0.2. Mesopleurum distinctly and densely punctate on a smooth background. Speculum with fine longitudinal striae, sometimes granulate-strigose or almost smooth ventrally, shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctuation anteriorly. Metapleurum strongly and densely punctate or rugose-punctate on a smooth background ventrally, with longitudinal striae dorsally. Pleural carina distinct. Areolet large, narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein basad of the middle. Nervellus vertical, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 5.5-6.0 times as long as high. Hind tarsal claws short, with about five short pectinate

teeth situated basally and medially. Propodeum extending to 0.6 of the hind coxae, rather narrowly depressed, almost completely covered with strong transverse wrinkles, the longitudinal carinae lacking. Propodeal spiracle rather large, 2.7 times as long as wide. Spiracular carina narrow, sometimes widened. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 6.2 times, 2<sup>nd</sup> tergite 2.4 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 2.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster strongly compressed posteriorly. Ovipositor sheaths slightly widened medially and subapically (in lateral view). Ovipositor index 0.8.

Colour: Black. Maxillary palpus yellow. Mandible yellow, teeth brown. Tegula yellow. Wings hyaline. Stigma blackish medially. Front and mid legs yellow from the apex of the coxa onwards, mid coxa sometimes completely black, mid tarsus brown distally. Hind tibia yellow. Hind basitarsus narrowly marked with yellow basally. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3-0.4, laterally yellow on the posterior 0.7, the ventrolateral edges partly marked with black. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. Pilosity whitish.

♂: Penultimate segment of the flagellum 1.1-1.2 times as long as wide. Front and mid coxae for the greater part yellow. 5<sup>th</sup> gastral tergite narrowly yellow anteriorly. In other characters similar to the ♀.

***Dusona castanipes* (Thomson, 1887)**

♀: Body length 11-12 mm. Temples distinctly constricted behind the eyes, 0.8-0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum. Ocellar index 0.8. Frons slightly depressed above the antennal sockets, coriaceous and finely rugose-punctate, with a distinct median longitudinal carina and with short radial wrinkles (which may be indistinct). Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous, with distinct and dense punctuation, partly with wrinkles. Clypeus flat, coriaceous and with rather dense punctuation ventrally, its apex slightly rounded medially. Malar space index 0.3. Genal carina low and straight subventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.4. Temple finely coriaceous and with fine dispersed punctuation medially. Flagellum with 44-48 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.3-1.5 times, shortest segment 0.7 times, penultimate seg-

ment 1.0 times as long as wide. Pronotum densely rugose-punctate and rugose on a smooth background laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and with fine dense or very dense punctation. Scutellum with lateral carinae on the anterior 0.4, finely coriaceous and with rather dense punctation. Prescutellar groove smooth. Prepectal carina low, ventral part merging with the pleural part, the latter complete or the dorsal 0.15 obliterated. Transverse carina indicated anteriorly, obliterated posteriorly. Mesopleurum rather densely or densely punctate on a finely coriaceous or smooth background, a central part often rugose-punctate. Speculum finely granulate-strigose anteriorly, sometimes smooth, with fine punctation posteriorly, shining. Depression in front of the speculum with rather fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum densely rugose-punctate and rugose on a finely coriaceous or smooth background. Pleural carina distinct. Areolet large, short-stalked, receiving the 2<sup>nd</sup> recurrent vein slightly basad of the middle. Nervellus vertical, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 4.3 times as long as high. Hind tarsal claws slightly elongated, with about five distinct pectinate teeth situated basally, medially and subapically. Propodeum extending to 0.3 of the hind coxae, with more or less complete carinae. Area superomedia flat, coriaceous or with fine irregular wrinkles, with some short transverse wrinkles posteriorly. Area petiolaris broadly and rather shallowly depressed, in most parts with transverse wrinkles, in addition with a short longitudinal keel posteriorly. Propodeal spiracle rather large, 3.1 times as long as wide. Spiracular carina obliterated or covered with wrinkles. Spiracular index 0.6-0.8. 1<sup>st</sup> gastral tergite 3.3 times, 2<sup>nd</sup> tergite 2.0 times as long as wide. Petiole with large glymmae, smooth in front of the glymmae. Petiolar suture obliterated or partly present. 1<sup>st</sup> gastral sternite smooth. Thyridium elongated. Thyridial index 1.0. Epipleurum separated from the 3<sup>rd</sup> gastral tergite and folded in, the crease marked with black. Epipleural index 0.7. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus dark brown or black. Mandible yellow dorsally and medially. Wings hyaline. Stigma dark brown medially. Front and mid legs reddish brown from the femur onwards, the femora darkened basally, the mid tarsus light brown. Hind femur black proximally, dark reddish brown distally (to a variable extend, sometimes completely reddish brown). Hind tibia dark reddish brown, indistinctly tinged with black basally and apically. Hind tarsus dark brown or black, the basitarsus

narrowly marked with yellowish brown basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.5. Median and posterior tergites red, the posterior tergites often narrowly marked with black dorsally, sometimes the 3<sup>rd</sup> and 4<sup>th</sup> tergites black dorsally and/or the 6<sup>th</sup> and 7<sup>th</sup> tergites almost completely black and only a narrow ventrolateral band red. Gastral sternites red. Pilosity whitish.

♂: Shortest flagellar segment 0.8-1.0 times as long as wide. Maxillary palpus yellow. Mandible broadly yellow medially. Front leg yellowish red from the trochanter onwards. Mid leg light reddish brown from the femur onwards. 2<sup>nd</sup> gastral tergite usually red on the posterior 0.3, rarely black dorsally and red laterally. Median and posterior tergites black dorsally and red laterally (to a variable extend), sometimes the 3<sup>rd</sup> tergite completely red or the posterior tergites completely black. Gastral sternites red or black. Genital clasper red or brown or black. In other characters similar to the ♀.

#### *Dusona circumspectans* (Förster, 1868)

♀: Body length 7-8 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.7 of the mesoscutum. Ocellar index 1.0. Frons not depressed, coriaceous and densely rugose-punctate, dull, with a fine median longitudinal carina and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.3 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, coriaceous and with fine rather dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.4-0.5. Genal carina low, straight or slightly bent sideways subventrally, joining the low oral carina distant of the base of the mandible at an acute angle. Genal index 0.2-0.3. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 37-38 segments, slender, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 2.1 times, shortest segment 1.1 times, penultimate segment 1.3 times as long as wide. Pronotum densely rugose-punctate and rugose laterally on the dorsal 0.5, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, finely and densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.7, coriaceous and densely rugose-punctate. Prescutellar groove with fine longitudinal striae. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.2 of the latter covered with wrinkles. Transverse carina obliterated or present only anteriorly. Mesopleurum coriaceous, dull, with rather dense or dense puncta-

tion. Speculum finely granulate-strigose or with fine longitudinal striae, shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous and densely rugose-punctate and rugose. Pleural carina distinct. Areolet rather large, short-stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus vertical or slightly inclivous, weakly intercepted. Nervellar index 0.7. Tibial spur index 0.65. Hind femur 5.6 times as long as high. Hind tarsal claws short, with about three short pectinate teeth situated basally. Propodeum extending to 0.4 of the hind coxae, carinae almost completely obliterated. Region of the area superomedia rather flat, coriaceous and with fine irregular wrinkles. Region of the area petiolaris with a narrow longitudinal furrow, for the greater part irregularly wrinkled, with short transverse wrinkles in the furrow, with long transverse wrinkles posteriorly. Propodeal spiracle rather large, 4.0 times as long as wide. Spiracular carina narrow medially. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 3.7 times, 2<sup>nd</sup> tergite 2.0 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the areas. Petiolar suture indicated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown basally, yellowish brown medially and apically. Mandible sometimes tinged with brown medially. Tegula yellowish brown. Wings hyaline. Stigma medium brown medially. Front leg yellowish red from the trochantellus or the femur onwards. Mid femur yellowish red on the distal 0.4. Mid tibia and mid tarsus yellowish red, the tarsus darkened apically. Hind tibia broadly yellowish brown medially, narrowly brown basally, rather broadly dark brown or black apically, the apical ring extending over 0.3 of the tibia. Hind tarsus dark brown, the basitarsus yellowish brown on the basal 0.5-0.7. 2<sup>nd</sup> gastral tergite red on the posterior 0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Pilosity whitish.

♂: Flagellum stouter, 2<sup>nd</sup> segment 1.6-1.8 times, shortest segment 1.0 times, penultimate segment 1.2 times as long as wide. Propodeum distinctly and rather broadly depressed, with distinct transverse wrinkles in the sulcus and with almost complete longitudinal carinae. Hind tibia yellowish brown medially, distinctly black basally and apically. Hind tarsus black, the basitarsus yellowish on the basal 0.2. In other characters similar to the ♀.

### *Dusona confusa* (Förster, 1868)

♀: Body length 11-14 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the centre of the mesoscutum. Ocellar index 0.8. Frons slightly depressed above the antennal sockets, coriaceous and with dense punctation, with a fine median longitudinal carina and with distinct radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.4 of the clypeus coriaceous and densely rugose. Clypeus flat, coriaceous and with rather fine dispersed or rather dense punctation ventrally, its apex truncate medially. Malar space index 0.3. Genal carina low, straight or slightly bent sideways subventrally, joining the low oral carina close to the base of the mandible at an acute angle. Genal index 0.1-0.15. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 47-54 segments, filiform, the distal 0.4 attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 0.9-1.0 times, penultimate segment 1.2 times as long as wide. Pronotum coriaceous and finely rugose laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, with fine and dense punctation, partly rugose-punctate. Scutellum with lateral carinae on the anterior 0.7, coriaceous and with distinct dense punctation. Prescutellar groove smooth medially, with fine longitudinal striae laterally. Prepectal carina low, ventral part merging with the pleural part, the latter complete or the dorsal 0.2 covered with wrinkles. Transverse carina distinct anteriorly, fine or obliterated posteriorly. Mesopleurum coriaceous, dull, with distinct dense punctation. Speculum coriaceous, dull, partly granulate-strigose. Depression in front of the speculum with distinct short longitudinal striae, which usually merge with a narrow area without punctation anteriorly (rarely this area obliterated, and the striae merge with the punctation). Metapleurum coriaceous, densely rugose-punctate and rugose. Pleural carina distinct. Areolet rather small, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein at or distad of the middle. Nervellus vertical or slightly reclivous, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 5.9 times as long as high. Hind tarsal claws short, with about five short pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, rather broadly and deeply depressed, the sulcus with distinct transverse wrinkles, the longitudinal carinae present posteriorly, often also medially. Propodeal spiracle rather large, 2.9 times as long as wide. Spiracular carina narrow, distinct. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 5.2 times, 2<sup>nd</sup> tergite 2.2

times as long as wide. Petiole with distinct narrow lateral areas and small glymmae, smooth in front of the glymmae. Petiolar suture present or partly obliterated. 1<sup>st</sup> gastral sternite usually completely smooth, sometimes with a few transverse striae posteriorly. Thyridium oval. Thyridial index 2.0. Epipleurum of the 3<sup>rd</sup> gastral tergite present as a small semicircular lobe anteriorly, which usually is pendent, but rarely is folded in. Epipleural index 0.1. 3<sup>rd</sup> tergite usually with fine black lateral stripes well above the ventrolateral edge, the stripes sometimes obliterated. Gaster strongly compressed posteriorly. Ovipositor sheaths slightly widened medially and subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus dark brown. Mandible black, marked with yellow dorsally. Tegula dark brown. Wings hyaline. Stigma light yellowish brown medially. Front leg yellowish red from the femur onwards, the femur marked with dark brown basally, the tarsus marked with dark brown apically. Mid femur yellowish red on the distal 0.2. Mid tibia yellowish red. Hind femur sometimes marked with red distally. Hind tibia for the greater part light yellow, narrowly reddish or brown basally, narrowly black apically, the apical ring extending over 0.1 of the tibia. Postpetiole sometimes marked with red laterally. 2<sup>nd</sup> gastral tergite dorsally yellowish red on the posterior 0.5-0.6, laterally yellowish red on the posterior 0.7-0.8. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellowish red. 5<sup>th</sup> tergite often yellowish red anteriorly (rarely median gastral tergites yellow instead of yellowish red). Pilosity whitish.

♂: Propodeum very deeply depressed, with strong transverse wrinkles and with the longitudinal carinae clearly present medially and posteriorly. Maxillary palpus yellowish brown or brown. Mandible broadly yellow medially. Tegula often marked with yellowish brown. Front coxa yellow apically. Front trochanter and trochantellus yellow. Mid femur often for the greater part yellowish red. Mid tarsus yellowish brown basally. Hind tibia whitish yellow medially, narrowly black basally and apically. In other characters similar to the ♀.

#### *Dusona disclusa* (Förster, 1868)

♀: Body length 8-9 mm. Temples distinctly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum or postscutellum. Ocellar index 0.8. Frons scarcely depressed above the antennal sockets, for the greater part coriaceous and densely rugose-punctate and rugose, small ventral areas above the antennal sockets almost smooth, with a distinct me-

dian longitudinal carina, without radial wrinkles or with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus densely rugose-punctate. Clypeus flat or slightly concave, with dense punctation on a smooth background ventrally, a subventral area often without punctation or with fine dispersed punctation, the apex truncate medially. Malar space index 0.4. Genal carina low, distinctly bent sideways and forwards subventrally, joining the oral carina at the base of the mandible at a right angle. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 32-36 segments, slightly fusiform, 2<sup>nd</sup> segment 1.7 times, shortest segment 0.8-0.9 times, penultimate segment 1.0 times as long as wide. Pronotum with distinct and very dense punctation on a smooth background laterally on the dorsal 0.5, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, rather finely and densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.6, densely rugose-punctate. Prescutellar groove smooth or with very fine sculpture. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former very strongly raised submedially (behind the front coxae), distinctly and broadly emarginate medially. Pleural part of the prepectal carina low, present ventrally and medially or only medially, the dorsal 0.4 obliterated. Mesopleurum coriaceous, slightly shining, with distinct and dense punctation. Speculum finely granulate-strigose, shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum densely rugose-punctate and rugose. Pleural carina distinct. Areolet rather large, short-stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus vertical, weakly or distinctly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.6. Hind femur 5.0 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.5 of the hind coxae, distinctly and rather narrowly depressed, with distinct transverse wrinkles medially in the longitudinal furrow and rather coarse irregular wrinkles beside the furrow, with long transverse wrinkles posteriorly, the longitudinal carinae usually present medially and posteriorly. Propodeal spiracle rather large, 3.0 times as long as wide. Spiracular carina narrow medially. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 5.1 times, 2<sup>nd</sup> tergite 2.2 times as long as wide. Petiole with distinct narrow lateral areas and with small glymmae (rarely the glymmae obliterated), smooth in front of the glymmae. Petiolar suture for the greater part or completely obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup>



gastral tergite, the latter with fine or distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus brown or dark brown. Mandible tinged with brown medially. Tegula yellowish brown. Wings hyaline. Stigma yellowish brown medially. Front and mid legs from the femur onwards yellowish red, the tarsi marked with brown distally, the front trochanter and trochantellus sometimes marked with yellowish red. Hind femur often completely black, sometimes reddish brown distally or for the greater part reddish brown. Hind tibia usually broadly yellowish brown medially, narrowly blackish basally, broadly blackish apically, the apical ring extending over 0.2-0.3 of the tibia, rarely almost completely black and tinged with brown medially. Hind basitarsus narrowly marked with yellowish brown basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.4 (rarely 0.6). 3<sup>rd</sup> tergite red. 4<sup>th</sup> tergite red anteriorly and black posteriorly (to a variable extent), often for the greater part black and only with red lateral marks anteriorly. Pilosity whitish.

♂: Flagellum filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.6 times, shortest segment 0.9-1.0 times, penultimate segment 1.0 times as long as wide. Propodeum strongly depressed, with strong transverse wrinkles medially and posteriorly, often also anteriorly, usually with distinct longitudinal carinae. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Front and mid coxae yellow apically. Front and mid trochanters and trochantelli yellow, the mid trochantellus marked with brown. Hind basitarsus broadly yellowish basally. In other characters similar to the ♀.

#### *Dusona dubitor* Hinz, 1977

♀: Body length 9-11 mm. Temples strongly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.6-0.8 of the mesoscutum. Ocellar index 0.6. Frons scarcely depressed above the antennal sockets, coriaceous and densely rugose-punctate and rugose, with a distinct median longitudinal carina and with radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.4-0.6 of the clypeus densely rugose-punctate and rugose. Clypeus flat with rather dense punctation on a very finely coriaceous or smooth background ventrally, its apex truncate medially. Malar space

index 0.3. Genal carina low medially behind the eye, strongly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter pointed, shifted downwards and situated behind the base of the mandible. Gena deeply depressed close to the junction, the depression 0.7 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.5. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 44-49 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.8 times, shortest segment 0.9 times, penultimate segment 1.1 times as long as wide. Pronotum densely rugose-punctate on a smooth background laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum finely coriaceous, rather finely and densely punctate or rugose-punctate. Scutellum with lateral carinae on the anterior 0.3, densely rugose-punctate. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former almost not emarginate medially. Pleural part of the prepectal carina distinct medially, indistinct ventrally, covered with wrinkles on the dorsal 0.3 (rarely almost complete). Mesopleurum distinctly and rather densely or densely punctate on a smooth background. Speculum coriaceous or granulate-strigose dorsally, smooth medially and ventrally, shining. Depression in front of the speculum with strong longitudinal striae, which merge with the punctation anteriorly. Metapleurum strongly and densely punctate or rugose-punctate on a smooth background ventrally, with longitudinal striae dorsally. Pleural carina distinct. Areolet rather large, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein about at the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 6.0-6.5 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.6 of the hind coxae, rather broadly depressed, almost completely covered with strong transverse wrinkles, the longitudinal carinae lacking, the transverse carinae partly indicated. Propodeal spiracle rather large, 3.6 times as long as wide. Spiracular carina narrow, sometimes widened. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 5.9 times, 2<sup>nd</sup> tergite 2.0 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture fine, partly obliterated. 1<sup>st</sup> gastral sternite smooth, sometimes with fine transverse striae posteriorly. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster strongly compressed posteriorly. Ovipositor sheaths slightly



widened medially and subapically (in lateral view). Ovipositor index 0.8.

Colour: Black. Maxillary palpus yellowish or yellowish brown. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma yellowish brown medially. Front leg yellow from the apex of the coxa onwards, sometimes the trochanter and the femur marked with black ventrally. Mid femur yellow on the distal 0.3-0.4. Mid tibia yellow. Mid tarsus yellow basally, yellowish brown apically. Hind tibia yellow. Hind basitarsus narrowly marked with yellow basally. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3, laterally yellow on the posterior 0.7-0.9, the ventrolateral edges partly marked with black. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. Pilosity whitish.

♂: Maxillary palpus yellow. Front and mid legs for the greater part yellow, only the base of the coxae black. In other characters similar to the ♀.

#### *Dusona einbecki* Hinz, 1977

♀: Body length 9-10 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the centre of the mesosutum. Ocellar index 0.8. Frons not depressed, coriaceous and finely and densely rugose-punctate, with a distinct median longitudinal carina and with short radial wrinkles. Antennal carina low and narrow dorsally, distinctly bent inwards, the antennal carinae almost touching medially. Face and dorsal 0.6 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat, coriaceous and with dense punctation ventrally, its apex truncate or slightly emarginate medially. Malar space index 0.4. Genal carina low, slightly bent sideways subventrally, joining the low oral carina close to the base of the mandible at an acute angle. Genal index 0.2. Temple with very fine sculpture and with fine very dispersed punctation medially. Flagellum with 44-45 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.9 times, shortest segment 1.0 times, penultimate segment 1.1 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.5, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, finely and densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.4, coriaceous and densely rugose-punctate. Prescutellar groove smooth or with fine longitudinal striae. Prepectal carina low, the ventral part merging with the slightly raised transverse carina. Pleural part of the prepectal carina distinct medially, almost obliterated ventrally, the dorsal 0.3 obliterated or covered

with wrinkles. Mesopleurum coriaceous, dull, with distinct rather dense or dense punctation. Speculum granulate-strigose and with fine striae, dull. Depression in front of the speculum with fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous, dull, finely and densely rugose-punctate. Pleural carina complete. Areolet rather small, stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus distinctly inclivous, weakly intercepted. Nervellar index 0.8. Tibial spur index 0.6. Hind femur 5.5 times as long as high. Hind tarsal claws short, with about four short pectinate teeth situated basally and medially. Propodeum extending to 0.5 of the hind coxae, broadly and rather deeply depressed, the sulcus coriaceous and finely rugose anteriorly (region of the area superomedia), with short transverse wrinkles medially and long transverse wrinkles posteriorly, irregularly wrinkled sublaterally, longitudinal carinae present posteriorly, covered with wrinkles medially. Propodeal spiracle rather large, 2.6 times as long as wide. Spiracular carina narrow medially. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 5.9 times, 2<sup>nd</sup> tergite 2.2 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture fine or obliterated. 1<sup>st</sup> gastral sternite smooth, sometimes with fine transverse striae posteriorly. Thyridium elongated. Thyridial index 1.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths scarcely widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish brown. Mandible black, sometimes tinged with dark brown medially. Tegula black, tinged with brown apically. Wings hyaline. Stigma dark brown medially. Front femur yellowish red, marked with dark brown basally and ventrally. Front tibia and tarsus yellow. Mid femur yellow on the distal 0.2. Mid tibia yellow. Mid tarsus yellowish brown. Hind tibia yellowish brown, distinctly marked with black basally, almost not darkened apically. Hind tarsus yellowish brown or dark brown. 2<sup>nd</sup> gastral tergite for the greater part black, the posterior lateral corners red. 3<sup>rd</sup> tergite narrowly black dorsally, broadly red laterally, 4<sup>th</sup> tergite for the greater part red, narrowly marked with black dorsally and posteriorly. Pilosity whitish.

♂: Longitudinal carinae of the propodeum present anteriorly and medially as well as posteriorly. Mandible marked with yellow dorsally. Apex of front coxa yellow. Front trochanter and trochantellus marked with yellowish red. In other characters similar to the ♀.

***Dusona erythrogaster* (Förster, 1868)**

♀: Body length 7-8 mm. Temples distinctly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the prescutellar groove. Ocellar index 0.7. Frons slightly depressed above the antennal sockets, finely coriaceous and finely and densely punctate, rather dull dorsally, shining ventrally, with a low longitudinal bulge medially and a longitudinal carina on top of this bulge, and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat dorsally, slightly concave ventrally, finely coriaceous and densely punctate ventrally, its apex truncate medially. Malar space index 0.4. Genal carina low, distinctly bent sideways and forwards subventrally, joining the oral carina at the base of the mandible at a right angle. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 35-37 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 0.9 times, penultimate segment 1.2 times as long as wide. Pronotum densely rugose-punctate laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, densely punctate. Scutellum with lateral carinae on the anterior 0.7, coriaceous and densely punctate. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae moderately raised, the former distinctly and broadly emarginate medially. Pleural part of the prepectal carina obliterated, a few wrinkles present medially, the lateral part of the prepectus densely punctate. Mesopleurum coriaceous, slightly shining, densely punctate. Speculum coriaceous, slightly shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous, finely and densely rugose-punctate. Pleural carina distinct. Areolet rather small, short-stalked, receiving the 2<sup>nd</sup> recurrent vein at or distad of the middle. Nervellus slightly reclivous, weakly intercepted. Nervellar index 0.8. Tibial spur index 0.6. Hind femur 4.5 times as long as high. Hind tarsal claws short, with about four short pectinate teeth situated basally. Propodeum extending to 0.3 of the hind coxae, deeply and rather narrowly depressed, the sulcus with distinct transverse wrinkles, longitudinal carinae obliterated. Propodeal spiracle rather large, 2.9 times as long as wide. Spiracular carina narrow. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 4.2 times, 2<sup>nd</sup> tergite 1.9 times as long as wide. Petiole with distinct small or rather large glymmae, smooth in front of the glymmae. Petiolar suture for the greater part obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium

oval. Thyridial index 1.0. Epipleurum separated from the 3<sup>rd</sup> gastral tergite and folded in, sometimes folded back and pendent as an indistinct narrow stripe, epipleural index 0.2, the tergite with black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths distinctly widened medially and subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown. Mandible narrowly marked with brown dorsally. Wings hyaline. Stigma medium brown medially. Front femur reddish brown on the distal 0.7. Front tibia and tarsus reddish brown. Mid femur reddish brown on the distal 0.3. Mid tibia and tarsus reddish brown or dark brown. Hind legs black, the femur rarely marked with reddish brown distally, the tibia sometimes tinged with dark brown medially. 2<sup>nd</sup> gastral tergite dark reddish brown on the posterior 0.3. The following tergites dark reddish brown, the posterior tergites tinged with black dorsally. Pilosity whitish.

♂: Flagellum with 38-39 segments. Posterior gastral tergites marked with black dorsally or completely black. Genital clasper black. In other characters similar to the ♀.

***Dusona fatigator* (Förster, 1868)**

♀ (only the holotype known): Body length 9 mm. Temples slightly constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the petiole. Ocellar index 1.0. Frons not depressed, coriaceous and densely rugose-punctate and rugose, with a fine median longitudinal carina and with distinct radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, finely coriaceous and with dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina slightly raised subventrally, slightly bent sideways and not bent forwards subventrally, joining the oral carina at the base of the mandible at a right angle. Temple finely coriaceous and with fine dispersed or rather dense punctation medially. Both flagellar tips broken off in the only known ♀, 2<sup>nd</sup> flagellar segment 2.0 times as long as wide. Pronotum laterally for the greater part with longitudinal wrinkles, only the dorsal posterior corners densely rugose-punctate and without longitudinal wrinkles. Mesoscutum coriaceous and with rather fine very dense punctation. Scutellum with lateral carinae on the anterior 0.7, coriaceous and

with rather dense punctation. Prescutellar groove smooth medially, with longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former distinctly and broadly emarginate medially. Pleural part of the prepectal carina low ventrally and medially, somewhat indistinct, the dorsal 0.3 obliterated. Mesopleurum fine coriaceous and with rather dense punctation, slightly shining. Speculum finely granulate-strigose anteriorly, punctate posteriorly, slightly shining. Depression in front of the speculum with wrinkles dorsally, with rather fine longitudinal striae medially and ventrally, the latter merging with the punctation anteriorly. Metapleurum finely coriaceous and densely punctate and rugose-punctate. Pleural carina distinct. Areolet large, narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus reclivous, rather weakly intercepted. Nervellar index 0.6. Tibial spur index 0.6. Hind femur 4.5 times as long as high. Hind tarsal claws short, with about five distinct pectinate teeth situated basally and medially. Propodeum extending to 0.4 of the hind coxae, distinctly and rather narrowly depressed, with distinct transverse wrinkles in the longitudinal furrow, irregularly wrinkled beside the furrow, with some transverse wrinkles on the lateral parts of the propodeum, carinae almost completely obliterated. Propodeal spiracle large, 2.3 times as long as wide. Spiracular carina broad. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 3.8 times, 2<sup>nd</sup> tergite 1.6 times as long as wide. Petiole with indistinct narrow lateral areas and with very small glymmae, smooth in front of the glymmae. Petiolar suture partly present. 1<sup>st</sup> gastral sternite for the greater part smooth, with some transverse striae posteriorly. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown basally, yellowish brown medially and apically. Mandible broadly yellowish red dorsally and medially. Tegula dark brown. Wings hyaline. Stigma medium brown medially. Front leg yellowish red from the femur onwards, the femur marked with dark brown basally and ventrally, the tarsus darkened distally. Mid leg blackish, the tibia and tarsus tinged with brown. 2<sup>nd</sup> gastral tergite red on the posterior 0.4. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Pilosity whitish.

♂♂: Clypeus for the greater part densely rugose-punctate and rugose, only a small subapical area densely punctate. Flagellum with 46 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.5 times, shortest segment 1.0 times, penultimate

segment 1.0 times as long as wide. Metapleurum densely rugose-punctate and rugose. Nervellus vertical. Nervellar index 0.8. 3<sup>rd</sup> gastral tergite with black lateral stripes. Maxillary palpus brown basally, yellow medially and apically. Mandible broadly yellow medially. Mid femur yellowish red on the distal 0.2. Mid tibia yellowish red. In other characters similar to the ♀. This ♂ from Escorial/Spain (ZSM) may belong to *D. fatigator*, but it differs from the holotype (which originates from southern France) in the proportion of the basal flagellar segments and in the nervellus (disregarding the differences in colour pattern, which may be sexual differences).

#### *Dusona filator* Hinz, 1985

♀: Body length 8-9 mm. Temples distinctly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the prescutellar groove. Ocellar index 0.8. Frons slightly depressed above the antennal sockets, finely coriaceous and finely rugose and punctate, with a fine median longitudinal carina and with few short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus densely rugose. Clypeus flat, finely coriaceous and with rather dense punctation ventrally, its apex truncate medially. Malar space index 0.3. Genal carina slightly raised subventrally, distinctly bent sideways and forwards subventrally, joining the oral carina at the base of the mandible at a right angle. Temple finely coriaceous and with fine very dispersed punctation medially. Flagellum with 29-30 segments, stout, slightly fusiform, almost not attenuated distally, 2<sup>nd</sup> segment 1.9 times, shortest segment 0.7 times, penultimate segment 0.8 times as long as wide. Pronotum densely rugose-punctate laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, densely punctate. Scutellum with lateral carinae on the anterior 0.4, coriaceous and with dense punctation. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former distinctly and rather broadly emarginate medially. Pleural part of the prepectal carina present ventrally and medially, low, the dorsal 0.3 obliterated. Mesopleurum finely coriaceous, densely punctate, slightly shining. Speculum narrow, finely coriaceous anteriorly, punctate posteriorly, slightly shining. Depression in front of the speculum with distinct long longitudinal striae, which merge with the punctation anteriorly. Metapleurum finely coriaceous and finely punctate and rugose, slightly shining. Pleural carina distinct. Areolet rather narrow, pointed, receiving the 2<sup>nd</sup> recurrent vein distinctly distad of the middle.

Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.8. Tibial spur index 0.6. Hind femur 4.4 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, deeply and rather narrowly depressed, with long transverse wrinkles in and beside the longitudinal furrow, median longitudinal carinae obliterated. Propodeal spiracle rather small, 2.3 times as long as wide. Spiracular carina distinct, narrow. Spiracular index 0.8. 1<sup>st</sup> gastral tergite 3.3 times, 2<sup>nd</sup> tergite 1.5 times as long as wide. Petiole with rather large glymmae, smooth in front of the glymmae. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium elongated. Thyridial index 1.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.8.

Colour: Black. Maxillary palpus yellowish red. Mandible yellowish brown dorsally. Tegula yellowish brown. Wings hyaline. Stigma yellowish brown medially. Front leg yellowish red from the apex of the coxa onwards. Mid leg yellowish red from the femur onwards, the femur tinged with black ventrally, the tarsus darkened apically. Hind tibia dark yellowish brown medially, narrowly marked with black basally, broadly marked with black apically, the apical ring extending over 0.3 of the tibia. Hind basitarsus marked with yellowish brown basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.5. 3<sup>rd</sup> tergite red. 4<sup>th</sup> tergite red, marked with black dorsally and posteriorly. Pilosity whitish.

♂: Flagellum with 30-31 segments, rather slender, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.9 times, shortest segment 1.0 times, penultimate segment 1.3 times as long as wide. Pleural part of the prepectal carina sometimes obliterated ventrally. Glymma sometimes small. 2<sup>nd</sup> gastral tergite red on the posterior 0.6. In other characters similar to the ♀.

#### *Dusona genalis* (Thomson, 1887)

♀: Body length 9-11 mm. Temples moderately constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum or the 1<sup>st</sup> gastral segment. Ocellar index 1.1-1.4. Frons slightly depressed above the antennal sockets, for the greater part coriaceous and densely rugose-punctate, narrow areas above the antennal sockets shining, with a distinct median

longitudinal carina and with fine or distinct radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.6 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat, coriaceous and with rather dense punctation ventrally, its apex smooth, rounded medially. Malar space index 0.4. Genal carina low and straight ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.3-0.4. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 49-53 segments, filiform, the distal 0.3 distinctly attenuated, 2<sup>nd</sup> segment 1.6 times, shortest segment 0.9 times, penultimate segment 1.3 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.4, punctate and with longitudinal wrinkles ventrally. Mesoscutum coriaceous and very densely punctate. Scutellum with lateral carinae on the anterior 0.4, finely coriaceous and densely punctate. Prescutellar groove with fine longitudinal striae. Prepectal carina low, ventral part merging with the pleural part or with the transverse carina. Transverse carina complete. Pleural part of the prepectal carina complete or the dorsal 0.1 covered with wrinkles. Mesopleurum finely coriaceous and with distinct rather dense or dense punctation, slightly shining. Speculum finely coriaceous and granulate-strigose, shining. Depression in front of the speculum dorsally with wrinkles, medially and ventrally with fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum finely coriaceous and densely punctate (with well separated punctures), slightly shining. Pleural carina distinct. Areolet rather large, narrow, pointed or narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus vertical or slightly inclivous, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.5-0.6. Hind femur 4.4 times as long as high. Hind tarsal claws slightly elongated, with about five distinct pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, rather narrowly and not deeply depressed, with rather short transverse wrinkles in the longitudinal furrow, with irregular wrinkles beside the furrow, with long transverse wrinkles posteriorly, the longitudinal carinae almost completely obliterated. Propodeal spiracle large, 3.1 times as long as wide. Spiracular carina narrow. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 3.3 times, 2<sup>nd</sup> tergite 1.4 times as long as wide. Petiole with distinct rather large glymmae, smooth in front of the glymmae. Petiolar suture fine or almost obliterated. 1<sup>st</sup> gastral sternite smooth, sometimes with some fine transverse striae posteriorly. Thyridium oval. Thyridial index 1.0. Epipleurum separated from the 3<sup>rd</sup> gastral tergite



anteriorly, folded in, the crease somewhat rounded and sometimes not marked with black. Epipleural index 0.4-0.6. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus dark brown. Mandible marked with reddish brown dorsally and medially. Wings hyaline. Stigma yellowish brown medially. Front leg yellowish red from the femur onwards, the femur tinged with brown ventrally. Mid femur yellowish red on the distal 0.2. Mid tibia yellowish red. Mid tarsus brown. Hind tibia yellowish brown medially, distinctly marked with black basally and apically, the apical ring extending over 0.2-0.3 of the tibia. Hind tarsus blackish, the basitarsus narrowly marked with brown basally. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.3, laterally red on the posterior 0.7. 3<sup>rd</sup> tergite red, sometimes tinged with black dorsally. 4<sup>th</sup> tergite for the greater part dark red, marked with black dorsally and posteriorly (to a variable extent). Pilosity whitish.

♂: Propodeum with the longitudinal carinae partly present. Sometimes the 4<sup>th</sup> gastral tergite completely black. In other characters similar to the ♀.

#### *Dusona habermehli* (Kriechbaumer, 1898)

♀: Body length 5.5-7 mm. Temples distinctly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Ocellar index 1.1. Frons not depressed, coriaceous and finely rugose, with some transverse wrinkles, the median longitudinal carina short or obliterated, without radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.3 of the clypeus coriaceous and densely rugose, dull. Clypeus flat, coriaceous and with fine rather dense punctation ventrally, its apex rounded medially. Malar space index 0.3. Genal carina low, slightly bent sideways subventrally, joining the low oral carina close to the base of the mandible at an acute angle. Genal index 0.1. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 32-35 segments, slender, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 2.5 times, shortest segment 1.2 times, penultimate segment 1.2 times as long as wide. Pronotum coriaceous and finely punctate and rugose laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, with fine and dense punctation, partly rugose. Scutellum with lateral carinae on the anterior 0.3, coriaceous, dull, rather densely punctate. Prescutellar groove smooth or with a few longitudinal striae. Prepectal carina low, ventral part merging

with the low transverse carina. Pleural part of the prepectal carina distinct medially, fine or obliterated ventrally, the dorsal 0.3 obliterated. Mesopleurum coriaceous, dull, with fine dispersed punctation. Speculum granulate-strigose and with fine striae, rather dull. Depression in front of the speculum with fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous, dull, finely rugose-punctate and rugose. Pleural carina complete. Areolet rather small, short-stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus almost vertical, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.4. Hind femur 4.8 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, shallowly and rather narrowly depressed, coriaceous and without transverse wrinkles anteriorly in the region of the area superomedial, with short transverse wrinkles medially in the longitudinal furrow, irregularly wrinkled beside the furrow, with long transverse wrinkles posteriorly, the longitudinal carinae indicated only posteriorly. Propodeal spiracle rather small, 3.2 times as long as wide. Spiracular carina narrow. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 3.9 times, 2<sup>nd</sup> tergite 1.4 times as long as wide. Petiole rounded laterally, with fine sculpture, without lateral areas or glymmae. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite with fine sculpture. Thyridium oval. Thyridial index 1.5. Epipleurum separated from the 3<sup>rd</sup> gastral tergite anteriorly, the crease marked with black. Epipleural index 0.3. Gaster distinctly compressed posteriorly. Ovipositor sheaths slender (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma dark brown medially. Front leg yellowish red from the apex of the coxa onwards, the tarsus darkened apically. Mid femur yellowish red on the distal 0.5-0.7. Mid tibia yellowish red. Mid tarsus light brown basally, dark brown apically. Hind femur red on the distal 0.2. Hind tibia for the greater part black, marked with white or yellowish brown medially on the dorsal side, the apical black ring extending over 0.3-0.4 of the tibia. Hind tarsus blackish, the three basal segments narrowly marked with white basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, the 4<sup>th</sup> tergite often marked with black posteriorly (to a variable extent). Pilosity whitish.

♂: Very similar to the ♀. Sometimes the hind femur black and/or the 2<sup>nd</sup> gastral tergite almost completely black.



*Dusona hastulatae* spec. nov.

Holotype (♀): "28.VI.1958 Einbeck" (Germany) (ZSM). – Paratypes: 4♀, 1♂ from the same locality, dates 17.6.-1.7.1958; 1♂ "L. 28.7.1958 Einbeck", "1958/XXVII, 43", "ex: *Larentia hastulata* Hbn. (Lep.)"; 1♀ "Ober-Bayern, Garmisch, Kreuzeckweg, bei ca. 900 m, 22.VII.1927, E. Bauer" (all ZSM).

♀: Body length 8.5-9 mm. Temples distinctly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the prescutellar groove. Ocellar index 0.85. Frons not depressed, coriaceous, densely rugose-punctate, with a fine median longitudinal carina and with short radial wrinkles, the latter sometimes lacking. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus coriaceous, densely rugose-punctate and rugose. Clypeus flat, coriaceous and with rather dense or dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.5. Genal carina low, bent sideways subventrally, joining the oral carina at the base of the mandible at a right angle. Temple very slightly coriaceous and with fine dispersed punctation medially. Flagellum with 40-42 segments, filiform, the distal 0.3 slightly attenuated, 2<sup>nd</sup> segment 2.2 times, shortest segment 1.1 times, penultimate segment 1.2 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, finely and densely rugose-punctate. Scutellum with strong lateral carinae on the anterior 0.8, coriaceous and with dense punctation. Prescutellar groove for the greater part smooth, with some longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae distinctly raised, the prepectal carina very strongly raised submedially (behind the front coxae), deeply emarginate medially. Pleural part of the prepectal carina present medially, obliterated ventrally and dorsally. Mesopleurum coriaceous, dull, with distinct dense punctation. Speculum with fine striae, dull. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous, finely and densely rugose-punctate and rugose. Pleural carina present. Areolet rather large, distinctly stalked, receiving the 2<sup>nd</sup> recurrent vein slightly distad of the middle. Nervellus distinctly reclivous, not or almost not intercepted. In the latter case nervellar index 0.6. Tibial spur index 0.6. Hind femur 4.3 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.4 of the hind coxae, with a distinct rather narrow longitudinal furrow, for the greater part with irregular wrinkles, with short transverse wrinkles

in the furrow, with some long transverse wrinkles posteriorly, carinae obliterated. Propodeal spiracle small, 2.6 times as long as wide. Spiracular carina narrow or slightly widened. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 3.7 times, 2<sup>nd</sup> tergite 1.7 times as long as wide. Petiole smooth laterally, without glymmae or lateral areas. Petiolar suture fine anteriorly, obliterated posteriorly. 1<sup>st</sup> gastral sternite smooth, sometimes with fine transverse striae posteriorly. Thyridium small, elongated. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths distinctly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus dark brown. Mandible black, sometimes tinged with brown medially. Wings hyaline. Stigma yellowish brown medially. Front femur black basally and ventrally, yellowish red dorsally and apically. Front tibia and front tarsus yellow, the tarsus light brown apically. Apical 0.2 of mid femur yellowish red. Mid tibia yellowish dorsally, brownish ventrally. Mid tarsus brown, the basitarsus broadly yellowish basally. Hind leg black, the tibia sometimes tinged with brown medially on the dorsal side. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2, rarely almost completely black. 3<sup>rd</sup> tergite red. 4<sup>th</sup> tergite completely black or marked with red to a variable extent anteriorly, often also the posterior edge red. Pilosity whitish.

♂: Flagellum with 40-42 segments, 2<sup>nd</sup> segment 1.9 times, shortest segment 0.9 times, penultimate segment 1.1 times as long as wide. In other characters similar to the ♀.

**Host:** *Epirrhoe hastulata* (Hübner, 1790) (Geometridae). The host larva was collected 28.7.1958, the cocoon was formed 1.8.1958, the parasitoid hatched 20.5.1959.

*Dusona hispanica* spec. nov.

Holotype (♀): "El Ventorillo, 1480 m, Madrid, Trampa Malaise, (20-24).V.1988" (Spain) (Mus. Madrid). – Paratypes: 1♀ with the same dates (ZSM); 1♀: "Peña Real, C. Viejo, Madrid, 6-VI-85", "V. Llorente" (Mus. Madrid).

♀: Body length 9-10 mm. Temples slightly constricted behind the eyes, 1.0 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postpetiole. Ocellar index 1.8. Frons hardly depressed above the antennal sockets, coriaceous and densely rugose-punctate and rugose dorsally, shining and with distinct radial wrinkles ventrally, the

wrinkles extending to 0.3 the distance to the median ocellus, with a distinct median longitudinal carina. Antennal carina low and narrow. Face and dorsal 0.6 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat dorsally and medially, slightly concave ventrally, slightly coriaceous and with distinct dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.6. Genal carina low, slightly bent sideways subventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.3. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 39-42 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.8 times, shortest segment 0.9 times, penultimate segment 1.1 times as long as wide. Pronotum densely rugose-punctate and rugose on a smooth background laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and with distinct dense punctation. Scutellum with lateral carinae on the anterior 0.8, slightly coriaceous and with distinct dispersed or rather dense punctation. Prescutellar groove smooth medially, with fine longitudinal striae laterally. Prepectal carina low, ventral part merging with the pleural part, the latter obliterated and covered with wrinkles on the dorsal 0.3. Transverse carina distinct, about as high as the prepectal carina. Mesopleurum with distinct and dense punctation on a very finely coriaceous or smooth background. Speculum with fine striae anteriorly, with punctation posteriorly. Depression in front of the speculum with distinct rather fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum densely rugose-punctate on a smooth background, partly rugose. Pleural carina complete. Areolet rather narrow, pointed, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus vertical, distinctly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.7. Hind femur 4.8 times as long as high. Hind tarsal claws slightly elongated, with three distinct pectinate teeth situated basally. Propodeum extending to 0.3 of the hind coxae, with a rather broad and rather shallow sulcus, for the greater part irregularly wrinkled, with few short transverse wrinkles posteriorly, carinae for the greater part obliterated, median longitudinal carinae indicated posteriorly. Propodeal spiracle large, 2.6 times as long as wide. Spiracular carina narrow. Spiracular index 0.35. 1<sup>st</sup> gastral tergite 3.5 times, 2<sup>nd</sup> tergite 1.4 times as long as wide. Petiole without glymmae, with slightly indicated narrow lateral areas, smooth in front of these areas. Petiolar suture indicated. 1<sup>st</sup> gastral sternite for the greater part smooth, with fine transverse striae posteriorly. Thyridium oval. Thyridial index 1.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter

with black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths narrow subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Mandible tinged with dark brown medially. Wings hyaline. Stigma medium brown medially. Front femur yellowish red apically. Front tibia yellowish red. Front tarsus brown. 2<sup>nd</sup> gastral tergite red on the posterior 0.5-0.6. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Pilosity whitish.

♂♂: Mesopleurum with rather dense and rather fine punctation on a distinctly coriaceous background. Metapleurum with distinct and dense punctation on a coriaceous background, partly with fine rugosity. 2<sup>nd</sup> gastral tergite 2.0 times as long as wide. Maxillary palpus yellowish brown. Mandible yellowish brown dorsally and medially. Front leg yellowish brown from the femur onwards, tarsus brown apically. Mid femur yellowish red on the distal 0.3. Mid tibia yellowish red. 2<sup>nd</sup> gastral tergite red on the posterior 0.3. In other characters similar to the ♀. These ♂♂ may belong to *D. hispanica* (2♂♂ from Bendery and Kotovskoye, Moldavia; ZSM).

#### *Dusona holmgrenii* (Dalla Torre, 1901)

♂ (only the holotype known): Body length 12 mm. Temples moderately constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Ocellar index 1.2. Frons scarcely depressed above the antennal sockets, for the greater part coriaceous and with fine and dense punctation, with narrow almost smooth and shining areas above the antennal sockets, with a fine median longitudinal carina, without radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.4 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, coriaceous and with fine dispersed or rather dense punctation ventrally, its apex truncate medially. Malar space index 0.4. Genal carina low and straight ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.5. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 50 segments, filiform, the distal 0.4 attenuated, 2<sup>nd</sup> segment 1.4 times, shortest segment 0.9 times, penultimate segment 1.2 times as long as wide. Pronotum finely coriaceous and densely rugose-punctate laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, with fine dense or very dense punctation. Scutellum with lateral carinae on the anterior 0.8, coriaceous, dull, densely rugose-punctate. Prescutellar groove smooth medially, with

a few longitudinal striae laterally. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.1 of the latter indistinct and covered with wrinkles. Transverse carina low. Mesopleurum coriaceous, dull, with distinct rather dense or dense punctation. Speculum finely granulate-strigose, shining. Depression in front of the speculum for the greater part with fine longitudinal wrinkles, which merge with the punctation anteriorly, finely granulate-strigose and shining ventrally. Metapleurum coriaceous, dull, densely rugose-punctate. Pleural carina distinct. Areolet rather large, stalked, receiving the 2<sup>nd</sup> recurrent vein basad of the middle. Nervellus vertical, weakly intercepted. Nervellar index 0.6. Tibial spur index 0.6. Hind femur 5.1 times as long as high. Hind tarsal claws short, with about five short pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, hardly depressed, for the greater part with irregular wrinkles, with a short median longitudinal keel and some short longitudinal wrinkles posteriorly, median longitudinal carinae present posteriorly. Propodeal spiracle large, 2.5 times as long as wide. Spiracular carina narrow. Spiracular index 0.35. 1<sup>st</sup> gastral tergite 3.5 times, 2<sup>nd</sup> tergite 2.3 times as long as wide. Petiole with large glymmae, with some fine longitudinal striae in front of the glymmae. Petiolar suture fine. 1<sup>st</sup> gastral sternite finely coriaceous and with fine wrinkles, with a few transverse striae posteriorly. Thyridium elongated. Thyridial index 1.5. Epipleurum separated from the 3<sup>rd</sup> gastral tergite and folded in, the crease marked with black. Epipleural index 0.8. Gaster distinctly compressed posteriorly.

Colour: Black. Maxillary palpus yellowish brown. Mandible broadly yellow medially. Tegula dark brown. Wings hyaline. Stigma yellowish brown medially. Front leg yellowish red from the apex of the coxa onwards. Mid leg yellowish red from the femur onwards, the femur marked with brown basally, the tarsus marked with brown distally. Hind tibia broadly yellowish brown medially, narrowly marked with light brown basally and apically. Hind tarsus light brown. 2<sup>nd</sup> gastral tergite dorsally yellowish brown on the posterior 0.1, laterally yellowish brown on the posterior 0.2, the posterior edge narrowly marked with brown. 3<sup>rd</sup> tergite yellowish brown, the posterior edge marked with black. 4<sup>th</sup> tergite for the greater part black, with a narrow longitudinal reddish band dorsally. Genital clasper black. Pilosity whitish.

♀ unknown.

### *Dusona incompleta* (Bridgman, 1889)

♂: Body length 8-10 mm. Temples moderately constricted behind the eyes, 0.85 times as long as the width of an eye, tangential lines on eyes and temples intersect on the 1<sup>st</sup> gastral segment. Ocellar index 0.8. Frons slightly depressed above the antennal sockets, for the greater part coriaceous and densely rugose-punctate, with narrow smooth areas above the antennal sockets, with a fine and indistinct median longitudinal carina, without radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, finely coriaceous and with fine rather dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina low, slightly bent forwards subventrally, joining the distinctly raised oral carina distant from the base of the mandible at a right angle. Genal carina fine and indistinct and gena slightly excavated beside the junction. Genal index 0.3. Temple finely coriaceous and with fine dispersed or rather dense punctation medially. Flagellum with 41-46 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.4 times, shortest segment 1.0 times, penultimate segment 1.2 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and with fine dense punctation. Scutellum with lateral carinae on the anterior 0.6, finely coriaceous and densely punctate. Prescutellar groove smooth medially, with longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former distinctly and broadly emarginate medially. Pleural part of the prepectal carina low, the dorsal 0.2 covered with wrinkles. Mesopleurum finely coriaceous and with distinct dense or very dense punctation, slightly shining. Speculum finely granulate-strigose, shining. Depression in front of the speculum with distinct longitudinal wrinkles, which merge with the punctation anteriorly. Metapleurum coriaceous, distinctly and densely punctate, partly rugose-punctate. Pleural carina complete. Areolet rather large, stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus slightly reclivous, weakly intercepted. Nervellar index 0.8. Tibial spur index 0.65. Hind femur 4.8 times as long as high. Hind tarsal claws slightly elongated, with about two distinct pectinate teeth situated basally. Propodeum extending to 0.5 of the hind coxae, deeply and rather narrowly depressed, with transverse wrinkles in the longitudinal furrow, irregularly wrinkled beside the furrow, the longitudinal carinae obliterated. Propodeal spiracle rather small, 3.0 times as long as wide. Spiracular carina narrow. Spiracular index 0.6. 1<sup>st</sup>

gastral tergite 3.9 times, 2<sup>nd</sup> tergite 2.3 times as long as wide. Petiole without glymmae, lateral areas weakly indicated, smooth in front of the lateral areas. Petiolar suture fine. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly.

Colour: Black. Maxillary palpus medium brown. Mandible for the greater part black, narrowly marked with yellow or red dorsally. Wings hyaline. Stigma dark yellowish brown medially. Front leg from the femur onwards yellowish red, the femur sometimes marked with black ventrally, the tarsus darkened distally. Front trochanter and front trochantellus sometimes marked with yellowish red distally. Mid femur sometimes brown on the distal 0.2. Mid tibia yellowish brown or brown. Mid tarsus dark brown, the basitarsus marked with yellowish basally. Hind tibia sometimes tinged with yellowish brown medially. Hind basitarsus marked with yellowish basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.3-0.4. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Pilosity whitish.

♀♀: Flagellum with 46 segments. Hind tarsal claws short, with about four pectinate teeth situated basally and medially. 1<sup>st</sup> gastral tergite 4.4 times, 2<sup>nd</sup> tergite 1.7 times as long as wide. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5. Maxillary palpus and mandible black. Legs almost completely black, distal 0.2 of the front femur and the front tibia dark yellowish brown. In other characters similar to the ♀.

#### *Dusona intelligator* Aubert, 1966

♀: Body length 11 mm. Temples slightly constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the 1<sup>st</sup> gastral segment. Ocellar index 1.5. Frons slightly depressed above the antennal sockets, finely rugose-punctate and rugose, with a distinct median longitudinal carina and with radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.4 of the clypeus densely rugose-punctate. Clypeus slightly concave, coriaceous and densely punctate ventrally, its apex slightly rounded medially. Malar space index 0.3. Genal carina low and straight ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.3. Temple finely coriaceous and with fine rather dense punctation medially. Flagellum with 45-49 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.6 times, shortest seg-

ment 1.0 times, penultimate segment 1.4 times as long as wide. Pronotum densely rugose-punctate laterally on the dorsal 0.6, with longitudinal wrinkles ventrally. Mesoscutum finely coriaceous and with dense punctation, slightly shining. Scutellum with lateral carinae on the anterior 0.7, finely coriaceous and densely punctate. Prescutellar groove smooth. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.4 of the latter obliterated. Transverse carina present anteriorly, obliterated posteriorly. Mesopleurum with rather dense or dense punctation on a smooth background. Speculum smooth or finely granulate-strigose and shining anteriorly, punctate posteriorly. Depression in front of the speculum with distinct longitudinal or irregular wrinkles, which merge with the punctation anteriorly. Metapleurum with very dense punctation on a smooth background. Pleural carina present. Areolet rather narrow, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein at or distad of the middle. Nervellus slightly reclivous, distinctly intercepted. Nervellar index 0.5-0.6 (rarely 0.7). Tibial spur index 0.6. Hind femur 4.3 times as long as high. Hind tarsal claws slightly elongated, with about five distinct pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, rather shallowly and rather narrowly depressed, with short transverse wrinkles in the longitudinal furrow, irregularly wrinkled beside the furrow, with long transverse wrinkles posteriorly, longitudinal carinae obliterated. Propodeal spiracle large, 2.8 times as long as wide. Spiracular carina usually indistinct. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 4.0 times, 2<sup>nd</sup> tergite 1.6 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture fine, partly obliterated. 1<sup>st</sup> gastral sternite smooth, sometimes with some transverse striae posteriorly. Thyridium oval. Thyridial index 1.0. Epipleurum present as a small semicircular pendent lobe anteriorly, not separated from the 3<sup>rd</sup> gastral tergite by a crease or a black stripe, the tergite with distinct black lateral stripes well above the ventrolateral edge. Gaster moderately compressed posteriorly. Ovipositor sheaths slightly widened medially and subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus dark brown basally, yellowish red medially and apically. Mandible narrowly reddish brown or dark brown medially. Wings hyaline. Stigma yellowish brown medially. Front leg reddish brown from the femur onwards, the tarsus marked with dark brown distally. Mid femur reddish brown, marked with black basally. Mid tibia reddish brown. Mid tarsus dark brown. Hind tibia often tinged with dark brown medially on the dorsal side. 2<sup>nd</sup> gastral tergite reddish brown or dark brown



on the posterior 0.6-0.7. 3<sup>rd</sup> and 4<sup>th</sup> tergites reddish brown or dark brown. Pilosity whitish.

♂: Front trochanter and front trochantellus reddish brown. In other characters similar to the ♀.

*Dusona irregularis* spec. nov.

Holotype (♀): "Jura-Krakowska-Częstochowska, wies Bolechowice, 30.4.61, J.P." (Poland) (Coll. Sawoniewicz). – Paratype: 1♂ "Vitebskaya obl., Berezinskiy zap., 6.VI.985, ... A. Tereshkin leg." (Belorussia) (ZSM).

♀: Body length 14 mm. Temples distinctly constricted behind the eyes, 0.85 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Ocellar index 0.6. Frons hardly depressed ventrally, coriaceous and with fine dense punctation dorsally and medially, almost smooth ventrally above the antennal sockets, with a fine median longitudinal carina and without radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, coriaceous and with fine rather dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.2. Genal carina low and straight ventrally, joining the low oral carina distant from the base of the mandible at an acute angle. Genal index 0.45. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 46 segments, stout, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.4 times, shortest segment 0.8 times, penultimate segment 1.1 times as long as wide. Pronotum with fine punctation and fine longitudinal wrinkles laterally. Mesoscutum coriaceous and with distinct dense or very dense punctation. Scutellum with lateral carinae on the anterior 0.3, coriaceous and densely rugose-punctate and rugose. Prescutellar groove smooth. Prepectal carina low, ventral part merging with the pleural part, the latter almost complete, covered with wrinkles dorsally. Transverse carina present, low. Mesopleurum finely coriaceous and with distinct dense or very dense punctation, with longitudinal wrinkles below the speculum. Speculum large, smooth. Depression in front of the speculum almost smooth ventrally, in other parts with fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum finely and densely rugose-punctate and rugose. Pleural carina distinct. Areolet large, stalked, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.75. Tibial spur index 0.6. Hind femur 5.0 times as long as high. Hind tarsal claws slightly elongated, with

7-8 short pectinate teeth situated basally, medially and subapically. Propodeum extending to 0.3 of the hind coxae, broadly and rather shallowly depressed, for the greater part with irregular wrinkles, with few distinct longitudinal wrinkles posteriorly, carinae almost completely obliterated. Propodeal spiracle rather large, 2.3 times as long as wide. Spiracular carina fine and narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 3.4 times, 2<sup>nd</sup> tergite 2.4 times as long as wide. Petiole with large and deep glymmae, smooth or with very fine longitudinal striae in front of the glymmae. Petiolar suture partly indicated. 1<sup>st</sup> gastral sternite with fine irregular sculpture anteriorly and medially, with distinct transverse striae posteriorly. Thyridium elongated. Thyridial index 1.5. Epipleurum separated from the 3<sup>rd</sup> gastral tergite and folded in, the crease marked with black. Epipleural index 0.6-0.7. Gaster tergites strongly shining. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus yellowish brown. Mandible yellow dorsally and medially. Tegula dark brown. Wings hyaline. Stigma light yellowish brown medially. Front leg yellowish red from the femur onwards. Mid femur yellowish red, slightly darkened basally. Mid tibia yellowish red. Mid tarsus dark brown, marked with light brown basally. Hind femur red on the distal 0.4. Hind tibia for the greater part yellowish red, narrowly dark brown basally, narrowly light brown apically. Hind tarsus dark brown, marked with yellowish red basally on the ventral side. 2<sup>nd</sup> gastral tergite red on the posterior 0.3, the posterior edge dark brown dorsally. 3<sup>rd</sup> tergite red, narrowly marked with black posteriorly. Pilosity whitish.

♂: Flagellum slender, median segments 1.1 times as long as wide (both flagellar tips broken off). Metapleurum with fine dispersed punctation on a smooth background centrally. Hind tarsal claws distinctly elongated, with 7-8 short pectinate teeth situated basally and medially. Median longitudinal carinae of the propodeum indicated medially and posteriorly. 1<sup>st</sup> gastral sternite with very fine sculpture, partly smooth. Gaster tergites not strongly shining. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula light brown. Front and mid legs yellow from the apex of the coxa onwards, the femora yellowish red. Hind tibia broadly yellow medially. Hind tarsus light brown. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.4, the posterior edge narrowly dark brown, almost completely red laterally. 3<sup>rd</sup> tergite red. 4<sup>th</sup> tergite red, the posterior 0.3 black. In other characters similar to the ♀.



*Dusona lamellator* Aubert, 1960

♀: Body length 11-13 mm. Temples strongly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the centre of the mesoscutum. Ocellar index 0.6. Frons slightly depressed above the antennal sockets, coriaceous and densely rugose-punctate dorsally, somewhat shining ventrally, with a low median longitudinal bulge and a fine longitudinal carina on top of this bulge, and with distinct radial wrinkles, which extend to 0.6 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.4 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, finely coriaceous and densely punctate ventrally, its apex truncate medially. Malar space index 0.3. Genal carina distinctly raised behind the ventral half of the eye, strongly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter pointed, strongly shifted downwards, almost reaching the ventral edge of the mandibles (in lateral view and with the mandibles closed). Gena deeply depressed close to the junction, the depression 1.5 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.8. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 46-49 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.3 times, shortest segment 0.8 times, penultimate segment 1.0 times as long as wide. Pronotum densely rugose-punctate and rugose laterally on the dorsal 0.6, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.4, distinctly and densely punctate on a smooth background. Prescutellar groove smooth medially, with a few longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae distinctly raised, the former slightly and rather narrowly emarginate medially. Pleural part of the prepectal carina low, almost complete, the dorsal 0.1-0.2 covered with wrinkles. Mesopleurum with distinct and dense punctation on a smooth background, with some longitudinal striae posteriorly in front of the metapleurum. Speculum finely coriaceous and granulate-strigose, almost smooth ventrally, shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum with distinct longitudinal wrinkles dorsally, irregularly wrinkled or rugose-punctate ventrally. Pleural carina distinct. Areolet rather large, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus vertical or slightly reclivous, weakly intercepted.

Nervellar index 0.7-0.8. Tibial spur index 0.7. Hind femur 5.5 times as long as high. Hind tarsal claws short, with about four short pectinate teeth situated basally and medially. Propodeum extending to 0.7 of the hind coxae, broadly and rather deeply depressed, with long transverse wrinkles in the sulcus and in the lateral areas, median longitudinal carinae indicated medially and posteriorly. Propodeal spiracle large, 3.0 times as long as wide. Spiracular carina narrow, sometimes indistinct. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 5.5 times, 2<sup>nd</sup> tergite 2.7 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture fine or partly obliterated. 1<sup>st</sup> gastral sternite smooth, sometimes with fine transverse striae posteriorly. Thyridium oval. Thyridial index 2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma medium brown medially. Front leg from the apex of the coxa onwards yellow. Mid leg from the trochanter onwards yellow, the trochanter black basally, the tarsus brownish distally. Hind trochantellus marked with yellow apically and hind femur narrowly marked with yellow basally. Hind tibia yellow. Hind tarsus for the greater part dark brown, the basitarsus broadly yellow basally. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.3-0.4, laterally yellow on the posterior 0.5-0.6. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. Pilosity whitish.

♂: Mid leg from the apex of the coxa onwards yellow, the tarsus brownish distally. In other characters similar to the ♀.

*Dusona libertatis* (Teunissen, 1947)

♀: Body length 14-16 mm. Temples strongly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.7 of the mesoscutum. Ocellar index 1.0. Frons slightly depressed above the antennal sockets, finely coriaceous and with fine rather dense punctation dorsally, shining ventrally, with a distinct median longitudinal bulge and a fine median longitudinal carina on top of this bulge, with distinct radial wrinkles, which extend to 0.4 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat dorsally, slightly concave ventrally,

finely coriaceous and with rather dense punctation ventrally, its apex truncate medially. Malar space index 0.3. Genal carina distinctly raised behind the eye, strongly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible at an acute angle, the junction not shifted downwards but situated above the base of the mandible. Genal index 0.6. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 58-62 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.4 times, shortest segment 0.8 times, penultimate segment 1.1 times as long as wide. Pronotum finely coriaceous and with fine dense punctation laterally on the dorsal 0.5, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and with fine dense punctation. Scutellum with lateral carinae on the anterior 0.3, coriaceous and with dense punctation. Prescutellar groove with fine longitudinal striae. Ventral part of the prepectal carina low, merging with the slightly raised transverse carina (rarely merging with the pleural part). Pleural part of the prepectal carina complete, joining the anterior edge of the mesopleurum. Mesopleurum finely coriaceous, shining, with rather fine dispersed punctation centrally. Speculum finely coriaceous and granulate-strigose, slightly shining. Depression in front of the speculum dorsally with fine longitudinal striae, which merge with the punctation anteriorly, ventrally granulate-strigose. Metapleurum coriaceous and densely rugose. Pleural carina distinct. Areolet large, short-stalked, receiving the 2<sup>nd</sup> recurrent vein basad of the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.5. Hind femur 5.5 times as long as high. Hind tarsal claws rather short, with about eight long pectinate teeth situated basally, medially and subapically. Propodeum extending to 0.3 of the hind coxae, broadly and rather shallowly depressed, the sulcus with transverse wrinkles, the median longitudinal carinae present medially and posteriorly, covered with wrinkles anteriorly. Propodeal spiracle large, 3.3 times as long as wide. Spiracular carina narrow. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 4.7 times, 2<sup>nd</sup> tergite 1.8 times as long as wide. Petiole with large glymmae, smooth in front of the glymmae. Petiolar suture indicated anteriorly, obliterated posteriorly. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.0. Epipleurum separated from the 3<sup>rd</sup> gastral tergite anteriorly by a crease or bulge, folded in or pendent as a narrow stripe, the crease or bulge partly marked with black. Epipleural index 0.2-0.6. Gaster distinctly compressed posteriorly. Ovipositor sheaths scarcely widened medially and subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish red. Mandible yellowish red medially. Tegula yellow.

Wings slightly tinged with light brown. Stigma yellowish brown medially. Front leg yellow or yellowish red from the trochanter onwards, the tarsus darkened distally. Mid femur yellow on the distal 0.2. Mid tibia yellow. Mid tarsus medium brown. Hind femur narrowly marked with yellowish red apically on the dorsal side. Hind tibia yellow. Hind tarsus dark brown. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.4, laterally yellow over its total length, the ventrolateral edge marked with black. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. 5<sup>th</sup> tergite narrowly yellow anteriorly. Anterior sternites yellow, posterior sternites black. Pilosity whitish.

♂: Apex of the front coxa yellow. Mid femur black basally and ventrally, yellowish red dorsally and apically. In other characters similar to the ♀.

#### *Dusona limnobia* (Thomson, 1887)

♀: Body length 7-9 mm. Temples strongly constricted behind the eyes, 0.6 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.7 of the mesoscutum. Ocellar index 0.6. Frons scarcely depressed above the antennal sockets, for the greater part coriaceous and densely rugose-punctate, slightly shining ventrally, with a fine and sometimes indistinct median longitudinal carina and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, coriaceous and with rather dense or dispersed punctation ventrally, its apex truncate medially. Malar space index 0.4. Genal carina low ventrally, slightly bent sideways and distinctly (but not strongly) bent forwards subventrally, joining the low oral carina close to the base of the mandible at an acute angle. Genal index 0.1-0.2. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 39-43 segments, slender, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 2.1 times, shortest segment 1.0 times, penultimate segment 1.4 times as long as wide. Pronotum densely rugose-punctate and rugose laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.8, coriaceous, dull, very densely punctate. Prescutellar groove smooth medially, with longitudinal striae laterally. Ventral part of the prepectal carina low, slightly emarginate medially, usually merging with the transverse carina, rarely merging with the pleural part, the transversa carina distinct and complete, the dorsal 0.4 of the pleural part of the prepectal carina obliterated. Mesopleurum

coriaceous, often dull, rarely slightly shining, with rather dense or dense punctation (the punctation often dense in the centre and rather dense below the speculum). Speculum with fine longitudinal striae, slightly shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum densely rugose. Pleural carina complete. Areolet rather large, short-stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus vertical or slightly reclivous, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.6. Hind femur 4.6 times as long as high. Hind tarsal claws short, with about four pectinate teeth situated basally. Propodeum extending to 0.5 of the hind coxae, distinctly and rather narrowly depressed, with short transverse wrinkles in the longitudinal furrow, irregularly wrinkled beside the furrow, median longitudinal carinae indicated posteriorly. Propodeal spiracle rather small, 2.5 times as long as wide. Spiracular carina narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 5.0 times, 2<sup>nd</sup> tergite 2.3 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture fine, partly obliterated. 1<sup>st</sup> gastral sternite for the greater part smooth, with some transverse striae posteriorly. Thyridium elongated. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths distinctly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus yellow or yellowish brown. Mandible marked with yellow dorsally and medially. Tegula light brown. Wings hyaline. Stigma dark brown medially. Front leg yellowish red from the trochanter onwards. Mid leg yellowish red from the femur onwards. Hind femur often reddish brown, sometimes black or marked with black. Hind tibia broadly yellowish brown medially, narrowly marked with blackish basally, rather broadly marked with blackish apically, the apical ring extending over 0.15-0.3 of the tibia. Hind tarsus dark brown, the basal 0.5 of the basitarsus yellowish brown. 2<sup>nd</sup> gastral tergite red on the posterior 0.2-0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, the 4<sup>th</sup> tergite sometimes marked with black dorsally. 5<sup>th</sup> tergite rarely marked with red anteriorly. Pilosity whitish.

♂: Flagellum with 41-44 segments. Mesopleurum coriaceous, dull, densely punctate. Propodeum often somewhat more coarsely wrinkled, the median longitudinal carinae present medially and posteriorly. Mandible broadly yellow medially. Tegula yellow or yellowish brown. Apex of the front and mid coxae

yellow. Median gastral tergites sometimes tinged with black dorsally. In other characters similar to the ♀.

### *Dusona longiseta* Hinz, 1961

♀: Body length 10-12 mm. Temples slightly constricted behind the eyes, 0.9-1.0 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postpetiole. Ocellar index 0.9. Frons not depressed, coriaceous and densely punctate, sometimes partly rugose, a median longitudinal carina absent or weakly indicated, the radial wrinkles short or obliterated. Antennal carina low and narrow. Face finely coriaceous and densely punctate, partly rugose-punctate. Clypeus for the greater part flat, slightly concave ventrally, densely punctate on an almost smooth background, its apex slightly rounded medially. Malar space index 0.4. Genal carina low, slightly bent sideways subventrally, joining the low oral carina at an almost right angle. Genal index 0.2-0.35. Temple finely coriaceous and with fine rather dense or dense punctation medially. Flagellum with 40-42 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.9 times, shortest segment 0.8 times, penultimate segment 1.0 times as long as wide. Pronotum very densely punctate on a smooth background laterally on the dorsal 0.3, with longitudinal wrinkles ventrally. Mesoscutum rather densely or densely punctate on a slightly coriaceous or smooth background. Scutellum with lateral carinae on the anterior 0.8, rather densely or densely punctate on a smooth background. Prescutellar groove with fine longitudinal striae. Usually the ventral part of the prepectal carina merging with the transverse carina, both carinae low, the pleural part of the prepectal carina present medially, fine and sometimes obliterated ventrally. Rarely the ventral part of the prepectal carina merging with the pleural part, and the transverse carina obliterated posteriorly. Dorsal 0.4 of the pleural part of the prepectal carina always obliterated. Pleural part of the prepectus with dense punctation on a smooth background. Mesopleurum distinctly and rather densely or densely punctate on a smooth (rarely finely coriaceous) background. Speculum small, with fine sculpture and strongly shining anteriorly, punctate posteriorly. Depression in front of the speculum with short longitudinal wrinkles, which merge with the punctation anteriorly. Metapleurum densely rugose-punctate and rugose. Pleural carina distinct. Areolet large, pointed, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus almost vertical, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.6. Hind femur 4.0 times as long as high. Hind tarsal claws slightly elongated,

with five distinct pectinate teeth situated basally, medially and subapically. Propodeum extending to 0.3 of the hind coxae, broadly and rather shallowly depressed, the sulcus with transverse wrinkles, the median longitudinal carinae present posteriorly, obliterated medially. Propodeal spiracle rather small, 2.4 times as long as wide. Spiracular carina narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 3.0 times, 2<sup>nd</sup> tergite 1.4 times as long as wide. Petiole with narrow lateral areas (in lateral view). Ovipositor obliterated), without glymmae, smooth in front of the lateral areas. Petiolar suture fine. 1<sup>st</sup> gastral sternite smooth. Thyridium circular. Thyridial index 2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths not widened subapically (in lateral view). Ovipositor slightly bent upwards. Ovipositor index about 3.0.

Colour: Black. Mandible yellowish red or brown medially. Wings hyaline. Stigma dark brown medially. Front femur yellowish red anteriorly. Front tibia and tarsus yellowish red. Mid tibia and tarsus dark brown, the tibia with a yellowish stripe anteriorly. Hind tibia black, sometimes tinged with brown medially. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, the 4<sup>th</sup> tergite sometimes marked with black dorsally. Pilosity whitish.

♂: Flagellum with 43-46 segments, 2<sup>nd</sup> segment 1.6 times, shortest segment 1.0 times, penultimate segment 1.2 times as long as wide. Hind claws distinctly elongated, with a long apical tooth and about four rather short pectinate teeth in the basal half. Front leg for the greater part black, with anterior yellow marks on the coxa and the trochanter and anterior yellowish stripes on the femur and the tibia. Mid and hind legs black, the mid femur sometimes with a small yellow mark apically. 2<sup>nd</sup> gastral tergite sometimes completely black. In other characters similar to the ♀.

### *Dusona luteipes* (Thomson, 1887)

♀ (only the holotype known): Body length 8 mm. Temples distinctly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Ocellar index 0.9. Frons scarcely depressed above the antennal sockets, coriaceous and densely rugose-punctate dorsally, shining ventrally, with a distinct median longitudinal carina and with radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.2 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat,

finely coriaceous and with fine rather dense punctation ventrally, its apex truncate medially. Malar space index 0.4. Genal carina low and straight ventrally, joining the hardly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.3. Temple finely coriaceous and with very fine dispersed punctation medially. Both flagellar tips broken off in the only known specimen, flagellum filiform, 2<sup>nd</sup> segment 1.7 times, shortest segment 1.0 times as long as wide. Pronotum coriaceous and densely punctate laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.8, coriaceous and with dispersed or rather dense punctation. Prescutellar groove smooth. Prepectal carina low, the ventral part merging with the pleural part, the dorsal 0.1 of the latter covered with wrinkles. Transverse carina present anteriorly, obliterated posteriorly. Mesopleurum coriaceous, dull, with rather fine and rather dense or dense punctation. Speculum granulate-strigose and with fine longitudinal striae, somewhat shining. Depression in front of the speculum with distinct fine longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous and finely rugose. Pleural carina distinct. Areolet rather small, stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus slightly reclivous, weakly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 5.3 times as long as high. Hind tarsal claws short, with about three short pectinate teeth situated basally. Propodeum extending to 0.4 of the hind coxae, rather shallowly and narrowly depressed, with short transverse wrinkles in the longitudinal furrow, irregularly wrinkled beside the furrow, median longitudinal carinae indicated posteriorly. Propodeal spiracle rather small, 2.8 times as long as wide. Spiracular carina narrow. Spiracular index 0.6. 1<sup>st</sup> gastral tergite 3.6 times, 2<sup>nd</sup> tergite 1.6 times as long as wide. Petiole with narrow lateral areas and with small glymmae, smooth in front of the glymmae. Petiolar suture fine, obliterated posteriorly. 1<sup>st</sup> gastral sternite for the greater part smooth, with fine transverse striae posteriorly. Thyridium circular. Thyridial index 1.5. Epipleurum separated from the 3<sup>rd</sup> gastral tergite anteriorly and folded in, the crease marked with black. Epipleural index 0.3. Gaster distinctly compressed posteriorly. Ovipositor sheaths scarcely widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish brown. Mandible narrowly marked with reddish brown subapically. Wings hyaline. Stigma dark brown medially. Front, mid and hind legs yellowish red from the femur onwards. Hind tarsus brown. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.6,



laterally completely red. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. 5<sup>th</sup> tergite with small reddish marks laterally. Pilosity whitish.

♂ unknown.

*Dusona notabilis* (Förster, 1868)

♀: Body length 7-9 mm. Temples distinctly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum. Ocellar index 0.9. Frons not depressed, coriaceous and with fine rather dense punctation dorsally and medially, with narrow almost smooth areas ventrally above the antennal sockets, with a fine median longitudinal carina and with distinct radial wrinkles, which extend to 0.4 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.2 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat, finely coriaceous and with fine rather dense or dense punctation ventrally, shining, its apex slightly rounded medially. Malar space index 0.6. Genal carina low ventrally, slightly bent forwards and distinctly bent sideways subventrally, joining the oral carina at the base of the mandible at a right angle. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 33-38 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.8 times, shortest segment 0.9 times, penultimate segment 1.0-1.1 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and with fine and very dense punctation, partly rugose-punctate. Scutellum with lateral carinae on the anterior 0.7, coriaceous and with rather dense punctation. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae distinctly raised, the former distinctly emarginate medially. Pleural part of the prepectal carina for the greater part low, slightly raised ventrally (at the junction with the transverse carina), the dorsal 0.1-0.2 covered with wrinkles. Mesopleurum coriaceous, dull or slightly shining, with distinct fine and dense punctation. Speculum granulate-strigose, slightly shining. Depression in front of the speculum with wrinkles dorsally, with fine longitudinal striae and granulate-strigose medially and ventrally, the striae merging with the punctation anteriorly. Metapleurum coriaceous, dull, densely rugose-punctate and rugose. Pleural carina distinct. Areolet rather large, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein at or slightly distad of the middle. Nervellus vertical, weakly intercepted. Nervellar

index 0.7-0.8. Tibial spur index 0.65. Hind femur 4.8 times as long as high. Hind tarsal claws short, with about four short pectinate teeth situated basally and medially. Propodeum extending to 0.4 of the hind coxae, rather broadly and rather deeply depressed, the sulcus for the greater part with fine or rather coarse irregular wrinkles, sometimes with some fine and short transverse wrinkles in the midline, or with some longitudinal wrinkles posteriorly, the median longitudinal carinae usually obliterated, sometimes scarcely indicated medially and posteriorly. Propodeal spiracle rather small, 2.6 times as long as wide. Spiracular carina narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 4.5 times, 2<sup>nd</sup> tergite 1.9 times as long as wide. Petiole with rather small glymmae, or the glymmae obliterated, smooth in front of the glymmae. Petiolar suture almost completely obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster moderately compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus dark brown. Wings hyaline. Stigma light yellowish brown medially. Front leg from the femur onwards yellowish red, the femur darkened basally, the tarsus darkened apically. Mid femur yellowish red on the distal 0.3. Mid tibia yellowish brown. Hind tibia yellowish brown or dark yellowish brown medially, narrowly black basally, broadly black apically, the apical ring extending over 0.3-0.4 of the tibia. Hind tarsus dark brown, the basitarsus narrowly marked with yellowish basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.2-0.3. 3<sup>rd</sup> tergite red. 4<sup>th</sup> tergite red on the anterior 0.5 or completely red. Pilosity whitish.

♂: Flagellum with 35-39 segments. Propodeum slightly depressed, irregularly wrinkled, usually with a short longitudinal keel posteriorly. Maxillary palpus yellowish brown. Mandible marked with brown dorsally and medially. In other characters similar to the ♀.

*Dusona peregrina* (Wollaston, 1858)

♀: Body length 8-9 mm. Temples moderately constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postscutellum. Ocellar index 0.6. Frons not depressed, coriaceous and densely rugose-punctate and rugose, with a fine median longitudinal carina and with a few radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina



low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose. Clypeus flat, coriaceous and with rather dense punctation ventrally, its apex truncate medially. Malar space index 0.3. Genal carina low medially behind the eye, strongly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter pointed, shifted downwards and situated behind the base of the mandible. Gena moderately depressed close to the junction, the depression 0.5 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.3. Temple finely coriaceous and with very fine dispersed punctation medially. Flagellum with 36-39 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.8 times, shortest segment 0.9 times, penultimate segment 1.0 times as long as wide. Pronotum coriaceous and densely rugose laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.3, coriaceous and densely punctate. Prescutellar groove smooth or with indistinct longitudinal striae. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.1-0.2 covered with wrinkles. Transverse carina present, sometimes obliterated posteriorly. Mesopleurum finely coriaceous, slightly shining, with dispersed or rather dense punctation. Speculum granulate-strigose dorsally, finely coriaceous and shining ventrally. Depression in front of the speculum with fine longitudinal striae dorsally and medially, which merge with the punctation anteriorly, almost smooth ventrally. Metapleurum finely coriaceous and with rather dense or dense punctation, with some fine longitudinal striae dorsally. Pleural carina distinct. Areolet large, narrowly sessile, receiving the 2<sup>nd</sup> recurrent vein at or slightly basad of the middle. Nervellus vertical or slightly reclivous, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.7. Hind femur 5.1 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.5 of the hind coxae, broadly and not deeply depressed, the sulcus with short or long transverse wrinkles, the median longitudinal carinae almost completely obliterated. Propodeal spiracle rather large, 2.7 times as long as wide. Spiracular carina narrow. Spiracular index 0.5. 1<sup>st</sup> gastral tergite 5.1 times, 2<sup>nd</sup> tergite 2.3 times as long as wide. Petiole with indistinct narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster strongly compressed posteriorly. Ovipositor

sheaths almost not widened subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma dark brown medially. Front leg from the apex of the coxa onwards yellow. Mid leg from the trochanter onwards yellow, the tarsus brown apically. Hind tibia yellow. Hind tarsus dark brown, the basitarsus narrowly marked with yellowish basally. 2<sup>nd</sup> gastral tergite yellow on the posterior 0.2. 3<sup>rd</sup> and 4<sup>th</sup> tergites yellow. Pilosity whitish.

♂: Flagellum with 40-43 segments, 2<sup>nd</sup> segment 1.9 times, shortest segment 1.0 times, penultimate segment 1.2 times as long as wide. Depression in front of the speculum often with longitudinal striae also ventrally. Median longitudinal carinae of the propodeum sometimes indicated medially and posteriorly. Mid coxa yellow apically. 2<sup>nd</sup> gastral tergite yellow on the posterior 0.3. In other characters similar to the ♀.

#### *Dusona pulchripes* (Holmgren, 1872)

♀: Body length 7-8 mm. Temples distinctly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum. Ocellar index 0.65. Frons not depressed, coriaceous and densely rugose-punctate, with a median longitudinal carina and with rather short radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus coriaceous and densely rugose-punctate and rugose, the clypeus with some longitudinal wrinkles. Clypeus almost flat, finely coriaceous and with fine rather dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina slightly raised ventrally, almost straight, joining the oral carina at the base of the mandible at an acute angle. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 35-38 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.6 times, shortest segment 0.85 times, penultimate segment 1.0 times as long as wide. Pronotum coriaceous and densely rugose-punctate and rugose laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and finely and densely rugose-punctate and rugose. Scutellum with lateral carinae on the anterior 0.4, coriaceous and densely rugose-punctate. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae low. Pleural part of the prepectal carina distinct medially, very fine and sometimes indistinct ventrally, the

dorsal 0.3 obliterated. Mesopleurum finely coriaceous, shining, with distinct and dense punctation. Speculum with fine striae and granulate-strigose dorsally, almost smooth and shining ventrally. Depression in front of the speculum with fine long longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous and densely rugose. Pleural carina complete. Areolet rather large, pointed or short-stalked, receiving the 2<sup>nd</sup> recurrent vein at or distad of the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.7. Hind femur 5.7 times as long as high. Hind tarsal claws short, with a few short pectinate teeth situated basally. Propodeum extending to 0.4 of the hind coxae, rather narrowly and rather deeply depressed, with short transverse wrinkles in the longitudinal furrow anteriorly and medially, with irregular wrinkles beside the furrow, with long wrinkles posteriorly, the median longitudinal carinae obliterated. Propodeal spiracle small, 2.2 times as long as wide. Spiracular carina narrow. Spiracular index 1.0. 1<sup>st</sup> gastral tergite 4.2 times, 2<sup>nd</sup> tergite 1.6 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5-2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma dark brown medially. Front leg from the apex of the coxa onwards yellow. Mid leg from the femur onwards yellow, the femur sometimes marked with dark brown on the basal 0.2-0.4, the tarsus brown. Hind tibia yellow. Hind tarsus dark brown, the basitarsus narrowly marked with yellowish basally. 2<sup>nd</sup> gastral tergite yellow on the posterior 0.3. 3<sup>rd</sup> tergite yellow, sometimes narrowly tinged with brown posteriorly. 4<sup>th</sup> tergite sometimes narrowly marked with yellow anteriorly. Pilosity whitish.

♂: Median longitudinal carinae of the propodeum indicated posteriorly. Mid leg from the trochanter onwards yellow. In other characters similar to the ♀.

#### *Dusona rossica* Hinz, 1979

♀: Body length 14-15 mm. Temples slightly constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior part of the propodeum.

Ocellar index 1.0. Frons slightly depressed above the antennal sockets, coriaceous and densely rugose-punctate dorsally, with narrow almost smooth areas above the antennal sockets, with a fine median longitudinal carina and with some short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus slightly concave, coriaceous and with dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.3. Genal carina low and straight ventrally, joining the low oral carina close to the base of the mandible at an acute angle. Genal index 0.2. Temple finely coriaceous and with fine rather dense punctation medially. Flagellum with 56 segments, filiform, the distal 0.3 distinctly attenuated, 2<sup>nd</sup> segment 1.6 times, shortest segment 1.0 times, penultimate segment 1.3 times as long as wide. Pronotum densely rugose-punctate on an almost smooth background laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum finely coriaceous, shining, with fine dense punctation. Scutellum with lateral carinae on the anterior 0.6, densely punctate on a smooth background. Prescutellar groove smooth medially, with fine longitudinal striae laterally. Prepectal carina low, the ventral part merging with the pleural part, the latter almost complete, the dorsal 0.1 covered with wrinkles. Transverse carina present, low. Mesopleurum finely coriaceous, shining, with fine rather dense or dense punctation. Speculum finely granulate-strigose, shining. Depression in front of the speculum with distinct rather long longitudinal striae, which merge with the punctation anteriorly. Metapleurum finely coriaceous, slightly shining, densely punctate. Pleural carina distinct. Areolet narrow, pointed, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus slightly inclivous, weakly intercepted. Nervellar index 0.7-0.8. Tibial spur index 0.7. Hind femur 4.3 times as long as high. Hind tarsal claws somewhat elongated, with about six short pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, broadly and rather shallowly depressed, with short transverse wrinkles anteriorly and medially in the midline, with irregular wrinkles laterally, with long transverse wrinkles posteriorly, the median longitudinal carinae indicated medially and posteriorly. Propodeal spiracle large, 3.2 times as long as wide. Spiracular carina narrow. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 2.8 times, 2<sup>nd</sup> tergite 1.2 times as long as wide. Petiole with large glymmae, smooth in front of the glymmae. Petiolar suture fine. 1<sup>st</sup> gastral sternite for the greater part smooth, with some fine transverse striae posteriorly. Thyridium oval. Thyridial index 1.0. Epipleurum separated from the 3<sup>rd</sup> gastral tergite anteriorly and folded in,

the crease marked with black or the tergite with a black stripe close to the crease. Epipleural index 0.4. Gaster distinctly compressed posteriorly. Ovipositor sheaths scarcely widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish brown. Mandible marked with yellowish red dorsally and medially. Tegula dark brown. Wings hyaline. Stigma light yellowish brown medially. Front and mid legs from the femur onwards light reddish brown, the tarsi tinged with dark brown apically. Hind femur reddish brown or marked with reddish brown distally. Hind tibia yellowish red, narrowly marked with dark brown basally, narrowly and indistinctly marked with reddish brown apically. Hind tarsus yellowish red, tinged with dark brown distally. 2<sup>nd</sup> gastral tergite red on the posterior 0.5. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Pilosity whitish.

♂ not available for study.

#### *Dusona rubidatae* spec. nov.

Holotype (♀): “L. 7.IX.1974 Einbeck” (Germany), “1974/XXIII 25”, “E094930 N514100”, “ex: *Cidaria rubidata* F. (Lep.)” (ZSM). – Paratypes: 6♀♀, 4♂♂ with the same dates (ZSM); 3♀♀, 2♂♂ “L. 7.IX.1974 Einbeck”, “1974/XVIII”, “ex: R618”, “ex: *Epirrhoe molluginata* Hb. (Lep.)” (ZSM).

♀: Body length 7.5-10 mm. Temples strongly constricted behind the eyes, 0.6 times as long as the width of an eye, tangential lines on eyes and temples intersect on the centre of the mesoscutum. Ocellar index 0.7. Frons scarcely depressed, coriaceous and with fine dispersed punctation dorsally and medially, almost smooth and with short radial wrinkles ventrally above the antennal sockets, with a fine median longitudinal carina. Antennal carina slightly raised, its rim slightly thickened and with fine transverse striae. Face and dorsal half of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, finely coriaceous and with fine dispersed punctation ventrally, its apex almost straight medially. Malar space index 0.2. Genal carina low, slightly bent sideward and hardly bent forwards subventrally, joining the low oral carina distant from the base of the mandible at an acute angle. Genal index 0.2. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 44-49 segments, slender, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 2.3 times, shortest segment 1.0-1.1 times, penultimate segment 1.4 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.2,

with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, densely punctate. Scutellum with lateral carinae on the anterior 0.8, finely coriaceous and with distinct dense punctation. Prescutellar groove smooth medially, with few longitudinal striae laterally. Prepectal carina low, ventral part usually merging with the pleural part, rarely with the transverse carina, dorsal 0.1-0.2 of the pleural part obliterated. Transverse carina present, raised anteriorly, rather low posteriorly. Mesopleurum coriaceous, rather dull, with dispersed (rarely rather dense) punctation. Speculum granulate-strigose, rather dull. Depression in front of the speculum with fine longitudinal striae, which merge with the punctation or with a narrow area without punctation anteriorly. Metapleurum coriaceous, dull, rugose anteriorly, with additional very fine punctures posteriorly. Pleural carina distinct. Areolet rather small, stalked, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus reclivous, weakly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 5.2 times as long as high. Hind tarsal claws short, with about four rather long pectinate teeth situated basally and medially. Propodeum extending to 0.5 of the hind coxae, rather broadly and rather deeply depressed, the longitudinal furrow with irregular wrinkles anteriorly, with short transverse wrinkles medially and posteriorly, the longitudinal carinae obliterated. Propodeal spiracle 4.0 times as long as wide. Spiracular carina narrow. Spiracular index 0.6. 1<sup>st</sup> gastral tergite 4.3 times, 2<sup>nd</sup> tergite 2.2 times as long as wide. Petiole without glymmae, with narrow lateral areas, smooth in front of these areas. Petiolar suture fine, partly obliterated. 1<sup>st</sup> gastral sternite for the greater part smooth, with fine transverse wrinkles posteriorly. Thyridium elongated. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellow. Mandible narrowly yellowish brown medially. Tegula dark brown. Wings hyaline. Stigma yellowish brown medially. Front and mid legs yellowish red from the trochanter onwards. Mid femur sometimes darkened proximally. Mid tarsus darkened distally. Hind femur black, dark brown or red (red in about 20 % of the specimens). Hind tibia yellowish brown medially, narrowly dark brown basally, rather broadly dark brown apically, the apical ring extending over 0.15-0.3 of the tibia. Hind tarsus dark brown. 2<sup>nd</sup> gastral tergite red on the posterior 0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites red. Pilosity whitish.

♂: Flagellum with 45-51 segments, 2<sup>nd</sup> segment 2.0 times, shortest segment 1.1 times, penultimate segment 1.3 times as long as wide. Median longitudinal carinae of the propodeum partly present. Mandible yellow (teeth dark brown). Tegula yellow or yellowish brown. Apex of the front coxa, front trochanter and front trochantellus yellow. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.3. 4<sup>th</sup> tergite sometimes marked with black dorsally or posteriorly. In other characters similar to the ♀.

**Hosts:** *Catarhoe rubidata* (Denis & Schiffermüller), *Epirrhoe molluginata* (Hübner) (Geometridae). The host larvae were collected 7.9.1974, the cocoons were formed in September 1974, the parasitoids hatched in June 1975 (1 ♀ already in October 1974).

### *Dusona rugulosa* (Förster, 1868)

♀: Body length 17-18 mm. Temples strongly constricted behind the eyes, 0.85 times as long as the width of an eye, tangential lines on eyes and temples intersect on the centre of the mesoscutum. Ocellar index 0.8. Frons slightly depressed above the antennal sockets, coriaceous and with fine dense punctation dorsally and medially, almost smooth ventrally above the antennal sockets, with a distinct median longitudinal carina and with radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus densely rugose-punctate and rugose. Clypeus almost flat, densely punctate on a smooth background ventrally, its apex truncate medially. Malar space index 0.4. Genal carina low medially behind the eye, straight and distinctly raised ventrally, joining the strongly raised oral carina distant from the base of the mandible at an acute angle, the junction of both carinae not shifted downwards. Genal index 0.6. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 63-66 segments, slender, filiform, the distal 0.4 distinctly attenuated, 2<sup>nd</sup> segment 1.3 times, shortest segment 0.9 times, penultimate segment 1.5 times as long as wide. Pronotum for the greater part with punctures and longitudinal wrinkles laterally, the dorsal posterior corner with fine dense punctation on a smooth background. Mesoscutum coriaceous and with fine dense or very dense punctation. Scutellum with lateral carinae on the anterior 0.6, coriaceous and densely punctate. Prescutellar groove smooth medially, with a few longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, the prepectal carina low, the transverse carina slightly raised. Pleural part of the prepectal carina for the greater part obliterated,

replaced by some wrinkles medially. Pleural part of the prepectus rugose-punctate on a smooth background. Mesopleurum with dispersed rather fine punctation on a smooth background centrally, with rather dense or dense punctation anteriorly and dorsally. Speculum finely coriaceous and granulate strigose or almost smooth anteriorly, distinctly shining, with fine punctation posteriorly. Depression in front of the speculum with distinct longitudinal striae dorsally, finely granulate-strigose or almost smooth ventrally, the striae merging with the punctation anteriorly. Metapleurum with longitudinal striae dorsally, with fine punctation or fine wrinkles on a smooth background ventrally. Pleural carina complete. Areolet large, pointed, receiving the 2<sup>nd</sup> recurrent vein basad of the middle. Nervellus almost vertical, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 4.3 times as long as high. Hind tarsal claws slightly elongated, with about eight rather long pectinate teeth situated basally and medially. Propodeum extending to 0.4 of the hind coxae, broadly and shallowly depressed, with long transverse wrinkles in the sulcus and in the lateral areas, the median longitudinal carinae obliterated, the transverse carinae present and only the posterior transverse carina obliterated medially. Propodeal spiracle large, 3.7 times as long as wide. Spiracular carina narrow, partly obliterated. Spiracular index 0.2. 1<sup>st</sup> gastral tergite 3.6 times, 2<sup>nd</sup> tergite 1.6 times as long as wide. Petiole smooth laterally, glymmae very small or obliterated. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium elongated. Thyridial index 1.3. Epipleurum separated from the 3<sup>rd</sup> gastral tergite anteriorly, folded in or pendent as a triangular lobe, the crease or bulge separating the epipleurum from its tergite indistinctly marked with black. Epipleural index 0.2-0.3. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.8.

Colour: Black. Maxillary palpus yellowish brown. Mandible yellow, the teeth brown. Tegula yellowish brown. Wings hyaline. Stigma light yellowish brown medially. Front leg from the apex of the coxa onwards yellowish red. Mid leg from the femur onwards yellowish red, the femur marked with black ventrally, the tarsus tinged with brown distally. Hind femur yellowish red on the distal 0.1-0.2. Hind tibia reddish brown, narrowly darkened basally. Hind tarsus light brown. 2<sup>nd</sup> gastral tergite marked with red dorsally in front of the posterior edge, almost completely red laterally, the posterior edge black, sometimes the 2<sup>nd</sup> tergite completely black dorsally and marked with dark reddish brown laterally. 3<sup>rd</sup> and 4<sup>th</sup> tergite red, with small blackish marks, or for the greater part black and with red-



dish brown marks laterally. Posterior tergites tinged with reddish brown laterally. Gastral sternites red or black. Pilosity whitish.

♂ unknown.

*Dusona sagittatae* spec. nov.

Holotype (♀): “Linz, Schörgenhub, ObÖst., el. 15.7.33, Dr. L. Müller” (Austria) (Mus. Linz). – Paratypes: 2♂♂ with the same dates (1♂ with an additional label “R. v. *Larentia sagittata* auf *Thalictrum*”) (1♂ Mus. Linz, 1♂ ZSM); 2♀♀, 1♂ “Parasit in *L. sagittata* Rp. ... em 29.5.66, leg. K. Mazzucco, Salzb.” (= Salzburg/Austria) (or with similar dates) (1♀, 1♂ Coll. Schwarz, 1♀ ZSM).

♀: Body length 8 mm. Temples distinctly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum. Ocellar index 0.7. Frons hardly depressed above the antennal sockets, coriaceous and densely rugose-punctate and rugose, with a fine median longitudinal carina and with distinct radial wrinkles, which extend to 0.3 the distance to the median ocellus. Antennal carina low, narrow. Face and dorsal 0.7 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat, finely coriaceous and with fine rather dense or dense punctation ventrally, its apex straight medially. Malar space index 0.4. Genal carina low, straight subventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.35. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 38-40 segments, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.7 times, shortest segment 0.85 times, penultimate segment 1.0 times as long as wide. Pronotum coriaceous and finely and densely rugose-punctate and rugose laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, with fine and dense punctation. Scutellum with lateral carinae on the anterior 0.7, coriaceous and with dense punctation. Prescutellar groove with fine longitudinal striae. Ventral part of the prepectal carina merging with the transverse carina, both carinae slightly raised, the former not emarginate medially. Pleural part of the prepectal carina low, its dorsal 0.3 obliterated. Mesopleurum coriaceous, dull, with distinct and dense punctation. Speculum coriaceous and with fine striae. Depression in front of the speculum with distinct longitudinal striae, which merge with an area without punctation anteriorly. Metapleurum densely rugose, partly with dorsoventral wrinkles (similar to the sculpture of the lateral areas of the

propodeum). Pleural carina complete. Areolet large, stalked, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus slightly inclivous, distinctly intercepted. Nervellar index 0.8. Tibial spur index 0.6. Hind femur 4.4 times as long as high. Hind tarsal claws short, with about five short pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, distinctly and rather broadly depressed, for the greater part with irregular wrinkles, in the midline with some short transverse wrinkles medially and posteriorly, costulae distinct, median longitudinal carinae indicated posteriorly. Propodeal spiracle rather small, 3.4 times as long as wide. Spiracular carina narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 3.5 times, 2<sup>nd</sup> tergite 1.4 times as long as wide. Petiole without glymmae, with indistinct narrow lateral areas, smooth in front of these areas. Petiolar suture almost completely obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellowish brown. Mandible yellowish brown dorsally and medially. Tegula yellowish brown. Wings hyaline. Stigma yellowish brown medially. Front leg from the femur onwards yellowish red, the femur slightly darkened ventrally (sometimes the apex of the front coxa and the front trochanter and trochantellus yellowish too). Mid femur black proximally, light red distally. Mid tibia whitish yellow. Mid tarsus yellowish brown. Hind tibia broadly whitish yellow medially, narrowly black basally, rather broadly black apically, the apical ring extending over 0.2 of the tibia. Hind tarsus blackish, the basitarsus narrowly yellowish basally. 2<sup>nd</sup> gastral tergite red on the posterior 0.2. 3<sup>rd</sup> tergite light red. 4<sup>th</sup> tergite light red on the anterior half. Pilosity whitish.

♂: Flagellum with 37-41 segments. Mandible broadly yellowish red medially. Front leg yellowish red from the apex of the coxa onwards. Mid femur black basally and ventrally, yellowish red dorsally and apically. In other characters similar to the ♀.

**Host:** *Perizoma sagittatum* (Fabricius) (Geometridae).

*Dusona semiflava* (Costa, 1883)

♀: Body length 9-10 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect



on the centre of the mesoscutum. Ocellar index 0.7. Frons scarcely depressed above the antennal sockets, coriaceous and finely and densely rugose-punctate, with a distinct median longitudinal carina and with distinct radial wrinkles, which extend to 0.4 the distance to the median ocellus. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus densely rugose-punctate and rugose. Clypeus flat dorsally and medially, slightly concave ventrally, very finely coriaceous and with rather dense punctation ventrally, its apex truncate or slightly rounded medially. Malar space index 0.35. Genal carina low medially behind the eye, strongly raised subventrally and ventrally, joining the strongly raised oral carina distant from the base of the mandible, both carinae forming a lopsided triangular pyramid, the tip of the latter pointed, shifted downwards and situated behind the base of the mandible. Gena deeply depressed close to the junction, the depression 0.8-1.0 times as deep as the width of the 2<sup>nd</sup> flagellar segment. Genal index 0.5. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 44-48 segments, filiform, the distal 0.3 attenuated, 2<sup>nd</sup> segment 1.5 times, shortest segment 0.8-0.9 times, penultimate segment 1.1-1.2 times as long as wide. Pronotum densely rugose-punctate and rugose on a smooth background laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum finely coriaceous, rather finely and very densely punctate or rugose-punctate. Scutellum with lateral carinae on the anterior 0.3, densely rugose-punctate. Prescutellar groove smooth medially, with some longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former almost not emarginate medially. Pleural part of the prepectal carina complete, rarely covered with wrinkles on the dorsal 0.1. Mesopleurum distinctly and densely punctate on a smooth background. Speculum coriaceous or granulate-strigose dorsally, smooth medially and ventrally, shining. Depression in front of the speculum with strong longitudinal striae, which merge with the punctation anteriorly. Metapleurum strongly and densely punctate on a smooth background ventrally, with longitudinal striae dorsally. Pleural carina distinct. Areolet large, pointed, receiving the 2<sup>nd</sup> recurrent vein at or slightly distad of the middle. Nervellus slightly inclivous, weakly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 5.7 times as long as high. Hind tarsal claws short, with about five distinct pectinate teeth situated basally and medially. Propodeum extending to 0.6 of the hind coxae, rather narrowly depressed, almost completely covered with strong transverse wrinkles, the longitudinal carinae lacking, the transverse carinae partly indicated. Propodeal spiracle large, 3.4

times as long as wide. Spiracular carina widened. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 5.1 times, 2<sup>nd</sup> tergite 2.2 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5-2.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster strongly compressed posteriorly. Ovipositor sheaths slightly widened medially and subapically (in lateral view). Ovipositor index 0.6.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Scape usually broadly marked with yellow ventrally, sometimes black. Tegula yellow. Wings hyaline. Stigma medium brown medially. Front leg yellow from the apex of the coxa onwards. Mid leg yellow from the trochanter or the femur onwards, the tarsus light brown distally. Hind tibia yellow. Hind basitarsus narrowly marked with yellow basally. 2<sup>nd</sup> gastral tergite dorsally yellow on the posterior 0.1-0.2, laterally yellow on the posterior 0.7, the ventrolateral edges partly marked with black. 3<sup>rd</sup> tergite yellow. 4<sup>th</sup> tergite yellow anteriorly, black posteriorly. Pilosity whitish.

♂: Scape usually broadly marked with yellow ventrally, sometimes only with a small yellow spot. Front and mid legs for the greater part yellow, only the base of the coxae black. In other characters similar to the ♀.

#### *Dusona stenogaster* (Förster, 1868)

♀: Body length 9-11 mm. Temples strongly constricted behind the eyes, 0.7 times as long as the width of an eye, tangential lines on eyes and temples intersect on the posterior 0.8 of the mesoscutum. Ocellar index 0.8. Frons scarcely depressed above the antennal sockets, with fine dispersed punctation, distinctly coriaceous and dull dorsally, finely coriaceous and shining ventrally, with a distinct median longitudinal carina, without radial wrinkles or with a few radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.5 of the clypeus coriaceous and densely rugose-punctate and rugose. Clypeus flat dorsally, slightly concave ventrally, finely coriaceous and with fine rather dense or dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.35. Genal carina low ventrally, distinctly bent forwards and sideways subventrally, joining the oral carina at the base of the mandible at a right angle. Temple coriaceous and with very fine dispersed punctation medially. Flagellum with 33-34 segments, slightly clavate, 2<sup>nd</sup> segment 2.0 times, shortest segment 0.7 times, penultimate segment 0.8 times as long

as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.4, with longitudinal wrinkles ventrally. Mesoscutum coriaceous, dull, densely rugose-punctate and rugose. Scutellum with lateral carinae on the anterior 0.4, finely coriaceous and with fine dispersed or rather dense punctation. Prescutellar groove smooth medially, with fine longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former deeply emarginate medially. Pleural part of the prepectal carina present medially, obliterated ventrally and dorsally. Mesopleurum finely coriaceous, somewhat shining, with rather fine and rather dense punctation. Speculum finely coriaceous, shining. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum rugose anteriorly, finely coriaceous and with fine dense punctation posteriorly. Pleural carina distinct. Areolet rather small, short-stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus inclivous, weakly intercepted. Nervellar index 0.8. Tibial spur index 0.6. Hind femur 4.3 times as long as high. Hind tarsal claws short, with about four distinct pectinate teeth situated basally. Propodeum extending to 0.4 of the hind coxae, rather narrowly and rather deeply depressed, the longitudinal furrow coriaceous and with irregular wrinkles anteriorly, with short transverse wrinkles medially, with long transverse wrinkles posteriorly, the median longitudinal carinae obliterated. Propodeal spiracle small, 2.7 times as long as wide. Spiracular carina widened. Spiracular index 0.3. 1<sup>st</sup> gastral tergite 3.5 times, 2<sup>nd</sup> tergite 2.4 times as long as wide. Petiole with narrow lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture partly indicated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 2.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with indistinct black lateral stripes well above the ventrolateral edge (the stripes sometimes obliterated). Gaster strongly compressed posteriorly. Ovipositor sheaths strongly widened medially and subapically (in lateral view). Ovipositor remarkably stout basally, about 2.5 times as high as the apical width of a hind basitarsus. Ovipositor index 0.9.

Colour: Black. Maxillary palpus yellowish brown. Mandible marked with yellow dorsally and medially. Tegula yellow. Wings hyaline. Stigma yellowish brown medially. Front leg from the trochanter onwards yellowish red, the tarsus dark brown apically, sometimes the coxa marked with yellowish red apically. Mid leg from the femur onwards yellowish red, the tarsus dark brown apically. Hind tibia broadly marked with yellowish medially on the dorsal side, narrowly black basally, marked with

black ventrally, narrowly black apically, the apical ring extending over 0.2 of the tibia. Hind tarsus blackish, the basitarsus narrowly marked with yellowish brown basally. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.2, laterally red on the posterior 0.4, sometimes almost completely black and marked with red only laterally. 3<sup>rd</sup> tergite red, marked with black dorsally (to a variable extent). Pilosity whitish.

♂: Flagellum filiform, 2<sup>nd</sup> segment 2.0 times, shortest segment 1.0 times, penultimate segment 1.0 times as long as wide. Propodeum narrowly and deeply depressed, rather coarsely wrinkled, the median longitudinal carinae often indicated medially and posteriorly. Front and mid legs from the apex of the coxa onwards yellowish red, the tarsi brown apically. Hind tibia broadly yellowish medially (also on the ventral side), narrowly marked with black basally and apically, the apical ring extending over 0.15-0.2 of the tibia. In other characters similar to the ♀.

#### *Dusona tenerifae* Hinz, 1977

♀: Body length 7-8 mm. Temples distinctly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the scutellum. Ocellar index 0.5-0.6. Frons not depressed, coriaceous and finely punctate and rugose-punctate, with a fine median longitudinal carina (sometimes indistinct) and with short radial wrinkles. Antennal carina low and narrow. Face and dorsal 0.7 of the clypeus coriaceous and densely rugose-punctate. Clypeus flat, finely coriaceous and with dispersed or rather dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina low ventrally, slightly bent forwards and sideways subventrally, joining the oral carina at the base of the mandible at an acute angle. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 30 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 2.0 times, shortest segment 1.0 times, penultimate segment 1.0 times as long as wide. Pronotum coriaceous and densely rugose-punctate laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and densely rugose-punctate. Scutellum with lateral carinae on the anterior 0.3, coriaceous and with dense punctation. Prescutellar groove smooth. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former not emarginate medially. Pleural part of the prepectus rugose. Mesopleurum coriaceous and with rather dense or dense punctation. Speculum and depression in front of the speculum

with long longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous and densely rugose. Pleural carina complete. Areolet rather large, short-stalked, receiving the 2<sup>nd</sup> recurrent vein at the middle. Nervellus inclivous, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 5.4 times as long as high. Hind tarsal claws short, with about five short pectinate teeth situated basally. Propodeum extending to 0.5 of the hind coxae, narrowly and shallowly depressed, for the greater part with irregular wrinkles, with short transverse wrinkles medially and posteriorly in the shallow longitudinal furrow, median longitudinal carinae indistinct or distinct. Propodeal spiracle small, 1.8 times as long as wide. Spiracular carina narrow. Spiracular index 0.9. 1<sup>st</sup> gastral tergite 5.8 times, 2<sup>nd</sup> tergite 2.2 times as long as wide. Petiole with indistinct lateral areas, without glymmae, smooth in front of the lateral areas. Petiolar suture obliterated. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter without black lateral stripes. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.7.

Colour: Black. Maxillary palpus yellowish brown. Mandible narrowly yellowish red medially. Tegula yellow. Wings hyaline. Stigma dark brown medially. Front leg from the apex of the coxa or from the trochanter onwards yellow. Mid leg from the trochanter onwards yellow, the tarsus dark brown apically. Hind tibia yellow. Hind tarsus dark brown, the basitarsus narrowly marked with yellow basally. Postpetiole sometimes marked with yellow posteriorly. 2<sup>nd</sup> to 4<sup>th</sup> gastral tergites yellow, the 2<sup>nd</sup> tergite with or without a small black dorsal mark anteriorly, sometimes the 4<sup>th</sup> tergite marked with black posteriorly. Pilosity whitish.

♂: Flagellum with 31-32 segments. Longitudinal furrow of the propodeum somewhat deeper, with the transverse wrinkles somewhat longer. In other characters similar to the ♀.

**Variety:** see taxonomic notes.

#### *Dusona tricolorator* Aubert, 1970

♀: Body length 7-9 mm. Temples slightly constricted behind the eyes, 0.8 times as long as the width of an eye, tangential lines on eyes and temples intersect on the petiole. Ocellar index 1.2. Frons not depressed, coriaceous and densely rugose punctate dorsally and medially, almost smooth ventrally above the antennal sockets, with a fine median longitudinal carina and with short radial wrinkles. Antennal

carina low and narrow. Face coriaceous and densely rugose-punctate. Clypeus flat, densely punctate on an almost smooth background, its apex slightly rounded medially. Malar space index 0.4. Genal carina low and almost straight ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.2. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 36-37 segments, slightly fusiform, 2<sup>nd</sup> segment 1.7 times, shortest segment 0.9 times, penultimate segment 1.0 times as long as wide. Pronotum distinctly and densely rugose-punctate laterally on the dorsal 0.6, with longitudinal wrinkles ventrally. Mesoscutum finely coriaceous, shining, distinctly and very densely punctate. Scutellum with lateral carinae on the anterior 0.8, densely punctate on a smooth background. Prescutellar groove smooth medially, with longitudinal striae laterally. Prepectal carina low, the ventral part merging with the pleural part, the dorsal 0.3 of the latter covered with wrinkles. Transverse carina indistinct. Mesopleurum very densely punctate on a smooth background. Speculum with fine striae anteriorly, rather dull, punctate posteriorly. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly. Metapleurum with very dense punctation on a smooth background. Pleural carina distinct. Areolet rather small, stalked, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus almost vertical, distinctly intercepted. Nervellar index 0.7. Tibial spur index 0.6. Hind femur 5.0 times as long as high. Hind tarsal claws short, with some short pectinate teeth situated basally. Propodeum extending to 0.6 of the hind coxae, narrowly and deeply depressed, with short transverse wrinkles in the longitudinal furrow, with irregular wrinkles beside the furrow, median longitudinal carinae obliterated. Propodeal spiracle rather small, 2.8 times as long as wide. Spiracular carina narrow medially. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 4.4 times, 2<sup>nd</sup> tergite 2.2 times as long as wide. Petiole with distinct rather small glymmae, smooth in front of the glymmae. Petiolar suture indicated anteriorly, obliterated posteriorly. 1<sup>st</sup> gastral sternite smooth. Thyridium oval. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly. Ovipositor sheaths slightly widened subapically (in lateral view). Ovipositor index 0.5.

Colour: Black. Maxillary palpus yellow. Mandible narrowly marked with yellowish brown or reddish brown dorsally and medially. Wings hyaline. Stigma yellowish brown medially. Front femur yellowish red, sometimes marked with black basally and ventrally. Front tibia and tarsus yellow. Mid femur

yellow on the distal 0.2. Mid tibia and tarsus yellow, the tarsus marked with brown distally. Hind tibia marked with whitish yellow basally and medially on the dorsal side, black ventrally and apically, the black apical ring extending over 0.2-0.3 of the tibia. Hind tarsus brown, the basitarsus yellowish brown on the proximal half. 2<sup>nd</sup> gastral tergite red on the posterior 0.1-0.2. 3<sup>rd</sup> and 4<sup>th</sup> tergites red, sometimes with dorsal black marks. Pilosity whitish.

♂: Hind tibia whitish yellow basally and medially (also on the ventral side), black apically. 3<sup>rd</sup> and 4<sup>th</sup> gastral tergites black dorsally. In other characters similar to the ♀.

***Dusona turcator spec. nov.***

Holotype (♂): “TK – 40 km. E. Urfa. 14-V-1975. leg. Kl. Warncke” (Turkey) (ZSM).

♂: Body length 9 mm. Temples slightly constricted behind the eyes, 0.85 times as long as the width of an eye, tangential lines on eyes and temples intersect on the postpetiole. Ocellar index 0.85. Frons slightly depressed above the antennal sockets, densely rugose-punctate, with a distinct median longitudinal carina which is slightly raised medially, and with distinct radial wrinkles, which extend to 0.4 the distance to the median ocellus. Antennal carina rather low and narrow. Face and dorsal 0.7 of the clypeus densely rugose-punctate. Clypeus flat, densely punctate on a finely coriaceous background ventrally, its apex slightly rounded medially. Malar space index 0.4. Genal carina low and slightly sinuous ventrally, joining the slightly raised oral carina distant from the base of the mandible at an acute angle. Genal index 0.2. Temple with fine dispersed punctation on a finely coriaceous background medially. Flagellum with 43 segments, slender, filiform, the distal 0.2 attenuated, 2<sup>nd</sup> segment 1.7 times, shortest segment 1.0 times, penultimate segment 1.3 times as long as wide. Pronotum densely punctate on a smooth background laterally on the dorsal 0.7, rugose-punctate ventrally. Mesoscutum with dense or very dense punctation on a slightly coriaceous and shining background. Scutellum with lateral carinae on the anterior 0.6, with distinct and dense punctation on a smooth background. Prescutellar groove smooth. Prepectal carina low, ventral part merging with the pleural part, the dorsal 0.3 of the latter obliterated. Transverse carina obliterated. Mesopleurum with dense or very dense punctation on a smooth background. Speculum with fine striae anteriorly, with dense punctation posteriorly. Depression in front of the speculum with distinct longitudinal striae, which merge with the punctation anteriorly.

Metapleurum with distinct and dense punctation on a smooth background. Pleural carina distinct. Areolet rather large, pointed, receiving the 2<sup>nd</sup> recurrent vein slightly basad of the middle. Nervellus slightly reclivous, weakly intercepted. Nervellar index 0.6. Tibial spur index 0.6. Hind femur 3.7 times as long as high. Hind tarsal claws rather short, with about four distinct pectinate teeth situated basally and medially. Propodeum extending to 0.3 of the hind coxae, with a distinct narrow and rather shallow longitudinal furrow, with short transverse striae in the furrow anteriorly and medially, with irregular wrinkles beside the furrow, with long transverse striae posteriorly, the longitudinal carinae obliterated. Propodeal spiracle large, 2.9 times as long as wide. Spiracular carina obliterated. Spiracular index 0.4. 1<sup>st</sup> gastral tergite 3.7 times, 2<sup>nd</sup> tergite 1.9 times as long as wide. Petiole smooth laterally, without glymmae, with weakly indicated narrow lateral areas. Petiolar suture present anteriorly, obliterated medially and posteriorly. 1<sup>st</sup> gastral sternite smooth. Thyridium elongated. Thyridial index 1.5. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow. Wings hyaline. Stigma medium brown medially. Front leg from the trochanter onwards yellow. Mid femur yellowish red. Mid tibia and mid tarsus yellow, the tarsal segments marked with light brown apically. Hind tibia broadly whitish medially, very narrowly black basally, rather narrowly black apically, the apical ring extending over 2.0 of the tibia. Hind tarsal segments whitish basally, light brown apically. 2<sup>nd</sup> gastral tergite dorsally red on the posterior 0.7, completely red laterally. 3<sup>rd</sup> tergite red. 4<sup>th</sup> tergite red on the anterior 0.4. Pilosity whitish.

♀ unknown.

***Dusona tyrolensis spec. nov.***

Holotype (♂): “Italia (Bolzano), Brixen 2000, 23.VI. 1976, C. J. Zwakhals” (ZSM).

♂: Body length 9 mm. Temples slightly constricted behind the eyes, 0.9 times as long as the width of an eye, tangential lines on eyes and temples intersect on the propodeum. Ocellar index 1.0. Frons hardly depressed above the antennal sockets, coriaceous and densely rugose dorsally, smooth ventrally, with long radial wrinkles subventrally, which extend to half the distance to the median ocellus, with a fine median longitudinal carina. Antennal carina low and narrow. Face and dorsal 0.3 of the clypeus co-



riaceous and densely rugose-punctate. Clypeus flat, finely coriaceous and with distinct dense punctation ventrally, its apex slightly rounded medially. Malar space index 0.5. Genal carina low, slightly bent side-wards and forwards subventrally, joining the oral carina close to the base of the mandible at a right angle. Genal index 0.1. Temple finely coriaceous and with fine dispersed punctation medially. Flagellum with 37 segments, filiform, the distal 0.2 slightly attenuated, 2<sup>nd</sup> segment 1.9 times, shortest segment 1.0 times, penultimate segment 1.15 times as long as wide. Pronotum densely rugose-punctate and rugose laterally on the dorsal 0.2, with longitudinal wrinkles ventrally. Mesoscutum coriaceous and densely punctate. Scutellum with lateral carinae on the anterior 0.7, coriaceous and densely rugose-punctate. Prescutellar groove smooth medially, with longitudinal striae laterally. Ventral part of the prepectal carina merging with the transverse carina, both carinae strongly raised, the former deeply emarginate medially. Pleural part of the prepectal carina low ventrally and medially, the dorsal 0.4 covered with wrinkles and obliterated. Mesopleurum with distinct dense punctation on a finely coriaceous and shining background. Speculum for the greater part finely granulate-strigose, with a small smooth area ventrally. Depression in front of the speculum with rather fine long longitudinal striae, which merge with the punctation anteriorly. Metapleurum coriaceous and densely rugose-punctate and rugose. Pleural carina distinct. Areolet rather large, pointed, receiving the 2<sup>nd</sup> recurrent vein distad of the middle. Nervellus slightly reclivous, very weakly intercepted. Nervellar index 0.7. Tibial spur index 0.7. Hind femur 5.0 times as long as high. Hind tarsal claws short, with about three short pectinate teeth situated basally. Propodeum extending to 0.4 of the hind coxae, slightly depressed, for the greater part with irregular wrinkles, with few transverse wrinkles medially, with short longitudinal wrinkles posteriorly, almost completely areolated, the area superomedia indicated, but the median longitudinal carinae partly indistinct and covered with wrinkles. Propodeal spiracle rather small, 2.9 times as long as wide. Spiracular carina fine, narrow. Spiracular index 0.7. 1<sup>st</sup> gastral tergite 4.2 times, 2<sup>nd</sup> tergite 2.3 times as long as wide. Petiole smooth laterally, without gymmae or lateral areas. Petiolar suture indicated. 1<sup>st</sup> gastral sternite smooth. Thyridium elongated. Thyridial index 1.0. Epipleurum not separated from the 3<sup>rd</sup> gastral tergite, the latter with distinct black lateral stripes well above the ventrolateral edge. Gaster distinctly compressed posteriorly.

Colour: Black. Maxillary palpus yellow. Mandible broadly yellow medially. Tegula yellow, with a brown mark apically. Wings hyaline. Stigma yel-

lowish brown medially. Front trochanter and front trochantellus yellowish, with brown marks. Front leg yellowish red from the femur onwards. Mid femur black basally and ventrally, reddish brown dorsally and apically. Mid tibia and mid tarsus yellowish red, the tarsus marked with brown distally. Hind tibia yellowish medially, narrowly black basally, broadly black apically, the apical ring extending over 0.3 of the tibia. Hind tarsus brownish black, the basitarsus narrowly yellowish basally. 2<sup>nd</sup> gastral tergite dark red on the posterior 0.3. 3<sup>rd</sup> and 4<sup>th</sup> tergites dark red. Pilosity whitish.

♀ unknown.

## References

- Aubert, J.-F. 1981. Syllogismes, illogismes et innovations chez les Ichneumonides. Bulletin de la Société Entomologique de Mulhouse 1981: 17-22.
- Bachmaier, F. 1979. Das in der Zoologischen Staatssammlung München aufbewahrte Typenmaterial der Gattung *Dusona* Cameron 1900 (= *Campoplex* auct.) und sein Erhaltungszustand (Hymenoptera, Ichneumonidae, Porizontinae). Spixiana 2: 69-93.
- Constantineanu, M. I. 1932. Cas d'anomalie chez quelques espèces d'Ichneumonides. Archives de zoologie expérimentale et générale 74: 69-79.
- Dalla Torre, C. G. de 1901. Catalogus Hymenopterorum hucusque descriptorum systematicus et synonymicus. III: Trigonulidae, Megalyridae, Stephanidae, Ichneumonidae, Agriotypidae, Evaniidae, Pelecinidae. Lipsiae, pp. 1-544.
- Fitton, M. G. 1982. A catalogue and reclassification of the Ichneumonidae (Hymenoptera) described by C. G. Thomson. Bulletin of the British Museum (Natural History) Entomology 45 (1): 1-119.
- Hinz, R. 1957. Zur Systematik und Ökologie der Ichneumoniden I (Hym.). Deutsche entomologische Zeitschrift, Neue Folge 4: 86-90.
- 1961. Zur Systematik und Ökologie der Ichneumoniden II (Hym.). Deutsche entomologische Zeitschrift, Neue Folge 8: 250-257.
- 1962. Die Försterschen Typen der Gattung *Dusona* Cam. (*Campoplex* auct.) (Hym.). Opuscula zoologica 66: 1-12.
- 1963a. Zur Systematik und Ökologie der Ichneumoniden III (Hym.). Deutsche entomologische Zeitschrift, Neue Folge 10: 116-121.
- 1963b. Über einige Typen der Gattung *Dusona* Cameron (Hymenoptera: Ichneumonidae). Beiträge zur Entomologie 13: 335-344.
- 1972. Zur Systematik und Ökologie der Ichneumoniden IV (Hym.). Deutsche entomologische Zeitschrift, Neue Folge 19: 45-54.
- 1973. Zwei Bemerkungen zur Systematik der Gattung *Dusona* Cameron (*Campoplex* auct.) (Hym., Ichneumonidae). Nachrichtenblatt der bayerischen Entomologen 22: 29-30.



- 1975. Vier Bemerkungen zur Systematik der Ichneumonidae (Hym.). Nachrichtenblatt der bayerischen Entomologen 24: 65-68.
- 1976. Zur Systematik und Ökologie der Ichneumoniden V (Hymenoptera). Deutsche entomologische Zeitschrift, Neue Folge 23: 99-105.
- 1977. Über einige Arten der Gattung *Dusona* Cameron (Hymenoptera, Ichneumonidae). Nachrichtenblatt der bayerischen Entomologen 26: 47-54.
- 1979. Beiträge zur Taxonomie der ostpalaearktischen Arten der Gattung *Dusona* Cameron (Hymenoptera, Ichneumonidae). Deutsche entomologische Zeitschrift, Neue Folge 26: 215-227.
- 1985. Neue sibirische *Dusona*-Arten (Hymenoptera, Ichneumonidae). Deutsche entomologische Zeitschrift, Neue Folge 32: 297-317.
- 1990. Beiträge zur Taxonomie der Gattung *Delopia* Cameron, 1903 (*Dusona* auct.) (Hymenoptera, Ichneumonidae). Entomofauna 11: 261-271.
- Hinz, R. & K. Horstmann 2004. Revision of the eastern Palearctic species of *Dusona* Cameron (Insecta, Hymenoptera, Ichneumonidae, Campopleginae). Spixiana, Supplement 29: 1-183.
- Holmgren, A. E. 1872. Om de scandinaviska arterna af ophionidslägtet *Campoplex*. Bihang till Kungliga Svenska Vetenskapsakademiens handlingar 1 (2): 89 pp.
- Horstmann, K. 1980. Über die Campopleginae der Makaronesischen Inseln (Hymenoptera, Ichneumonidae). Spixiana 3: 121-136.
- Morley, C. 1915. Ichneumonologia Britannica, V. The Ichneumons of Great Britain. Ophioninae. London, X & 400 pp.
- Oehlke, J. 1963. Revision der im Deutschen Entomologischen Institut aufbewahrten Typen paläarktischer Ichneumoniden (Hymenoptera: Ichneumonidae). Beiträge zur Entomologie 13: 403-410.
- Rey, G. & I. Izquierdo. 1985. Sobre las especies canarias de *Dusona* Cameron, 1900 (Hym., Ichn., Porizontinae). Boletín Asociación Española Entomología 9: 317-320.
- Scaramozzino, P. L. 1994. Nota preliminare sui tipi delle specie di Ichneumonidae, Evaniidae e Gasteruptionidae descritte da Achille Costa. Notiziario Imenotologico Italiano 5: 17-19.
- Schmiedeknecht, O. 1908. Opuscula Ichneumonologica. IV. Band. Ophioninae. Fasc. XX. Blankenburg in Thüringen, pp. 1521-1600.
- Shaumar, N. 1966. Les Ichneumonides d'Égypte. Entomophaga 11: 441-469.
- Strobl, G. 1904. Ichneumoniden Steiermarks (und der Nachbarländer). V. Fam. Ophionidae. Mitteilungen des Naturwissenschaftlichen Vereines für Steiermark 40 (1903): 43-111.
- Teunissen, H. G. M. 1947. Het genus *Campoplex* (Subfam. Ophioninae. Fam. Ichneumonidae). Tijdschrift voor Entomologie 88 (1945): 249-270.
- Thomson, C. G. 1887. Försök till uppställning och beskrifning af arterna inom slägtet *Campoplex* (Grav.). Opuscula entomologica (Lund), Fasc. XI: pp. 1043-1182.
- Townes, H. 1969. The genera of Ichneumonidae, part. 1. Memoirs of the American Entomological Institute 11: II & 307 pp.
- Yu, D. & K. Horstmann. 1997. A catalogue of World Ichneumonidae (Hymenoptera). Memoirs of the American Entomological Institute 58 (1-2): VI & 1558 pp.

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