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# New and other maggot wasps and jaw wasps from India, donated by Zubair Ahmad to the Museum of Natural History Vienna (Insecta: Hymenoptera: Braconidae: Opiinae, Alysiinae)

M. Fischer\*

## Abstract

The following Indian species are described as new: Opiinae: *Opius* (*Gastrosema*) *assamensis* sp.n., *Opius* (*Frekius*) *bicoloratus* sp.n., *Opius* (*Opius* s.str.) *crassifemoribus* sp.n., *Opius* (*Gastrosema*) *darjeelingicola* sp.n., *Opius* (*Rhogadopsis*) *exigiformis* sp.n., *Opius* (*Grimnirus*) *harmipurensis* sp.n., *Opius* (*Nosopoea*) *khani* sp.n., *Opius* (*Nosopoea*) *meghalayensis* sp.n., *Opius* (*Utetes*) *minicorpus* sp.n., *Opius* (*Utetes*) *parempiformis* sp.n., *Opius* (*Utetes*) *poonchicola* sp.n., *Opius* (*Gastrosema*) *pygmiformis* sp.n., *Opius* (*Stomosema*) *robustipedibus* sp.n., *Opius* (*Kainopaeopus*) *sinemaculis* sp.n., *Opius* (*Gastrosema*) *substriatus* sp.n., *Opius* (*Apodesmia*) *thoracniger* sp.n., *Aulonotus* *gorabariensis* sp.n. Alysiinae: *Aspilota* *poonchensis* sp.n., *Dinotrema* *behdalaense* sp.n., *Dinotrema* *kaleambense* sp.n., *Chorebus* *rajouriensis* sp.n. Redescribed is *Psytalia* *kuchingicola* FISCHER, 1996. Several further species of the subfamilies Opiinae and Alysiinae are dealt with. Morphological details are figured. The male of *Idiasta* *totinigra* FISCHER, 2008 is new.

**Key words:** Alysiinae, Braconidae, Hymenoptera, India, locality records, new species, Opiinae.

## Zusammenfassung

Neue und andere Maden- und Kieferwespen aus Indien, dem Naturhistorischen Museum Wien gewidmet von Ahmad Zubair. Folgende Arten werden neu beschrieben: Opiinae: *Opius* (*Gastrosema*) *assamensis* sp.n., *Opius* (*Frekius*) *bicoloratus* sp.n., *Opius* (*Opius* s.str.) *crassifemoribus* sp.n., *Opius* (*Gastrosema*) *darjeelingicola* sp.n., *Opius* (*Rhogadopsis*) *exigiformis* sp.n., *Opius* (*Grimnirus*) *harmipurensis* sp.n., *Opius* (*Nosopoea*) *khani* sp.n., *Opius* (*Nosopoea*) *meghalayensis* sp.n., *Opius* (*Utetes*) *minicorpus* sp.n., *Opius* (*Utetes*) *parempiformis* sp.n., *Opius* (*Utetes*) *poonchicola* sp.n., *Opius* (*Gastrosema*) *pygmiformis* sp.n., *Opius* (*Stomosema*) *robustipedibus* sp.n., *Opius* (*Kainopaeopus*) *sinemaculis* sp.n., *Opius* (*Gastrosema*) *substriatus* sp.n., *Opius* (*Apodesmia*) *thoracniger* sp.n., *Aulonotus* *gorabariensis* sp.n. Alysiinae: *Aspilota* *poonchensis* sp.n., *Dinotrema* *behdalaense* sp.n., *Dinotrema* *kaleambense* sp.n., *Chorebus* *rajouriensis* sp.n. Redescribiert wird *Psytalia* *kuchingicola* FISCHER, 1996. Einige weitere Nachweise von Arten der Unterfamilien Opiinae und Alysiinae werden mitgeteilt. Morphologische Einzelheiten werden abgebildet. Das Männchen von *Idiasta* *totinigra* FISCHER, 2008 ist neu.

## Introduction

Several articles of diverse authors deal with Opiinae of India. The taxa treated in the present paper are compared with such already known, and refer to the system worked out by FISCHER in several publications. Recently appeared a paper by SAMIYUDDIN & al. (2009) with descriptions of 19 new species. The author has not dealt with these taxa yet.

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The Opiinae are – other than the Alysiniinae – an assemblage of taxa which are to split up in independent genera only with great difficulties; especially the complex which one could call a “super-genus” *Opius*. The Opiinae rank among the most speciose subfamilies of the Braconidae with at least 1500 described species (WHARTON 1997). Several attempts have been started to split up this complex. I appreciate very much the attempts of VAN ACHTERBERG (1997), and WHARTON (1987, 1988) to define some independent genera. I tried several times to do so, but I dropped such plans always because of practical reasons. I keep as independent genera *Psytalia* WALKER, 1860 and *Aulonotus* ASHMEAD, 1900.

The following abbreviations are used:

NHMW = Natural History Museum Vienna

#### Antenna:

F, F1, F2 = flagellomere(s)

Fm = median flagellomere

Fp = penultima flagellomere

Fa = apical flagellomere

**Wings** (small letters: veins or abscissae of veins, capital letters: cells)

#### Fore wing:

st = pterostigma

r1, r2, r3 = the abscissae of the radial vein

cu = cubital vein

cu1 = 1<sup>st</sup> abscissa of cu

cu2 = 2<sup>nd</sup> abscissa of cu

cu3 = 3<sup>rd</sup> abscissa of cu

cc1 = 1<sup>st</sup> cubital cross vein

nr = recurrent vein

d = discoidal vein

nv = nervulus

np = parallel vein

m = medial vein

R = radial cell

Cu2 = 2<sup>nd</sup> cubital cell

B = brachial cell

#### Hind wing:

M' = medial cell

SM' = submedial cell

r' = radial vein

cu2' = cubital vein beyond M'

nr' = recurrent vein

#### Metasoma:

T = metasomal tergite(s)

T1, T2 etc. = 1<sup>st</sup>, 2<sup>nd</sup> etc. tergite of the metasoma

## Subfamily Opiinae

Generic and subgeneric assignments according to Fischer's system (see FISCHER 1999).

### *Opius (Gastrosema) assamensis* sp.n. (Figs. 1–5)

**Holotype** ♀: India: Assam Guwahati bongra 28. X. 2008, Coll. F.R. Khan (NHMW). **Further material examined:** 1 ♂, same data as holotype.

**Etymology:** The name indicates the location.

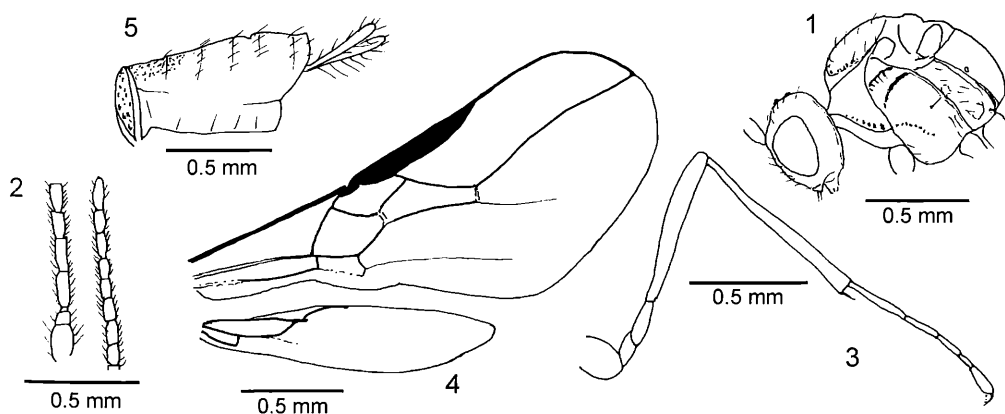
**Taxonomic position:** The species is nearest to *O. hedqvisti* FISCHER, 1971 from the Cape Verde Islands, and can be distinguished as follows.

- 1 Cu2 smaller, r3 3 times as long as r2. B partly open beneath. Most F twice as long as wide. Body reddish yellow, mesosoma and metasoma with diffuse dark areas. Cape Verde Islands. *hedqvisti*
- Cu2 larger, r3 2.5 times as long as r2. B completely closed. The F of the apical half 1.5 times as long as wide. Body entirely reddish yellow to yellow. 2 mm. India. *assamensis* sp.n., ♀, ♂

**Description:** ♀. – Length of body: 2 mm.

Head: 2.15 times as wide as long, 1.66 times as wide as face, 1.4 times as wide as mesoscutum, 1.75 times as wide as T1; eyes protruding, at least 1.5 times as long as temples, narrowed here, eyes and temples rounded in a common curve; distance between antennal sockets and eyes shorter than diameter of antennal sockets, their distance from each other little longer than their diameter; occiput nearly straight, upper side comparatively densely hairy, only around the ocellar area nearly bare, a few hairs in the ocellar area; distance between ocelli as great as their diameter, distance between an ocellus and an eye as long as the width of the ocellar area; without epicranial suture. Face 1.3 times as wide as high, only slightly convex, smooth, with extremely fine rugosity between eyes and antennal sockets, with moderately long, sparse hairs, middle elevation present in the upper half, eye margins parallel. Clypeus 3 times as wide as high, slightly convex, lower edge straight, with some outstanding long hairs, hair points very weak. Tentorial pits small, their distance from each other 2.5 times as great as distance from eyes. Subocular suture absent, malar space as great as basal width of mandible. Mouth open, mandibles not expanded at base, maxillary palpi as long as head is high. Antennae slightly longer than body, 30-articulated; F1 2.5 times as long as broad, the following gradually shorter, Fm twice, the last F 1.5–1.7 times as long as wide, F clearly separated from each other at their basis, hairs as long as width of F, if at all, 2 or 3 sensilla visible in lateral view.

Mesosoma: 1.33 times as long as high, upper side curved. Mesoscutum 1.25 times as wide as long, evenly curved in front of tegulae, notauli only on declivity, passing into lateral furrows, their imaginary course indicated by a few hairs, dorsal fovea absent. Prescutellar furrow rectangular, with some folds. Postaxillae weakly crenulated in the depression. Lateral areas of metascutum widened laterally, uneven in the depth, with some crenae behind. Propodeum evenly comb-like rugose. Anterior furrow of the pronotum's side narrow and crenulated. Sternaulus narrow, crenulated, shortened on either side, posterior mesopleural furrow narrow, very fine crenulated, anterior furrow smooth. Metapleuron with numerous hairs, lower furrow weakly crenulated. Hind femur 5 times as long as broad.



Figs. 1–5: *Opilus (Gastrosema) assamensis* sp.n.: (1) head and mesosoma, lateral, (2) base and apex of antenna, (3) hind leg, (4) forewing and hind wing, (5) metasoma, lateral.

Wings: st wedge-shaped distally, r arising from basal third of st, r1 little shorter than width of st, forming a straight line with r2, r2 1.5 times as long as cc1, r3 2.5 times as long as r2, bent outwards, R reaching apex of wing, nr postfurcal, Cu2 narrowing distally, d 1.25 times as long as nr, nv postfurcal, B closed, but cu1 decoloured, np arising from near the middle of the outer side of B, halfway normally developed, then only a fold, cu3 prevailing developed as a fold, basal half of m decoloured and in part completely absent; r' developed only a short part, then as well as cu2' absent, nr' absent, SM' half as long as M'

Metasoma: T1 as long as apically broad, here twice as broad as at base, straight-lined narrowed towards base, dorsal carinae developed on anterior half, entire surface evenly rugose. T2 and basal half of T3 delicately granulated, rest of metasoma smooth. Ovipositor sheaths nearly half as long as metasoma, hypopygium not reaching tip of metasoma.

Colouration: Reddish brown. Yellow: scape, anellus, mouth parts, legs, tegulae and wing venation. Antennae black, tip of mandibles, ovipositor sheaths, and lateral folds of T2 and T3 as well. Wing membrane hyaline.

♂: Like the female. Antennae slightly longer than in the female, at least 36-articulated (some F may be absent).

### *Opius (Frekius) bicoloratus* sp.n. (Figs. 6–8)

**Holotype** ♀: India: W. B. Darjeeling, Gombari 15. VI. 2008 Coll. F.R. Khan (NHMW). The holotype is fixed on the left side of the card, another ♀ of the same species is fixed on the right side of the same card.

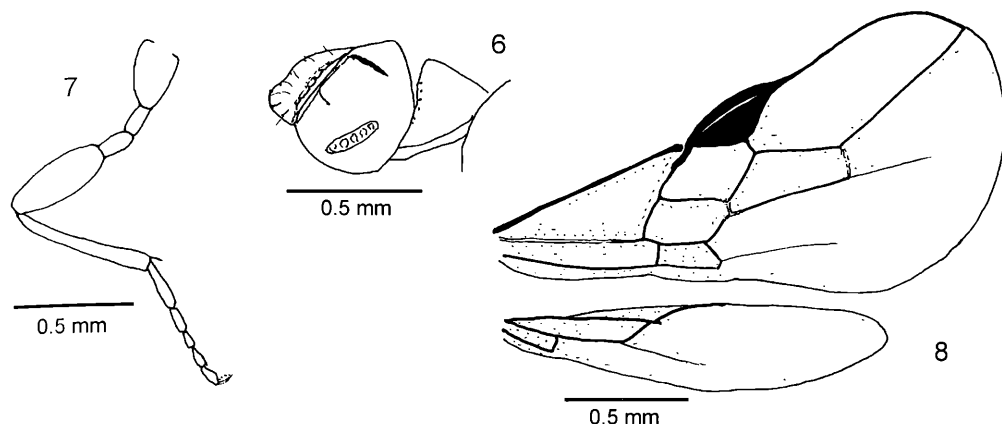
**Etymology:** Named after the bicoloured body.

**Taxonomic position:** The species seems to be taxonomically nearest to *O. castaneus* GRANGER, 1949 in Fischer's system from which it can be distinguished by several characters.

- 1 Hind femora 4 times as long as wide. st wedge-shaped, r arising from the basal third of st. Propodeum evenly densely mesh-like sculptured. Both furrows of the sides of pronotum crenulated. Mesosoma black. 2.3 mm. Madagascar. *castaneus*, ♀
- Hind femora not more than 3 times as long as wide. st triangular, relatively wide, r arising from the middle of st. Propodeum fine coriaceous. Only the posterior furrow of the sides of the pronotum weakly crenulated. Mesosoma dorsally black, for the rest prevailing reddish brown. 2.1 mm. India. *bicoloratus* sp.n., ♀

**Description:** ♀. – Length of body: 2.1 mm.

Head: Twice as wide as long, 1.9 times as wide as face, 1.4 times as wide as mesoscutum, 2.2 times as wide as T1; eyes twice as long as temples, eyes little protruding, 1.1 times as long as temples, eyes and temples rounded in a common curve, distance of antennal sockets from each other and from eyes as great as their diameter, occiput slightly excavated; upper side with several inconspicuous hairs, ocelli small, their distance from each other little longer than their diameter, distance of a lateral ocellus from the eye greater than ocellar area is broad. Face 1.33 times as wide as high, median elevation weak, with fine, scattered hairs and inconspicuous hair-points, eye margins parallel. Clypeus 3.5 times as wide as high, smooth, lower edge weakly rounded, epistomal suture forming a



Figs. 6–8: *Opius (Frekius) bicoloratus* sp.n.: (6) side of pronotum, mesopleuron and metapleuron, lateral, (7) hind leg, (8) forewing and hind wing.

flat bow. Distance of tentorial pits from each other more than twice as long as distance from the eyes. Malar space considerably shorter than the basal width of the mandible. Subocular suture absent. Mouth closed, mandible not expanded at base, maxillary palpi little shorter than the head is high. Antennae as long as the body, 26-articulated; most F twice as long as broad, clearly separated from each other, Fa pointed; hairs shorter than the width of the F, 3 sensilla visible in lateral view.

Mesosoma: 1.2 times as long as high, upper side evenly arched. Mesoscutum 1.3 times as broad as long, slightly rounded at sides, straight in front, middle lobe somewhat separated from lateral lobes, notauli deep at declivity and smooth, absent on disc, their imaginary course indicated by some long hairs, separated from the smooth marginal furrows, dorsal fovea drop-like, with numerous long hairs on declivity. Prescutellar furrow rectangular, with 3 cross folds. Scutellum triangular, smooth. Postaxillae smooth, upper and lower edge narrowly crenulated. Lateral areas of metascutum delicately crenulated medially. Propodeum delicately coriaceous, wider than long. The posterior furrow of the sides of the pronotum weakly crenulated. Sternaulus delicately crenulated, much shortened on either side, other furrows of mesopleuron smooth. Metapleuron smooth with some cross folds in posterior depression. Hind femora not more than 3 times as long as wide, other femora stout too. Hind tibia without basal carina.

Wings: st triangular, relatively wide, r arising from middle of st, r1 shorter than width of st, forming an obtuse angle with r2, r2 1.2 times as long as cc1, r3 straight, twice as long as r2, R reaching tip of wing, nr postfurcal, Cu2 straight-lined narrowing towards apex, d 1.75 times as long as cc1, nv postfurcal, B closed, parallel-sided, np arising from below the middle of the outer side of B, cu3 recognizable in basal half, np developed in basal half and then only a fold, m decoloured in basal half; SM' hardly half as long as M', r' absent, cu2' recognizable in part, nr' absent.

Metasoma: T1 1.5 times as long as broad, apically twice as wide as basally, parallel-sided in posterior half, narrowing in front, dorsal carinae indicated about as far as mid-

dle of T1, surface more or less uneven. Ovipositor sheaths very short, hardly reaching beyond apex of metasoma.

Colouration: Reddish yellow: head, sides of mesosoma and propodeum. Yellow: scape, pedicel, anellus, clypeus, mouth parts, legs, tegulae, wing venation, T1 and T2. Black: flagellum, mesoscutum, scutellum, metascutum in part, and the rest of the metasoma with ovipositor sheaths. Wing membrane brownish.

♂: Unknown.

### *Opius (Opius s.str.) crassifemoribus* sp.n. (Figs. 9–13)

**Holotype** ♀: India: W. B. Islampur Rasoolpur 09. VI. 2008, Coll: F.R. Khan, (indicated by a red mark) (NHMW). **Further material examined**: 5 ♀ ♀ same data as holotype (mounted on 3 cards with 2 specimens respectively).

**Etymology**: Named after the stout femora.

**Taxonomic position**: The species is taxonomically nearest to those indicated below, from which it can be distinguished as follows.

- |   |  |                                   |
|---|--|-----------------------------------|
| 1 | Hind femora 3 times as long as wide. Antennae 29–32-articulated. Metasoma from T2 onwards predominant yellow. About 2.5 mm. India.                             | <i>crassifemoribus</i> sp.n., ♀   |
| – | Hind femora 4–5 times as long as wide. Antennae with less than 30 articles. Metasoma entirely dark, only one species ( <i>dakarensis</i> ) predominant yellow. |                                   |
|   | 1.4 mm. South Africa .....   | <i>haeselbarthi</i> FISCHER, ♀, ♂ |
|   | 2 mm. Tansania.  | <i>martiarushensis</i> FISCHER, ♂ |
|   | 1.5 mm. Senegal.   | <i>dakarensis</i> FISCHER, ♀      |
|   | 2 mm. Somalia.   | <i>shabellensis</i> FISCHER, ♀    |

**Description**: ♀. – Length of body: 2.5 mm.

Head: Twice as wide as long, 1.5 times as wide as face, 1.25 times as wide as mesoscutum, 2.5 times as wide as T1; eyes 1.5 times as long as temples, very little protruding, eyes and temples rounded in common curve, distance of antennal sockets from eyes and from each other as long as their diameter, occiput only a little excavated (nearly straight), upper side nearly bare, ocelli small, their distance from each other about as long as their diameter, the distance of a lateral ocellus from an eye about as long as the width of the ocellar area, an inconspicuous depression between ocelli. Face 1.2 times as wide as high, central elevation blunt, little widened below, with scarce fine whitish hairs, hair-points hardly discernible, eye margins parallel. Clypeus about twice as wide as high, lower edge nearly straight, in the same plane as the face, only with a few outstanding hairs. Tentorial pits round and small, the distance between them 2.5 times as great as their distance from the eyes. Malar space shorter than width of mandible. Subocular suture indicated. Mouth closed, mandible expanded at base, maxillary palpi as long as head is high. Temple (lateral view) as long as eye, parallel-sided. Antennae longer than body, 29-articulated; F1 2.5 times, F2 twice, Fm and Fp nearly twice as long as broad, F scarcely separated from each other, 3 sensilla visible in lateral view, hairs hardly as long as F are wide.

Mesosoma: 1.5 times as long as high, upper side very weakly rounded. Mesoscutum about as wide as long, rounded in front of tegulae, notauli present on declivity, absent on disc, smooth, delimited by a carina in front, passing into the smooth lateral furrow;

surface smooth, nearly without any hairs, dorsal fovea absent. Prescutellar furrow with some folds. Postaxillae smooth. A polished cross band behind scutellum. Metascutum smooth. Propodeum prevailing smooth, with 2 short diverging carinae near the middle line behind, hind margin carinated, spiracles small. All furrows of the mesosoma's side smooth, Sternaulus impressed, but smooth, only posterior mesopleural furrow with narrow crenulation below. All femora 3 times as long as broad.

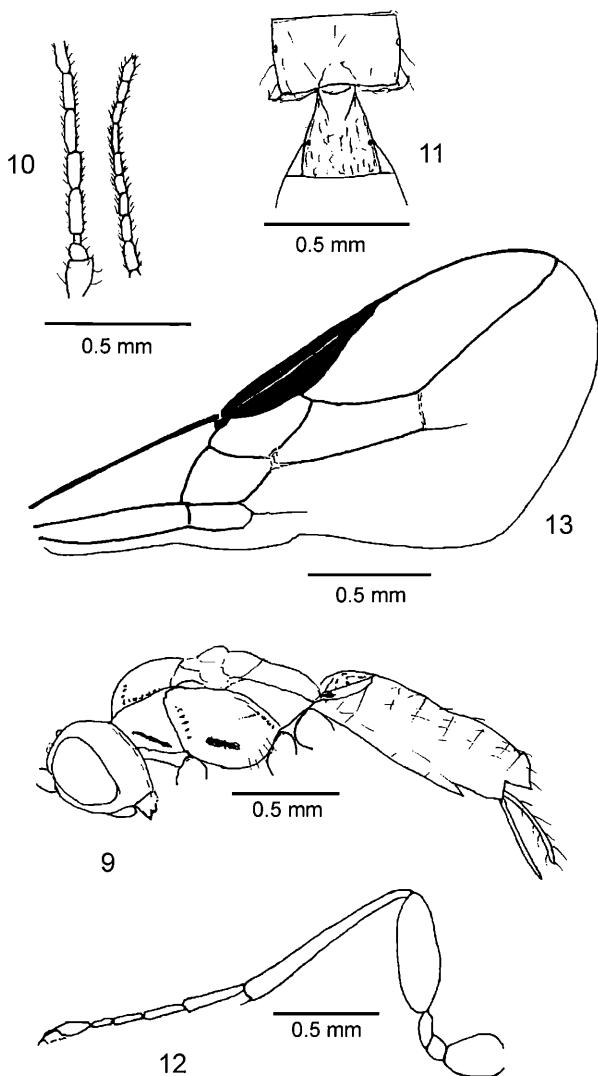
Wings: st moderately wide, r arising before middle, r1 shorter than st is wide, passing into r2 without an angle, 1.6 times as long as cc1, r3 1.8 times as long as r2, straight, R reaching tip of wing, Cu2 slightly narrowing outwards, nr postfurcal, d 1.33 times as long as nr, nv postfurcal by its own width, B closed, outer side angulated in the middle, np arising from the middle of the outer side of B, m fully coloured, cu3 developed in basal third, np developed in basal half, then indicated as a fold; r' absent, cu2' developed only a short distance at the base, nr' absent, SM' half as long as M'

Metasoma: T1 1.1 times as long as apically broad, at apex 1.7 times as wide as at base, with irregular longitudinal striation, basal carinae developed on basal third. Ovipositor sheaths slightly longer than T1.

Colouration: Black. Yellow: scape, anellus, clypeus, mouth parts, tegulae, wing venation, legs, and metasoma. Wing membrane brownish.

Variability: Antennae 29–31-articulated. Sometimes T1 dark. Propodeum sometimes with some rugosity near the hind edge.

♂: Unknown.



Figs. 9–13: *Opius* (*Opius* s.str.) *crassifemoribus* sp.n.: (9) head, mesosoma and metasoma, lateral, (10) base and apex of antenna, (11) propodeum and T1, dorsal, (12) hind leg, (13) forewing.

***Opius (Gastrosema) darjeelingicola* sp.n.** (Figs. 14–17)

**Holotype** ♀: India: W. Darjeeling Gorabari 15. VI. 2008, Coll. F.R. Khan (NHMW).

**Distribution:** India.

**Etymology:** Named after the territory, Darjeeling.

**Taxonomic position:** Discussed in the description of *Opius (Gastrosema) pygmaeiformis* sp.n.

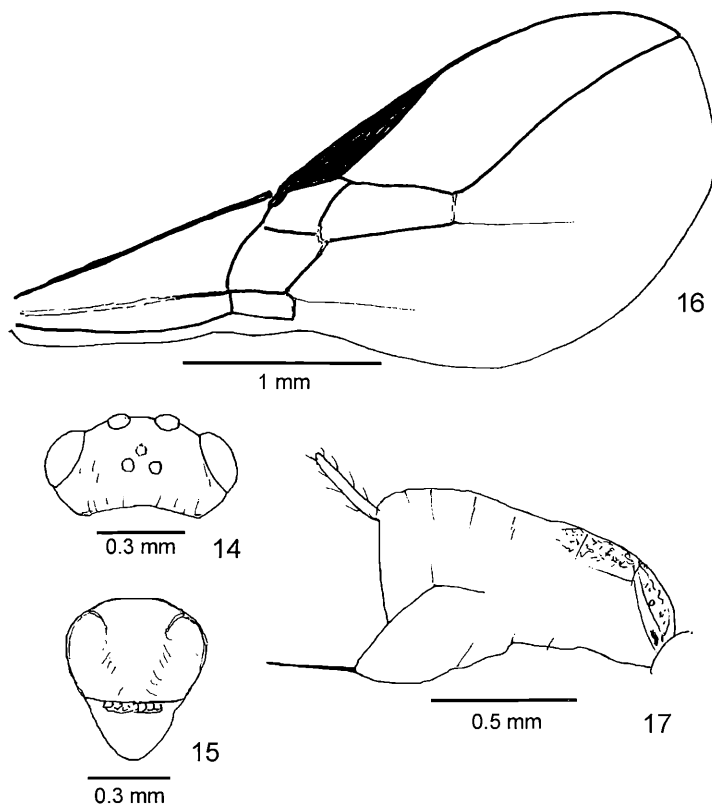
**Description:** ♀. – Length of body: 2.2 mm.

Head: Twice as wide as long, 1.8 times as wide as face, 1.33 times as wide as mesoscutum, nearly 3 times as wide as T1; eyes projecting, eyes and temples rounded in a common curve, eyes twice as long as temples, with sparse hairs distributed over the upper side, hair points scarcely discernible; diameter of antennal sockets as long as their distance from each other as well as from eyes, occiput nearly straight, distance of ocelli from each other as long as their diameter, distance of a lateral ocellus from an eye as long as ocellar area is wide. Face 1.3 times as wide as high, only weakly convex, with evenly distributed fine and sparse hairs, only the median portion bare, hairs near the margins of the eyes long and erect, eye margins parallel. Clypeus 3.5 times as wide as high, weakly convex, somewhat retracted below, punctate and with moderately long hairs. Distance of tentorial pits from the eyes twice as long as their diameter. Mouth open, mandibles not expanded at base, but gradually widened towards base, maxillary palpi as long as head is high. Cheeks shorter than basal width of mandible. Antennae nearly twice as long as body length, 33-articulated; F1 3 times as long as broad, the following becoming little shorter, most F 2.5 times as long as broad, F clearly separated from each other, hairs as long as width of F, Fp pointed, 2 sensilla visible in lateral view.

Mesosoma: 1.4 times as long as high, upper side only weakly convex, propodeum sloping down in an even curve. Mesoscutum only little broader than long, round in front of the tegulae, notauli present on declivity, passing into marginal furrows, notauli and lateral furrows smooth, anterior corners weakly rugose, notauli absent on disc, along their imaginary course and the sides with a row of moderately long hairs. Prescutellar furrow very narrow, densely crenulated, not divided, about 5 times as wide as long. Postaxillae crenulated behind. Lateral areas of metascutum narrowly crenulated near hind margin. Propodeum delicately rugose, with few fine hairs, spiracles inconspicuous. Anterior furrow of a side of the pronotum with narrow and inconspicuous crenulation. Sternaulus little bisinuate, narrow, densely crenulated, reaching as far as anterior margin, but not reaching middle coxa, anterior and posterior mesopleural furrows smooth. Metapleuron predominantly smooth, with some long, delicate hairs, lower furrow densely crenulated, only near the hind lamella rugose. Hind femora 5 times as long as broad.

Wings: Distal portion of st wedge-shaped, r arising from basal third, r1 shorter than st is wide, forming a nearly straight line with r2, r2 1.5 times as long as cc1, r3 weakly curved outwards, 2.5 times as long as r2, R reaching apex of wing, nr postfurcal, Cu2 distad little narrowed, d as long as nr, B closed, np arising from near the middle of the outer side of B and more than half length sclerotized, cu3 as far as wing margin coloured, basal half of m decoloured; r' and cu2' nearly completely absent, SM' half as long as M'





Figs. 14–17: *Opius (Gastrosema) darjeelingicola* sp.n.: (14) head, dorsal, (15) mesoscutum and scutellum, (16) forewing, (17) metasoma, lateral.

Metasoma: T1 at most little longer than wide, behind 1.5 times as wide as at base, straight-lined narrowing towards base, spiracles on small tubercles, basal carinae converging in front and then parallel-sided as far as hind margin; median area defined by the carinae, elevated, and rugose as well as near the hind corners. T2 and basal half of T3 weakly coriaceous, only laterally smooth. Ovipositor sheaths little projecting beyond apex of metasoma, in lateral view as long as T1, hypopygium reaching tip of metasoma.

Colouration: Black. Face and margins of eyes red. T2 and in part T3 more or less brown-red. Yellow: Anellus, mouth parts, all legs, tegulae and wing venation. Wing membrane hyaline.

♂: Unknown.

***Opius (Rhogadopsis) exigiformis* sp.n. (Figs. 18–22)**

**Holotype** ♀: India: J.&K. Poonch, 25. III. 2006, donavit Zubair 2009 (NHMW). **Further material examined:** 15 ♀♀, same data as holotype.

**Etymology:** Named because of the small size (*exiguus* [Latin] = tiny).

**Taxonomic position:** The species can be ascribed to the subgenus *Rhogadopsis* BRÈTHES, 1913 and seems to be different from all other species of the region. It differs from *O. sulcifer* FISCHER, 1975 and *O. cf. longipalpalis* FISCHER (see FISCHER's key 1987) as follows.

- |   |  |                                |
|---|--|--------------------------------|
| 1 | r2 more than twice as long as cc1. 1.5–1.6 mm. India.    | <i>exigiformis</i> sp.n., ♀    |
| – | r2 at most 1.66 times as long as cc1. 2 mm. Taiwan. .... | <i>sulcifer</i> , ♀            |
| – | 2.4 mm. Philippine Islands.                              | <i>cf. longipalpalis</i> , ♀ ♂ |

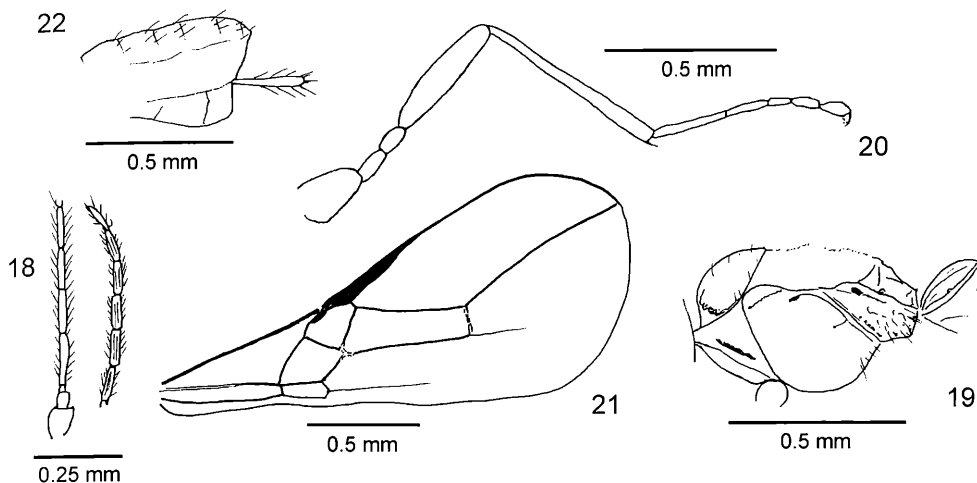
It differs from *O. liogaster* SZÉPLIGETI, 1914, *O. lantanae* BRIDWELL, 1919, and *O. harlequin* FISCHER, 1972 as follows.

- |   |   |                             |
|---|---|-----------------------------|
| 1 | Propodeum smooth with middle carina or an areola, sometimes with some sculpture along the carinae. Ovipositor as long as T1. 1.5–1.6 mm. India. | <i>exigiformis</i> sp.n., ♀ |
| – | Propodeum rugose. Ovipositor half as long as the metasoma or longer.  |                             |
|   | 3.2 mm. Kenya.  | <i>liogaster</i> , ♀        |
|   | 1.6 mm. Hawaii.   | <i>lantanae</i> , ♀, ♂      |
|   | 2.4 mm. Ruanda, Congo.  | <i>harlequin</i> , ♀, ♂     |

**Description:** ♀. – Length of body: 1.6 mm.

Head: Twice as wide as long, 1.9 times as wide as face, 1.3 times as wide as mesoscutum, 2.5 times as wide as T1; eyes much protruding, across eyes considerably wider than across the temples, eyes 3 times as long as the temples, eyes and temples rounded in a common curve; distance of the antennal sockets from each other and from the eyes about as long as their diameter; ocelli moderately small, the distance between them hardly longer than their diameter, the distance of a lateral ocellus from the eye not very much longer than the width of the ocellar area; upper side shining, very few hairs near the occiput. Face 1.1 times as wide as high, middle elevation widened downwards, smooth, with scattered long, white hairs, they are curved against the middle line, hairs near the eyes outstanding, hair-points discernible, eye margins parallel. Tentorial pits small, their distance from each other twice as great as their distance from eyes. Malar space as long as basal width of mandible. Clypeus 2.5 times as wide as high, little arched, lower edge little retracted, epistomal furrow round and smooth. Mouth open, mandible not expanded at base, maxillary palpi as long as head is high. Antennae 1.33 times as long as body, 20-articulated; F1 5 times, F2 4 times, Fm 3 times, Fp 2.5 times as long as wide; F cylindrical, very weakly separated from each other, hairs as long as width of F, in lateral view 2 sensilla visible.

Mesosoma: 1.5 times as long as high, upper side slightly rounded. Mesoscutum 1.3 times as wide as long, evenly curved laterally, more or less straight in front, notauli present on declivity and crenulated, absent on disc, not reaching smooth lateral furrow, their imaginary course indicated by a few hairs, dorsal fovea extremely small, nearly absent. Prescutellar furrow crenulated. Postaxillae and lateral areas of metascutum smooth, the latter widened outwards. Propodeum with basal and cross carina and a pentagonal areola, areas shining, at most uneven, spiracles small. Sternaulus narrow, crenulated, shortened on either side, all furrows of the mesosoma's side smooth, subalar area and metapleuron with some long hairs, with a round depression in front and a greater one near T1, which is delimited above and behind by a sharp carina. Hind femora 5 times as long as wide.



Figs. 18–22: *Opus (Rhogadopsis) exigiformis* sp.n.: (18) base and apex of antenna, (19) mesosoma and T1, lateral, (20) hind leg, (21) forewing, (22) metasoma, lateral.

Wings: st narrow, wedge-shaped, r arising from basal fourth, r1 shorter than st is wide, forming an obtuse angle with r2, r2 2.7 times as long as cc1, r3 straight, 1.7 times as long as r2, R reaching apex of wing, nr postfurcal, Cu2 only slightly narrowing distally, d 1.5 times as long as nr, nv interstitial, B closed, outer side of B angulated, np developed a part and disappearing by and by, m decoloured in greater part, cu3 developed nearly as far as the edge of the wing; r' and nr' absent, cu2' recognizable as a fold.

Metasoma: T1 1.66 times as long as apically wide, behind 1.5 times as wide as in front, straight-lined narrowing towards base, dorsal carinae reaching hind edge, medial area little elevated and with some rugosity, lateral areas uneven, smooth. Ovipositor sheaths as long as T1.

Colouration: Black. Yellow: base of antennae as far as F2, clypeus, mouth parts, propleuron, side of pronotum in greater part, legs, tegulae, wing venation, and metasoma with exception of the black T1. Wing membrane hyaline.

Variability: Antennae 20–21-segmented. Dorsal fovea of mesoscutum in most examples completely absent.

♂: Unknown.

### *Opus (Grimnirus) harmipurensis* sp.n. (Fig. 23)

**Holotype** ♀: India: H. P. Harmipur, Kale Amb, VI. 2006, S.M.A. Badruddin & F.R. Khan Coll. (NHMW).

**Etymology**: Named after the type locality.

**Taxonomic position**: The species is ascribed to the subgenus *Grimnirus* FISCHER, 1971 and is nearest to *O. curtisternaulis* FISCHER, 2001. the species can be separated as follows.

1 Notauli absent on disc, mesoscutum nearly bare. 2.1 mm. Denmark.

*curtisternaulis*, ♀

– Notauli reaching on disc of the mesoscutum and crenulated, disappearing only shortly before the dorsal fovea. Along the notauli and on the disc near the dorsal fovea with long, outwards curved hairs. 1.8 mm. India.

*harmipurensis* sp.n., ♀

**Description:** ♀. – Length of body: 1.8 mm.

Head: Twice as wide as long, 1.8 times as wide as face, 1.3 times as wide as mesoscutum, 3 times as wide as T1; eyes not protruding, across eyes as wide as across temples, eyes nearly twice as long as temples, temples weakly separated from eyes, distance of antennal sockets from each other and their distance from the eyes as long as their diameter, occiput weakly excavated; upper side smooth and shining, moderately long hairs near occiput and in ocellar area, hair points hardly discernible; distance of ocelli from each other hardly longer than their diameter, their distance from the eyes as long as width of ocellar area; an inconspicuous impression between ocelli. Face as wide as high, middle elevation blunt, with long, whitish hairs which are curved towards the middle line, hairs near the eyes straight, hair points very weakly discernible, eye margins parallel. Clypeus 1.8 times as wide as high, lower edge straight, with a few outstanding hairs, epistomal furrow smooth. Tentorial pits small, their distance from each other twice as long as their distance from the eyes. Malar space as wide as basal width of mandibles. Mouth closed, mandibles not expanded at base, maxillary palpi as long as head is high. Antennae a little longer than body, 25-articulated; F1 3.5 times as long as broad, the following gradually becoming shorter, Fm and Fp about twice as long as broad, F of apical third little narrower; F cylindrical, separated from each other, hairs at most as long as F are broad, two sensilla discernible in lateral view.

Mesosoma: 1.33 times as long as high, upper side weakly curved, at the propodeum more or less abruptly sloping. Mesoscutum 1.33 times as broad as long, evenly rounded in front, notauli reaching on disc of mesoscutum and crenulated, disappearing shortly before reaching dorsal fovea, along notauli and on disc near the dorsal fovea with long, outwards curved hairs, dorsal fovea long, reaching as far as middle of mesoscutum, lateral furrows complete and smooth. Prescutellar furrow broad, trapezoidal, with 5 folds. Scutellum triangular, with a few hairs at the edges. Postaxillae smooth, and lateral areas of metascutum nearly so. Propodeum densely netlike sculptured, evenly arched. Side of pronotum short when seen from the side, anterior furrow crenulated and delimited by a carina. Sternaulus densely crenulated, a little shortened on either side, posterior mesopleural furrow smooth. Metapleuron uneven, with some long hairs, rather narrow. Hind femora 5 times as long as broad.

Wings: st wedge shaped apically, flat triangular, r arising from basal third, r1 shorter than st wide, forming an obtuse angle with r2, r2 2.5 times as long as cc1, r3 curved outwards, twice as long as r2, R reaching apex of wing, nr postfurcal, Cu2 parallel-sided, d as long as nr, nv interstitial, B closed, outer side of B angulated, np arising from the middle of the outer side of B, cu3 coloured on basal third, the rest developed as a fold and reaching as far as the wing margin, np appearing as a short fold, m prevailing only weakly coloured; SM' half as long as M', r' and cu2' absent.

Metasoma: T1 1.5 times as long as wide, straightlined narrowing towards base, behind 1.8 times as broad as in front, longitudinally striated with some granulation between

striae, converging dorsal carinae developed in basal half, spiracles inconspicuous. T2–T4 very fine and evenly granulated, the rest of the T smooth. Ovipositor sheaths shorter than T1, hypopygium reaching as far as apical T.

Colouration: Black. Yellow: scape, pedicel, anellus, mouth parts, legs, tegulae, wing venation, T2–T4, and ventral side of metasoma. Wing membrane hyaline.

♂: Unknown.

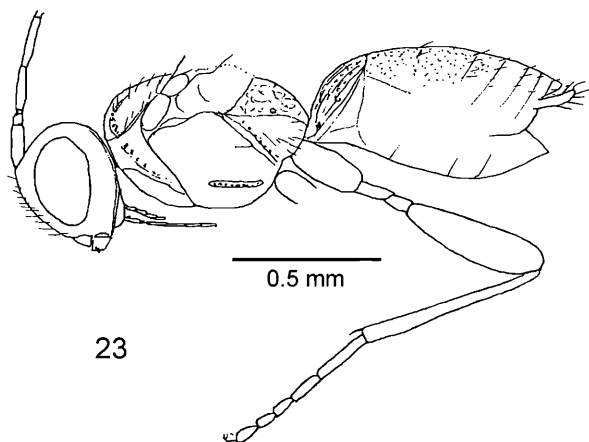


Fig. 23: *Opius (Grimnirus) harmipurensis* sp.n.: head, mesosoma, metasoma, and hind leg, lateral.

### *Opius (Nosopoea) khani* sp.n. (Fig. 24)

**Holotype** ♀: India: W. B. Darjeeling, Gorabari 15.VI.2008, Coll. F.R. Khan (NHMW).

**Etymology:** Named in honor of the collector.

**Taxonomic position:** The species must be ascribed to the subgenus *Nosopoea* FOERSTER, 1862. It is taxonomically nearest to *O. crenaturis* FISCHER, 1996, and can be distinguished as follows.

- |   |   |                       |
|---|---|-----------------------|
| 1 | Mesoscutum and scutellum densely punctated and pubescent. 2.8. India. | <i>khani</i> sp.n., ♀ |
| – | Mesoscutum and scutellum nearly bare. 3.5 mm. Malaysia.               | <i>crenaturis</i> , ♀ |

**Description:** ♀ – Length of body: 2.8 mm.

Head: Twice as wide as long, 1.8 times as wide as face, 1.3 times as wide as mesoscutum, 2.2 times as wide as T1; eyes protruding, 1.5 times as long as temples, across eyes wider than across temples, eyes and temples rounded in a common curve; distance of antennal sockets from eyes and from each other as long as their diameter, occiput slightly excavated, upper side densely hairy, hair points recognizable, distance of ocelli from each other hardly longer than their diameter, distance of a lateral ocellus from an eye little longer than width of ocellar area. Face 1.33 times as wide as high, densely hairy, hair points recognizable, middle lamella more or less sharp in the upper half, widening below, eye margins slightly curved. Clypeus about 3 times as wide as high, slightly arched, lower edge retracted, smooth, with some hairs only. Mouth open, mandible not expanded at base, maxillary palpi longer than head is high, reaching as far as middle of mesopleuron. Malar space as long as basal width of mandible. Antennae slightly longer than body, 40-articulated; F1 and F2 5 times, F3 4 times, Fm 3 times, Fp and Fa 2.5 times as long as broad; F cylindrical, only slightly separated from each other, hairs as long as width of F, two sensilla visible in lateral view.

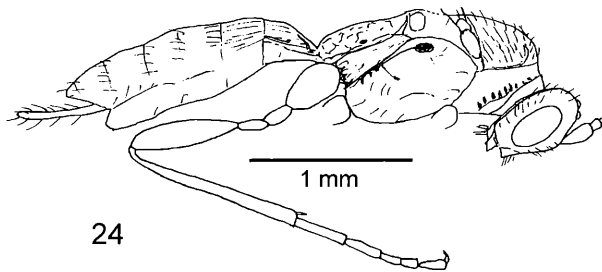


Fig. 24: *Opius (Nosopoea) khani* sp.n.: head, mesosoma, metasoma, and hind leg, lateral.

Mesosoma: 1.6 times as long as high, upper side very slightly curved, nearly flat and parallel with the lower side. Mesoscutum as wide as long, oval in front of the tegulae, notauli developed in front, absent on disc, passing in curve into smooth marginal furrows, dorsal fovea slightly elongate, entire surface densely covered with short whitish hairs, only parts of lateral lobes less

hairy, hair points recognizable. Prescutellar fovea divided, lateral areas about as wide as long, not clearly separated from scutellum behind, laterally delimited by an oblique line. Scutellum approximately triangular, with some hairs. Postaxillae and lateral areas of metascutum nearly smooth. Propodeum only weakly arched, densely reticulated. A side of pronotum as long as high, smooth, anterior (lower) furrow broad and crenulated, posterior furrow crenulated only below. Sternaulus absent, posterior mesopleural furrow smooth, crenulation of presternal furrow hardly indicated, with hairs near middle coxa. Mesosternum densely hairy. Metapleuron smooth, with a few hairs. Hind femora 5 times as long as broad.

Wings: st wedge shaped distally, r arising from near the middle, r1 shorter than st is wide, r2 1.75 times as long as cc1, r3 straight, twice as long as r2, R reaching apex of wing, Cu2 very slightly narrowing, nr postfurcal, d 1.15 times as long as cc1, B closed, outer side angulated, np arising from the middle of the outer side of B, cu3 developed as far as near wing margin, m decoloured in basal half; SM' half as long as M', r' indicated as a fold, the same cu2', nr' absent.

Metasoma: T1 1.5 times as long as apically broad, little narrowing towards base, rugose, basal carinae converging, uniting in the middle, disappearing in the sculpture, spiracles small. T2 with dense longitudinal striation, the same T3 in the basal third. Ovipositor sheaths only little longer than T1, hypopygium not reaching apex of metasoma.

Colouration: Black. Yellow: clypeus, anelli, legs, tegulae, and wing venation. Wing membrane brownish.

♂: Unknown.

### *Opius (Nosopoea) meghalayensis* sp.n. (Figs. 25–28)

**Holotype** ♀: Meghalaya Shilong Ladmawphlong, 23. X. 2008, Coll. F.R. Khan (NHMW).

**Etymology:** The name refers to the province Meghalaya in India.

**Taxonomic position:** The species belong to the subgenus *Nosopoea* and is taxonomically nearest to *O. testaceiventris* GRANGER, 1949 from Madagascar. It can be separated as follows.

- 1 Mesoscutum only on the declivity delicately hairy pointed, with a row of hairs along the imaginary course of the notauli. Temples (lateral view) strongly

widened below. (Head twice as wide as long, antennae 29-articulated.) 2.8 mm.

Madagascar.

*testaceiventris*, ♀

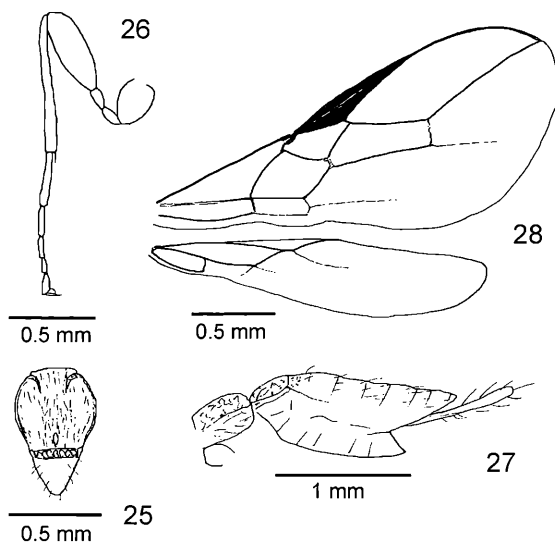
- Mesoscutum prevailing evenly hairy and pointed, only areas on the lateral lobes bare and without points. Temples not widened below, but parallel-sided. (Head 1.8 times as wide as long, antennae 36-articulated.) 2,3 mm. India.

*meghalayensis* sp.n., ♀

**Description:** ♀. – Length of body: 2.3 mm.

Head: 1.8 times as wide as long, 1.9 times as wide as face, 1.33 times as wide as mesoscutum, twice as wide as T1; eyes 1.5 times as long as temples, temples weakly separated from eyes, across eyes little wider than across temples, distance of antennal sockets from each other or from their eyes about as long as their diameter, occiput only weakly excavated; upper side bare, only on sides and near occiput a few inconspicuous hairs; ocelli small, distance from each other nearly longer than their diameter, distance of a lateral ocellus from the eye slightly longer than ocellar area is wide. Face 1.25 times as wide as high, evenly beset with moderately long whitish hairs, these curved towards the weak medial elevation, outstanding hairs near eyes, eye margins parallel. Clypeus about 2.5 times as wide as high, nearly in the same plane as the face, smooth, with some long, outstanding hairs, lower edge straight when seen from the front, epistomal suture smooth and evenly curved. Tentorial pits small, malar space as long as basal width of mandible, subocular suture present. Mouth open, mandibles not expanded at base, maxillary palpi as long as head is high, segments of labial palpi longer than broad. Antennae 1.5 times as long as body, 36-articulated; F1, F2 and F3 about 2.5 times as long as wide, the following becoming only slightly shorter, Fm, Fp and Fa about twice as long as broad, F cylindrical, clearly separated from each other, 3 sensilla visible in lateral view, hairs at most as long as width of F.

Mesosoma: 1.45 times as long as high, upper side very weakly and evenly curved. Mesoscutum as long as wide, oval in front of tegulae, notauli present on declivity and little crenulated, passing into smooth marginal furrows, disappearing on posterior two thirds of disc, dorsal pit clear and oval; prevailing evenly hairy and pointed, only areas on lateral lobes bare and without points. Prescutellar furrow crenulated. Scutellum of oval shape and with some scattered hairs. Postaxillae smooth. Lateral areas of metascutum uneven in the depth. Propodeum evenly arched, with dense, even netlike sculpture, spiracles very small. Anterior furrow of the side of



Figs. 25–28: *Opus (Nosopoea) megalayensis* sp.n.: (25) mesoscutum to scutellum dorsal, (26) hind leg, (27) propodeum and metasoma, lateral, (28) fore and hind wing

the pronotum only with a faint indication of a crenulation. Sternaulus absent, furrows of mesopleuron smooth, presternal furrow with a very delicate crenulation; some hairs near middle coxa. Metapleuron with numerous long, whitish hairs, otherwise shining. Hind femora 3.5 times as long as wide.

Wings: st moderately broad, wedge shaped beyond r, r arising little before middle, r1 little shorter than width of st, forming an obtuse angle with r2, r2 1.5 times as long as cc1, r3 nearly straight, 1.75 times as long as r2, R reaching apex of wing, nr postfurcal, Cu2 straightlined narrowing apically, d 1.5 times as long as cc1, nv postfurcal by its own width, B closed, parallelsided, np arising from the middle of the outer side of B, cu3 coloured a long part and reaching as a fold as far as the edge of the wing, np becoming by and by decoloured and disappearing, m decoloured in basal half; SM' half as long as M', r' developed a part as a fold, cu2' sclerotized a part and disappearing then.

Metasoma: T1 1.25 times as long as apically wide, apically 1.25 times as long as wide at base, straight-lined narrowing towards base, with dense, even, netlike sculpture, dorsal carinae only in front, spiracles very small. T2 with an inconspicuous striation at extreme base and only in the middle. The rest of T without any sculpture. Ovipositor sheaths nearly as long as metasoma, straight, hypopygium ending considerably before tip of metasoma.

Colouration: Black. Yellow: scape, pedicel, anellus, clypeus, temples below, mouth parts, legs, tegulae, wing venation, T2 and the following T, some of the latter more or less dark behind. Wing membrane little brownish.

♂: Unknown.

### *Opius (Utetes) minicorpus* sp.n. (Figs. 29–32)

**Holotype** ♀: India: J & K Poonch, 25. III. 2006 (NHMW). **Paratype**: 1 ♀, same data as holotype.

**Etymology**: The name refers to the small size.

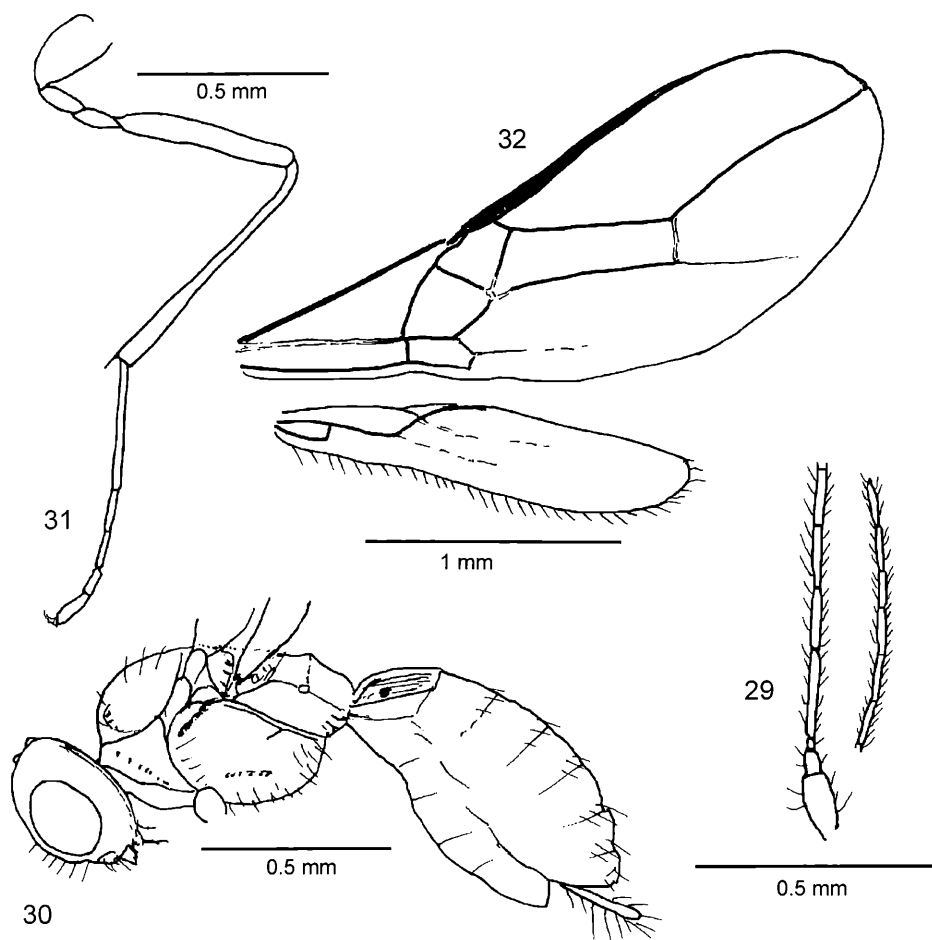
**Taxonomic position**: The species belongs to the subgenus *Utetes* FOERSTER, 1862 and can be inserted into the *O. signatigaster*-group. It can be distinguished from the nearest and similar species *O. microtempus* FISCHER, 1988 as follows.

- |   |  |                            |
|---|--|----------------------------|
| 1 | Notauli, which are developed in the anterior corners, smooth. Areas of the propodeum smooth. Sternaulus reaching anterior edge of the mesopleuron. r2 1.8 times as long as cc1. Whitish: palpi, anterior and middle coxae and trochanters. 1.8 mm. New Guinea. | <i>microtempus</i> , ♀     |
| – | Notauli, which are developed in the anterior corners, crenulated. Propodeum behind middle rugose. Sternaulus also anteriorly shortened. r2 2.5 times as long as cc1. Palpi, coxae and trochanters not white. 1.5 mm. India.                                    | <i>minicorpus</i> sp.n., ♀ |

**Description**: ♀. – Length of body: 2.0 mm.

Head: 2.1 times as wide as long, 1.66 times as wide as face, 1.25 times as wide as mesoscutum, 2.25 times as wide as T1; eyes clearly protruding, narrowed behind eyes, eyes and temples forming a common curve; upper side smooth, with inconspicuous hairs at sides and near occiput, ocelli small, distance between them little longer than their dia-





Figs. 29–32: *Opius (Utetes) minicorpus* sp.n.: (29) base and apex of antenna, (30) head, mesosoma and metasoma, lateral (sculpture of propodeum not marked), (31) hind leg, (32) forewing and hind wing.

meter, ocellar area as wide as its distance from an eye. Face as wide as high, eye margins parallel, shining, evenly beset with white hairs which are curved towards middle, hairs near eye margins little longer and more erect, with a weak central longitudinal elevation. Clypeus 1.5 times as wide as high, lower margin slightly retracted, epistomal suture simple and semicircular, with some erect hairs, subocular suture present, malar space as long as basal width of mandibles. Mouth open, mandibles not expanded at base, but strongly tapering towards apex, maxillary palpi about as long as head is high. Antennae 1.5 times as long as body, 24-articulated; F1 4 times, Fm 3 times, Fp 2.5 times as long as wide, F1:F2:F3:F4 = 10:9: 9:8; segments weakly separated from each other, most hairs as long as F wide, two sensilla visible in lateral view.

Mesosoma: 1.45 times as long as high, upper side only slightly curved. Mesoscutum little wider than long, lateral lobes slightly curved, more or less straight in front, dorsal

fovea small, notauli present on declivity and crenulated, their imaginary course indicated by a row of hairs, sides carinated only near tegulae. Praescutellar furrow narrow, crenulated. Postaxillae crenulated at posterior edge. Metascutum only with traces of a sculpture. Propodeum with a broad pentagonal area, short basal carina, short costulae and predominantly rugose, spiracles small. Anterior furrow of side of pronotum crenulated. Sternaulus narrow, shortened on either side, crenulated; posterior mesopleural furrow smooth; area below tegula and area above middle coxa with hairs, also mesosternum. Narrow lower metapleural furrow crenulated, metapleuron with long hairs behind and near lower edge. Hind femora 5 times as long as wide.

Wings: st narrow, tapering distad, r arising from about basal fourth, r1 little shorter than width of st, r2 2.5 times as long as cc1, r3 1.4 times as long as r2, nearly straight, R reaching tip of wing, cc1 slightly postfurcal, Cu2 long, hardly narrowed distad, d 1.25 times as long as nr, b and nr diverging anteriorly, nv nearly interstitial, B closed, np arising from middle of outer side of B, short, than indicated as a fold, m obliterated in basal half; r' and cu2' indicated as folds, nr' missing, SM' half as long as M', hairs on hind edge shorter than width of hind wing at the same place.

Metasoma: T1 1.5 times as long as apically wide, straightlined narrowed towards base, irregularly longitudinally striated, dorsal carinae passing into striation. T2 with traces of a striation medially at base, the rest smooth. Ovipositor sheaths protruding, in lateral view as long as T1.

Colouration: Black. Yellow: scape, pedicel, tegulae, wing venation, legs, lower side of metasoma. Hind margins of posterior T yellowish. Wing membranes hyaline.

Variability: Paratype: Areas of propodeum less sculptured. Antennae 22-articulated.

♂: Unknown.

### *Opius (Utetes) parempiformis* sp.n. (Figs. 33–37)

**Holotype** ♀: India: J & K Poonch Coll. Zaheer Mir, 25. II. 08 (with two other females on one card, most distant from the pin) (NHMW). **Further material examined**: 2 ♀ ♀, on same card as holotype.

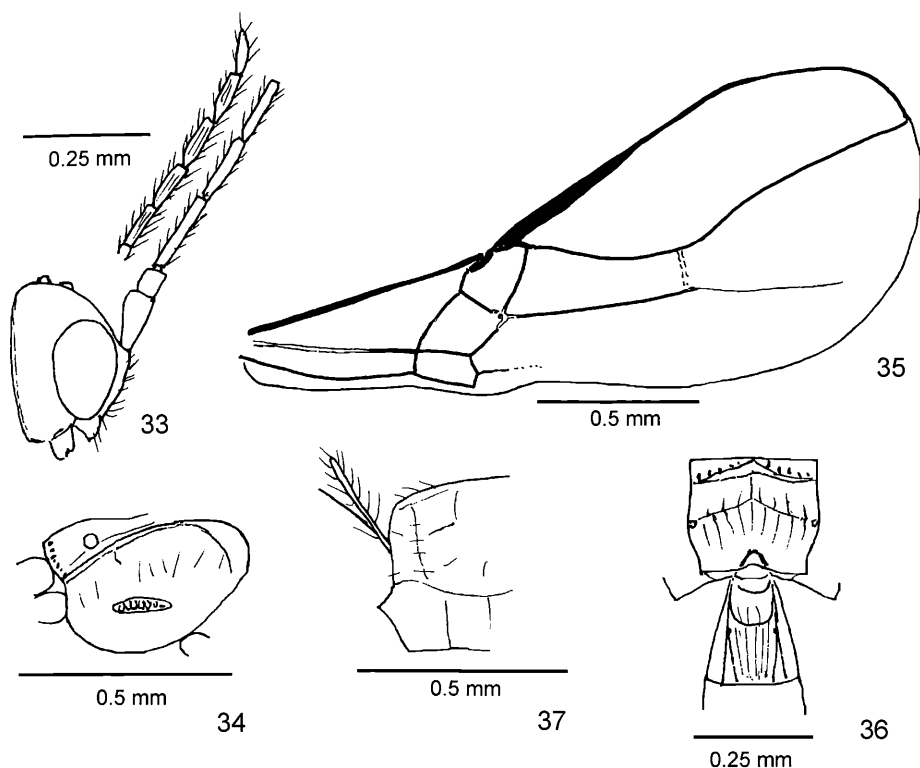
**Etymology**: A species similar to *O. parempus* FISCHER, 1988.

**Taxonomic position**: The species keys out near *O. parempus* in the identification table by FISCHER (1988) in the *O. signatigaster*-group of the subgenus *Utetes*. It can be distinguished as follows.

- |   |   |                               |
|---|---|-------------------------------|
| 1 | T1 smooth, dorsal carinae converging and reaching posterior margin. Notauli smooth. Areas of propodeum glabrous. Dark brown. 1.9 mm. New Guinea.  | <i>parempus</i> , ♀           |
| – | T1 irregularly longitudinally striated. Notauli crenulated. Pentagonal areolet of the propodeum longitudinally striated, the area above the cross carina with longitudinal folds in the lower half. Black. 1.9 mm. India. | <i>parempiformis</i> sp.n., ♀ |

**Description**: ♀. – Length of body: 1.9 mm.

Head: Twice as wide as long, 1.8 times as wide as face, 1.4 times as wide as mesoscutum, twice as wide as T1; eyes protruding, twice as long as temples, eyes and temples rounded in a common curve, distance of antennal sockets from each other and from eyes as long



Figs. 33–37: *Opius (Utetes) parempiformis* sp.n.: (33) head with base and apex of antenna, lateral, (34) mesopleuron and propodeum, lateral, (35) forewing, (36) propodeum and T1, dorsal, (37) apex of metasoma, lateral.

as their diameter; occiput only very slightly excavated, ocelli small, distance from each other little longer than their diameter, distance of a lateral ocellus from the eye little longer than ocellar area broad; upper side only with very few hairs laterally and in ocellar area. Face little wider than high, median elevation hardly recognizable, with moderately long hairs all over, hair points hardly discernible, eye margins parallel. Clypeus about 3 times as wide as high, lower edge retracted, with fine, long hairs, air points weakly developed. Tentorial pits small. Mouth open, mandibles at base not expanded, maxillary palpi as long as head is high. Malar space as long as width of mandible. Antennae twice as long as body, 24-segmented; F1 6 times as long as wide, the following only gradually becoming shorter, F4 5 times, Fm 4 times, Fp 3 times as long as wide; F weakly separated from each other, cylindrical; hairs as long as width of F, 2 sensilla visible in lateral view.

Mesosoma: 1.5 times as long as high, upper side (lateral view) only weakly curved. Mesoscutum only little wider than long, rounded in front of tegulae, notauli reaching disc, but disappearing here, weakly crenulated, passing in a bend into the smooth lateral furrows, dorsal fovea drop-like, with a few hairs only along the imaginary course of the notauli and near the margins. Prescutellar fovea with several longitudinal folds, extending laterally near to postaxillae. Postaxillae crenulated behind. Lateral areas of metascutum deep, little crenulated. Propodeum with basal carina, cross carina and pen-

tagonal area, the anterior areas behind with some longitudinal folds, pentagonal area with irregular longitudinal striation, lateral areas smooth. Anterior furrow of a side of the pronotum scarcely crenulated. Sternaulus shortened on either side, with some notches, the remainder furrows smooth. Lower furrow of metapleuron crenulated. Hind femora 6 times as long as broad.

Wings: st narrow, distal portion wedge shaped, r arising from basal fourth, r1 only little shorter than width of st, forming a nearly straight line with r2, r2 2.5 times as long as cc1, r3 1.5 times as long as r2, curved outwards, R reaching apex of wing, Cu2 only very slightly narrowed distad, nr postfurcal, d 1.1 times as long as nr, nv interstitial, B closed, np arising from below the middle of the outer side of B, cu3 coloured nearly as far as wing margin, m coloured in apical third, decoloured for the rest, np recognizable as a fold; r' and cu2' nearly absent, nr' absent, SM' half as long as M'

Metasoma: T1 nearly 1.5 times as wide as long, behind 1.5 times as wide as in front, straight-lined narrowed towards base, with irregular longitudinal striation, basal carinae passing into striation, spiracles inconspicuous. Ovipositor sheaths surpass apex of metasoma very little, in lateral view as long as T1.

Colouration: Black. Yellow: scape, anellus, clypeus, mouth parts, all legs, tegulae, and wing venation. Wing membrane hyaline.

♂: Unknown.

### *Opius (Utetes) poonchicola* sp.n. (Figs. 38–42)

**Holotype** ♀: India: J. & K. Poonch, Coll. Zaheer Mir, 25. II. 08 (NHMW). **Paratype**: 3 ♀ ♀, same data as holotype.

**Etymology**: The name refers to the Indian province Poonch: inhabitant of Poonch.

**Taxonomic position**: The species is ascribed to the subgenus *Utetes*. It keys out at couplet 9 with *O. microtempus* in the key for the *O. signatigaster*-group by FISCHER (1988). The new species can be distinguished as follows.

- 1 Mouth parts – except mandibles – with the palpi, fore and middle coxae and trochanters ivory white. r2 1.7 times as long as cc1, r1 extremely short. Eyes occupy the greatest part of the sides of the head, 4 times as long as the temples. Eye margins curved, little diverging downwards. Mesosoma 1.66 times as long as high. Sternaulus reaching the anterior margin of the metapleuron. 1.8 mm. New Guinea. *microtempus*, ♀
- Mouth parts and entire legs yellow. r2 2.2 times as long as cc1, r1 nearly as long as the width of the st. Eyes not so great, about twice as long as the temples. Eye margins parallel. Mesosoma at most 1.5 times as long as high. Sternaulus shortened on either side. 2 mm. India. *poonchicola* sp.n., ♀

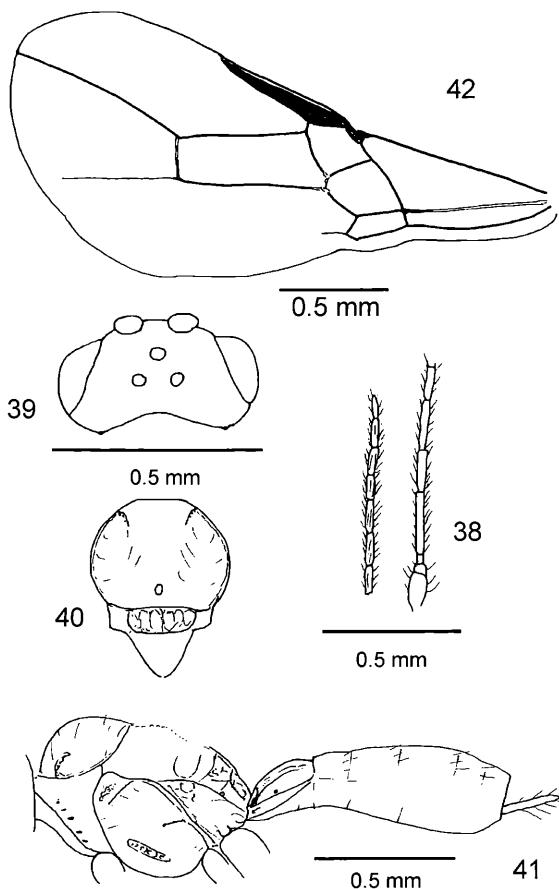
The species is differentiated from *O. minicorpus* sp.n. as follows.

- 1 T3 and the following with moderately long hairs near the posterior edge and completely black. T1 striated only in the middle, laterally smooth. *poonchicola* sp.n., ♀
- T3 and the following without remarkable hairs near the posterior edge and with a yellowish cross stripe. T1 completely longitudinally striated. .... *minicorpus* sp.n., ♀

**Description:** ♀. – Length of body: 2 mm.

Head: Twice as wide as long, twice as wide as face, 1.25 times as wide as mesoscutum, 2.25 times as wide as T1; eyes protruding, twice as long as temples, eyes and temples rounded in a common curve, distance between eye sockets and their distance from eyes as long as their diameter, occiput nearly straight, upper side prevailing bare, some hairs only near eyes, near occiput and in ocellar area; ocelli small, their distance from each other longer than their diameter, distance of a lateral ocellus from the eye somewhat longer than ocellar area is wide. Face 1.25 times as wide as high, median elevation developed above, broadened downwards, with small, clearly visible, scattered hair points and whitish hairs, eye margins parallel. Clypeus twice as wide as high, only weakly arched, lower edge a little retracted, with a few inconspicuous hairs. Epistomal suture semicircular, smooth. Tentorial pits small, the distance from each other 1.6 times as long as their distance from an eye. Malar space as long as mandibles are broad at base. Subocular suture hardly visible. Mouth open, mandibles not expanded at base, maxillary palpi about as long as head is high. Antennae 1.5 times as long as body, 25-articulated; F1 5 times, F2 4 times, Fm 3.5 times, Fp twice as long as broad; F cylindrical, hardly separated from each other, hairs as long as width of F, 2 sensilla visible in lateral view.

Mesosoma: 1.5 times as long as high, upper side very weakly curved. Mesoscutum 1.3 times as wide as long, rounded at sides, nearly straight in front, notauli developed on declivity, absent on disc, reaching smooth marginal furrows, dorsal fovea round and small. Prescutellar furrow crenulated. Postaxillae and lateral areas of metascutum smooth. Propodeum with basal carina, pentagonal area and costulae, irregularly sculptured, lateral areas smooth. Anterior furrow of a side of the pronotum crenulated. Sternaulus narrow, densely crenulated, shortened on either side, the remainder furrows of the mesosoma's side smooth. Metapleuron prevailing smooth, with some scattered, long hairs. Hind femora 5 times as long as broad.



Figs. 38–42: *Opius (Utetes) poonchicola* sp.n.: (38) base and apex of antenna, (39) head, dorsal, (40) mesoscutum to scutellum, dorsal, (41) mesosoma and metasoma, lateral, (42) forewing.

Wings: st more or less narrow, nearly parallel-sided a bit distal from r, then wedge shaped, r arising from basal fourth, r1 nearly as wide as st is wide, r2 2.2 times as long as cc1, r3 curved outwards, 1.6 times as long as r2, R reaching apex of wing, nr postfurcal, d 1.25 times as long as nr, Cu2 nearly parallel-sided, nv interstitial, B closed, np arising from below the middle of the outer side of B, cu3 developed as far as near wing margin, but narrowed, basal half of m decoloured, np developed only a short distance; r' and cu2' only a short distance recognizable as a fold, nr' absent, SM' half as long as M'

Metasoma: T1 1.5 times as long as wide, behind 1.5 times as wide as in front, straight-lined narrowing towards base, dorsal carinae uniting and reaching as a central fold as far as hind margin, median area with irregular longitudinal folds, rest smooth. T3 and the following with a row of moderately long, whitish hairs near hind margin. Ovipositor sheaths only little projecting beyond tip of metasoma, in lateral view as long as T1. Hypopygium reaching tip of metasoma.

Colouration: Black. Yellow: scape, pedicel, anellus, clypeus and cheeks in part, mouth parts, legs, tegulae, and wing venation. Wing membrane hyaline.

♂: Unknown.

### *Opius (Gastrosema) pygmiformis* sp.n. (Figs. 43, 44)

**Holotype** ♀: India: Assam Guwahati Sansari 29.X.2008, Coll. F.R. Khan (NHMW).

**Etymology:** Named with respect of the small size.

**Taxonomic position:** The species is nearest to *O. wellgunda* FISCHER, 1972 and *Opius darjeelingicola* sp.n. It can be separated as follows.

- |   |  |                                    |
|---|--|------------------------------------|
| 1 | Propodeum with coarse, net-like sculpture. r3 3 times as long as r2. 1.3 mm. India.  | <i>pygmiformis</i> sp.n., ♀        |
| – | Propodeum more or less granulated or even minutely granulated. r2 2.5 times as long as r2.   | 2                                  |
| 2 | Upper side of head black. Prescutellar furrow very narrow, densely crenulated, not divided, about 5 times as wide as long. 2.2 mm. India. .... | <i>darjeelingicola</i> sp.n., ♀, ♂ |
| – | Head entirely red. Prescutellar furrow crenulated, trapezoidal, a lateral area as long as wide. 2.2 mm. South Africa.                          | <i>wellgunda</i> , ♀, ♂            |

**Description:** ♀. – Length of body: 1.3 mm.

Head: Twice as wide as long, 1.6 times as wide as face, 1.5 times as wide as mesoscutum, 2.5 times as wide as T1; eyes projecting, twice as long as temples, narrowed behind eyes, eyes and temples rounded in a common curve, diameter of antennal sockets as long as distance between them or their distance from the eyes, occiput only a little excavated, upper side nearly completely bare, ocelli moderately large, distance between them little longer than diameter of an ocellus, distance of a lateral ocellus from an eye hardly longer than width of ocellar area. Face about 1.3 times as broad as high, smooth, median elevation indistinct, with a few hairs laterally, hair points hardly visible, eye margins parallel. Clypeus about 3 times as wide as high, lower edge excavated, with some longer hairs, hair points hardly visible. Tentorial pits small, their distance from eyes twice as long as their diameter. Mouth open, mandibel not expanded at base (maxillary palps not ex-

aminable in the above cited specimen). Antennae longer than body, 24-articulated; F1 3 times as long as broad, the following becoming gradually shorter, Fm more than twice as long as broad, Fa pointed, F tube-like, weakly separated from each other, hairs hardly as long as width of F, 2 sensilla visible in lateral view.

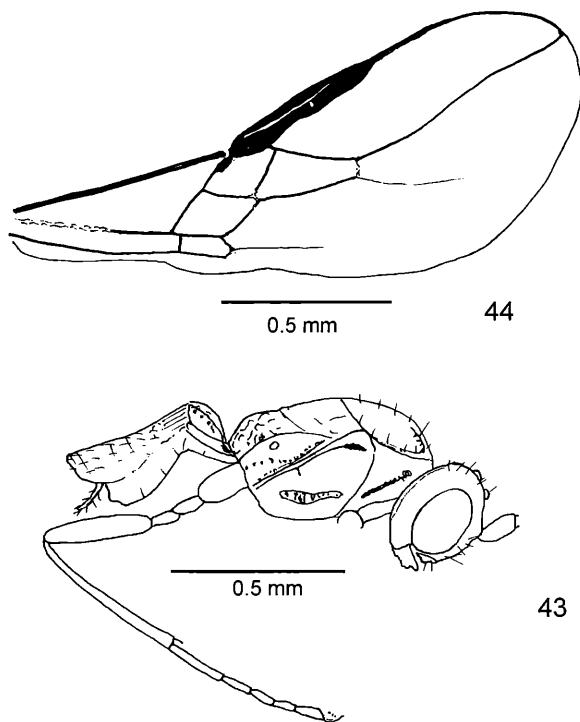
Mesosoma: 1.4 times as long as high, upper side moderately flat, weakly convex only. Mesoscutum 1.25 times as wide as long, rounded in front of tegulae, notauli developed only in front, absent on disc, their imaginary course indicated by some hairs, dorsal fovea absent, sides marginated, smooth, notauli passing into the marginal furrows. Prescutellar furrow narrow, crenulated, rectangular, 5 times as wide as long. Postaxillae smooth. Lateral areas of metascutum smooth. Propodeum with coarse, net-like sculpture, with great intervals. Furrows of the pronotum's side smooth. Sternaulus weakly crenulated, shortened on either side, posterior mesopleural furrow and anterior furrow smooth. Metapleuron smooth, lower furrow weakly crenulated, posterior quarter flat, uneven. Hind femora 5 times as long as wide.

Wings: st rather narrow, passing distally gradually into metacarp, r arising from st considerably before the middle, r1 shorter than st is wide, forming a straight line with r2, r2 1.5 times as long as cc1, r3 slightly bent outwards, 3 times as long as r2, R reaching tip of wing, nr postfurcal, d only little longer than nr, nv little postfurcal, B closed, np arising from the middle of the outer side of B; r' and cu2' at most indicated as folds.

Metasoma: T1 hardly longer than wide, behind 1.5 times as broad as in front, straight-lined narrowed towards base, dorsal carinae recognizable only in front, with coarse, net-like sculpture, median area somewhat elevated, spiracles inconspicuous. T2 and basal half of T3 evenly, delicately coriaceous. Ovipositor sheaths hardly projecting beyond apical tergite.

Colouration: Black. Reddish yellow: head and mesopleuron below sternaulus. Yellow: scape, pedicel, anellus, all legs, tegulae, wing venation, and T2 in part. Wing membrane hyaline.

♂ – Unknown.



Figs. 43, 44: *Opius (Gastrosema) pygmiformis* sp.n.: (43) head, mesosoma, metasoma, and hind leg, lateral, (44) forewing.

***Opius (Stomosema) robustipedibus* sp.n.** (Figs. 45–49)

**Holotype** ♀: India: W.B. New Alipurduar Khocha bari hat 22. V. 2008, Coll. F.R. Khan (NHMW).

**Etymology:** The name refers to the thick femora.

**Taxonomic position:** The species is nearest to *O. dariae* FISCHER, 1972. It can be distinguished as follows.

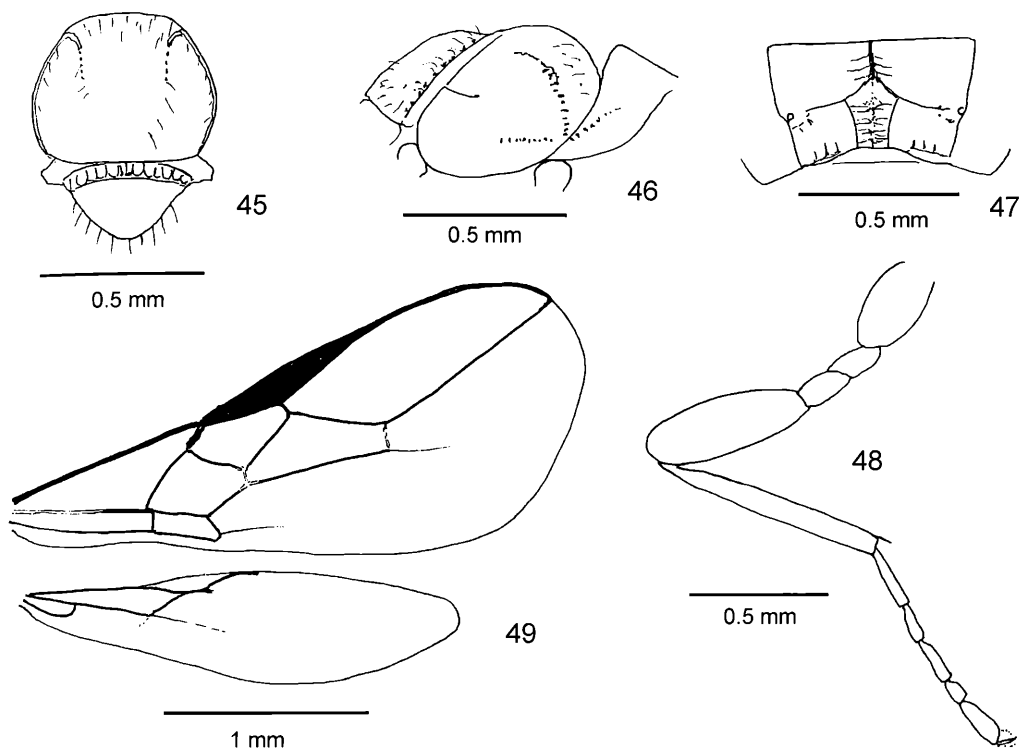
- 1 Hind femora 5 times as long as wide. Propodeum with dense, fine, granular rugosity. Notauli impressed only anteriorly, absent on disc, not reaching the edge. 1.6 mm. Transvaal. *dariae*, ♀
- Hind femora 3 times as long as wide. Propodeum with rugose longitudinal stripe in the middle, laterally more or less smooth. Notauli reaching on disc, and ending here, a little crenulated, passing into the lateral furrows. 2.5 mm. India. *robustipedibus* sp.n., ♀

**Description:** ♀. – Length of body: 2.5 mm.

Head: Twice as wide as long, 1.66 times as wide as face, 1.25 times as wide as mesoscutum, 3 times as wide as T1; eyes hardly protruding, 1.25 times as long as temples, eyes and temples rounded in a common curve, distance of antennal sockets from each other and from eyes as long as their diameter, upper side nearly completely bare and shining; ocelli small, their distance from each other not much longer than their diameter, distance of a lateral ocellus hardly longer than width of ocellar area; occiput only slightly excavated. Face 1.25 times as wide as high, central elevation weak, with scattered hairs all over, hair points recognizable, eye margins more or less parallel. Clypeus about twice as broad as high, flat, in the same plane as the face, lower edge straight, with a few hairs only. Mouth closed, mandibles clearly expanded at base, maxillary palpi as long as head is high. Antennae as long as body, 32-articulated; F1, F2 and F3 twice as long as broad, most of the following F about 1.5–1.8 times as long as broad, F of apical fourth about 1.25–1.5 times as long as broad, F of apical half becoming gradually smaller, all F cylindrical and little separated from each other, most hairs little shorter than F are wide.

Mesosoma: 1.33 times as long as high, upper side curved. Mesoscutum little wider than long, lateral lobes curved (dorsal view), nearly straight in front, notauli developed in front and crenulated, reaching on disc, flattened and disappearing by and by, their course indicated by some hairs, passing in a curve into the smooth marginal furrows, dorsal fovea absent. Prescutellar furrow crenulated, long, reaching from one to the other side of the scutellum, separating scutellum from axillae. Scutellum considerable wider than long, more or less rounded behind and with a row of hairs behind. Postaxillae smooth. A postscutellar cross band smooth and shining. Lateral areas of metascutum not crenulated. Propodeum considerable wider than long, prevailing smooth, with basal carina, with a curved cross carina and narrow (pentagonal) area behind, with long hairs near cross carina and near the small spiracles. Anterior furrow of a side of the pronotum crenulated. Sternaulus impressed, but prevailing smooth, perhaps some inconspicuous crenae in front, anterior mesopleural furrow narrowly crenulated, subalar area hairy, posterior mesopleural furrow smooth. Metapleuron prevailing smooth, anterior furrow uneven, with some folds at hind carina, with some long hairs. Legs stout, hind femur 3 times as long as broad, middle and fore femora 2.5 to 3 times as long as broad.





Figs. 45–49: *Opius (Stomosema) robustipedibus* sp.n.: (45) mesoscutum to scutellum, dorsal, (46) side of pronotum, mesopleuron and metapleuron, lateral, (47) propodeum, (48) hind leg, (49) fore and hind wing.

Wings: st comparatively narrow, r arising very little before the middle, wedge shaped distally, r1 shorter than st is wide, r2 1.2 times as long as cc1, Cu2 strongly narrowing distally, nr postfurcal, d 1.25 times as long as nr, nv postfurcal by its own width, B closed, its outer side angulated, np arising from below the outer side of B and clearly developed only a short distance, recognizable for the rest as a fold or not at all, m de-coloured on basal half, cu3 fully developed at the beginning, then as a fold or not existent at all; SM' less than half as long as M', r' absent, cu2' in part recognizable as a fold, nr' hardly noticeable.

Metasoma: T1 1.33 times as long as broad, apically 1.5 times as broad as basally, straight lined narrowing towards base, shining and little uneven, dorsal carinae short, spiracles small, with some long hairs. Ovipositor sheaths as long as T1, straight, surpassing apex only a little, hypopygium ending before tip of metasoma.

Colouration: Black. Yellow: Clypeus, mouth parts, scape, pedicel, anellus, tegulae and wing venation. Brownish yellow: legs and metasoma, only T1 black. Wing membrane with very faint brownish tint.

♂: Unknown.

***Opius (Kainopaeopius) sinemaculis* sp.n.** (Figs. 50, 51)

**Holotype** ♀: India: J & K Poonch, Coll. Zaheer Mir, 15. 11. 08 (NHMW). **Further material examined:** 1 ♀, India: H. P. Hamirpur Kale Amb, 28. VI. 2006, Coll. S.M.A. Badruddin & F.R. Khan.

**Distribution:** India.

**Etymology:** The name refers to the lack of black spots on the mesoscutum.

**Taxonomic position:** The species is nearest to *Opius flavitarsis* SZÉPLIGETI, 1913 and can be separated as follows.

- 1 T2 and T3 delicately granulated, the granulation becoming weaker apically. B open on lower distal corner. Face hair-pointed and with weak granulation. Three black spots on the mesoscutum and two black cross stripes on the upper side of the mesosoma. 2.6 mm. Tchad, Ethiopia. .... *flavitarsis*, ♀, ♂
- T2 and the following smooth or nearly so, e.g. on the base of T2 a hardly recognizable extremely delicate coriaceous sculpture. B closed on lower distal corner. Face hair-pointed, but not at all granulated. Mesosoma entirely reddish yellow, without black elements. 3.1 mm. India. *sinemaculis* sp.n., ♀

**Description:** ♀. – Length of body: 3.1 mm.

Head: 1.8 times as broad as long, 1.8 times as broad as face, 1.33 times as broad as mesoscutum, 2.2 times as broad as T1; rectangular (dorsal view), across temples as wide as across eyes, temples as long as eyes, diameter of antennal sockets as long as their distance from eyes or from each other, occiput recognizable excavated; distance between ocelli as long as their diameter, distance of a lateral ocellus from an eye longer than ocellar area is broad; upper side nearly bare, some hair points very weakly discernible. Face as broad as high, with inconspicuous, short hairs only, and hardly discernible hairpoints, median elevation very weak and broadened downwards, eye margins nearly parallel. Clypeus twice as wide as high, in the same plane as the face, lower edge little curved, with a few hairs and hairpoints. Tentorial pits extremely small. Malar space nearly as long as basal width of mandibles. Subocular furrow absent. Mouth closed, mandibles not expanded at base, maxillary palpi as long as head is high, segments of labial palpi longer than broad. Antennae as long as body, 32-articulated; F1–F5 about 5 times as long as broad, Fm 2.5 times, Fp twice as long as broad, Fa 3 times as long as broad; F cylindrical, clearly separated from each other, longest hairs as long as width of F, 3 sensilla visible in lateral view.

Mesosoma: 1.5 times as long as high, upper side convex; as broad as long, oval in front of tegulae, notauli deep on declivity, little crenulated, disappearing on disc, passing into smooth marginal furrows, dorsal fovea deep and little elongated, with very inconspicuous hairs and hardly discernible points in front and near the dorsal fovea. Prescutellar furrow crenulated. Scutellum triangular. Postaxillae and lateral areas of metascutum smooth. Propodeum evenly granulated and with some white hairs, spiracles small. Anterior furrow of the pronotum's side crenulated. Sternaulus absent, furrows smooth, anterior presternal furrow narrow crenulated. Metapleuron with widely distributed white hairs. Hind femora 3 times as long as broad, also the other femora comparatively thick.

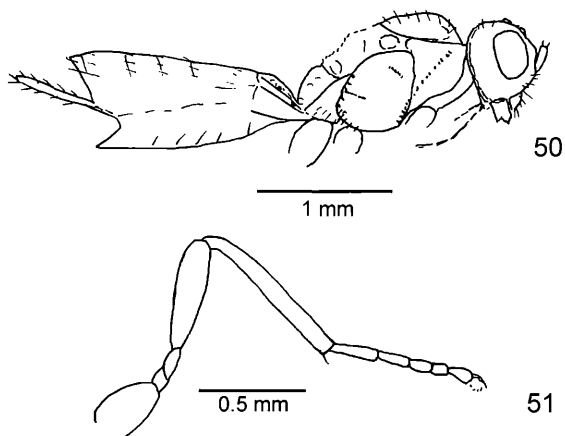
Wings: st moderately broad, r arising from near the middle, distal part wedge-shaped, r1 shorter than st is wide and passing in a curve into r2, r2 1.7 times as long as cc1, r3 weakly

curved outwards, twice as long as r2, R reaching apex of wing, nr postfurcal, Cu2 very little narrowed distally, d 1.25 times as long as nr, nv postfurcal, B closed, np arising from middle of outer side of B, cu3 developed as a fold, np sclerotized in basal third, then only a fold, disappearing in the distal third, m desclerotized only near the base; SM' half as long as M', r' absent, cu2' developed as a fold.

Metasoma: T1 only little longer than broad, behind 1.5 times as wide as in front, evenly and delicately granulated, dorsal carinae reaching as far as middle of T1, spiracles small. Ovipositor sheaths 1.5 times as long as T1, but surpassing tip of metasoma by length of T, hypopygium not reaching apex of metasoma.

Colouration: Yellow to reddish yellow. Yellow: scape, pedicel, anellus, mouth parts, legs, tegulae, wing venation, and metasoma with the exception of T1; a cross band and apex brown. Black: upper side of head in the middle, occiput, flagellum, tarsal segments more or less, and ovipositor sheaths.

♂: Unknown.



Figs. 50, 51: *Opius (Kainopaeopus) sinemaculis* sp.n.: (50) head, mesosoma and metasoma, lateral, (51) hind leg.

### *Opius (Gastrosema) substriatus* sp.n. (Figs. 52–55)

**Holotype** ♀: India: J & K Poonch, 25. III. 2006 (NHMW). **Paratype**: 3 ♀ ♀, same data as holotype.

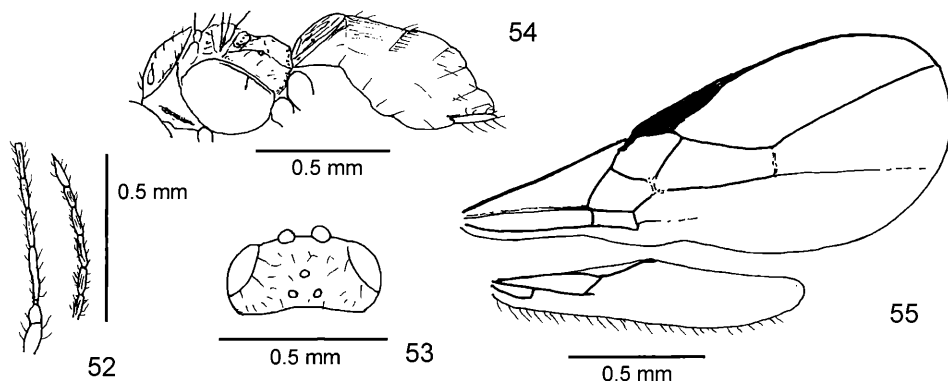
**Etymology**: Named with respect of the very fine sculpture of T2 (and T3).

**Taxonomic position**: The species seems to be nearest to *O. luteipes* (SZÉPLIGETI, 1914) and *O. retracticauda* FISCHER, 1972, and can be distinguished from both as follows.

- |   |  |                             |
|---|--|-----------------------------|
| 1 | Face shining, with fine hairs, hair points not noticeable. (Sides of pronotum, scutellum and mesopleuron shining). 1.1 mm. India. .... | <i>substriatus</i> sp.n., ♀ |
| – | Face either weakly coriaceous or densely hair-pointed. (One species with weakly coriaceous scutellum and mesopleuron).                 | 2                           |
| 2 | Eyes 2.3 times as long as the temples. B incompletely closed. 2.3 mm. Kenya.   | <i>luteipes</i> , ♀         |
| – | Eyes 1.8 times as long as the temples. B completely closed. 2.3 mm. D.R. of the Congo, Ruanda, Burundi.                                | <i>retracticauda</i> , ♀, ♂ |

**Description**: ♀. – Length of body: 1.6 mm.

Head: 2.1 times as wide as long, 1.25 times as wide as mesoscutum, 1.25 times as wide as face, 2.1 times as wide as T1, eyes twice as long as temples, eyes considerably pro-



Figs. 52–55: *Opius (Gastrosema) substriatus* sp.n.: (52) base and apex of antenna, (53) head, dorsal, (54) mesosoma and metasoma, lateral, (55) fore and hind wing.

truding, narrowed behind eyes, eyes and temples rounded in a common curve; upper side smooth, with more or less evenly distributed scattered hairs without recognizable hair points, distance between ocelli a trifle longer than their diameter, distance of a lateral ocellus from an eye about as long as width of ocellar area. Face scarcely wider than high, glabrous, with some white, scattered hairs especially at sides, median elevation weakly broadened beneath, eye margins slightly curved, nearly parallel-sided. Clypeus twice as wide as high, nearly in the same plane as the face, lower margin only very weakly excavated, nearly straight, epistomal suture simple, with a row of long, erect hairs. Tentorial pits round, their distance from each other about 1.3 times as long as the distance from an eye. Mouth open, mandibles not abruptly expanded at base, basally wide, apical half narrow and parallel-sided; maxillary palpi about as long as face is high. Malar space as long as basal width of mandible. Subocular suture present. Temples in lateral view parallel-sided. Antennae 1.3 times as long as body; 20-articulated; F1 and F2 4 times as long as wide, Fm 3 times, Fp 2.5 times as long as wide; F weakly separated from each other, with numerous hairs all over, most hairs shorter than F wide, in lateral view 2 sensilla visible.

Mesosoma: 1.3 times as long as high, upper side rounded. Mesoscutum wider than long, round in front of tegulae, notauli developed only on declivity and predominantly smooth, not reaching lateral margins, absent on disc, dorsal fovea absent, a few hairs only along the imaginary course of the notauli and near lateral margins in front, sides carinated only near tegulae. Prescutellar furrow narrow, densely crenulated. Posterior furrow of post-axillae crenulated. Lateral areas of metascutum crenulated. Propodeum predominantly shining, posterior margin crenulated, in traces rugose in front in the middle, with inconspicuous folds originating from middle of front margin and diverging towards spiracles, a little rugose along a central stripe. Side of pronotum smooth. Sternaulus narrow, crenulated, not reaching anterior edge, reaching near middle coxa, posterior mesopleural furrow smooth. Hind femur 5 times as long as wide.

Wings: st narrowing distad, r arising more than length of r1 behind the base of st, r1 shorter than width of st, r2 twice as long as cc1, r3 slightly bent outwards, twice as long

as r2, R reaching tip of wing, Cu2 slightly narrowing distad, nr postfurcal, d 1.8 times as long as cc1, nv postfurcal, B closed, np arising from below middle of outer side, developed a short part, continuation indicated as a fold; r' absent, cu2' at most indicated as a fold, nr' absent, SM' half as long as M'

Metasoma: T1 1.5 times as long as posterior width, 1.5 times wider behind than in front, sides converging straight-lined towards base, dorsal carinae forming an oval, closed carina, irregularly longitudinally striated, spiracles small. T2 with very fine, diverging striae, T3 striated in basal half or third, only laterally smooth. The rest of metasoma smooth. Ovipositor sheaths about as long as T1 (lateral view), protruding only a little beyond apex of metasoma.

Colouration: Black. Yellow: scape, pedicel, mouth parts, face, temples, a narrow stripe beneath sternaulus, tegulae, wing venation, legs, and T2. Wing membrane hyaline.

Variability: Parts of propodeum more rugose. Antennae 20–21-articulated. Mesopleuron completely black.

♂: Unknown.

### *Opius (Apodesmia) thoraconiger* sp.n. (Fig. 56)

**Holotype** ♂: India: J & K. Poonch 20.10.08, Coll. Zaheer Mir. (NHMW).

**Etymology:** Named after the black mesosoma (compare *O. heterogaster* FISCHER, 1971 with red pattern).

**Taxonomic position:** The species belongs to the subgenus *Apodesmia* FOERSTER, 1862 and can be distinguished from the taxonomically nearest *O. heterogaster* as follows.

- 1 Red: mesoscutum except three dark spots, scutellum, prothorax, and prevailing metasoma behind T1. Face moderately hairy, the hair points clearly visible.  
2.6 mm. South Africa (Transvaal). *heterogaster*, ♀
- Mesosoma and metasoma entirely black. Hair points of the face nearly invisible.  
2.5 mm. India. *thoraconiger* sp.n., ♂

**Description:** ♂ – Length of body: 2.5 mm.

Head: Comparatively small. 2.4 times as wide as long, twice as wide as face, only as wide as mesoscutum, twice as wide as T1; eyes a little protruding, twice as long as temples, the latter separated from eyes (dorsal view), across temples nearly as wide as across eyes, diameter of antennal sockets as long as their distance from each other, their distance from eyes a little shorter, occiput weakly excavated; upper side smooth, with long hairs laterally and near occiput, ocelli great, distance from each other as long as their diameter, distance from eyes as long as width of ocellar area. Face 1.25 times as wide as high, more or less flat, shining, middle elevation blunt, with very few hairs mostly laterally, eye margins weakly curved, nearly parallel. Clypeus 3 times as wide as high, little arched, retracted ventrally, with a few, faint, outstanding hairs below, shining, epistomal suture smooth. Distance of tentorial pits from each other twice as long as their distance from an eye. Subocular suture present, malar space as wide as mandibles are wide at their basis. Mouth open, mandibles not expanded at base, maxillary palpi as long as head is high. Eyes very great in lateral view, considerable longer than temples. Antennae

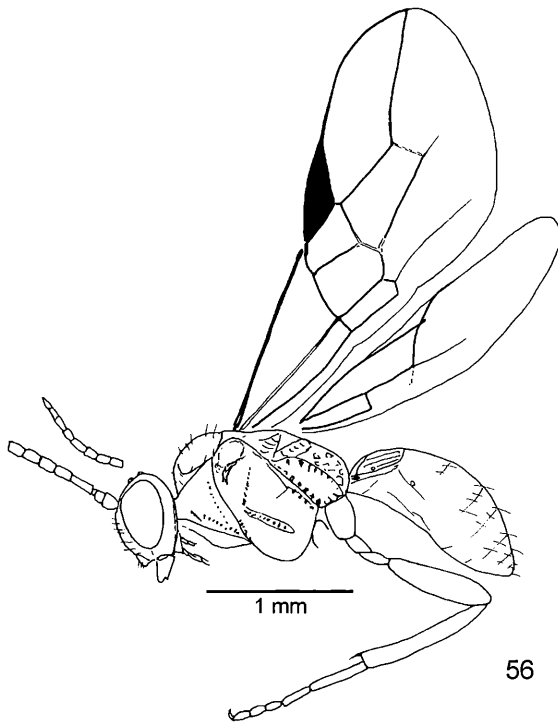


Fig. 56: *Opius (Apodesmia) thoraconiger* sp.n.: body with base and apex of an antenna and hind leg, lateral.

longer than body, 32-articulated; F1 twice as long as broad, F2 and the following 1.5 times as long as broad, F of apical third slightly narrowing; 2 or 3 sensilla visible in lateral view, F moderately separated from each other, hairs as long as width of F.

Mesosoma: 1.33 times as long as high, upper side slightly curved. Mesoscutum 1.5 times as wide as long, evenly rounded in front of tegulae, notauli developed only in front and here in horizontal position and crenulated, for the rest completely absent, their imaginary course indicated by a few hairs, passing into the smooth marginal furrows, dorsal fovea small. Prescutellar furrow rectangular, 4 times as wide as long, with several folds. Axillae with erect lateral lamella, a narrow, smooth bridge from them to the scutellum on either side. Postscutellum with worm-like sculpture. Scutellum triangular, with a broad transition into

a postscutellar cross band behind. Lateral areas of metascutum densely crenulated. Propodeum evenly convex, wider than long, with coarse, net-like sculpture, spiracles small. Both furrows of the pronotum's side crenulated. Sternaulus narrow, crenulated, a little shortened on either side, presternal furrow narrow and crenulated, subalar area delimited ventrally by a narrow, crenulated furrow, posterior mesopleural furrow crenulated in lower half, with long hairs near middle coxa. Metapleuron only in the middle smooth, furrows strong crenulated with net-like folds, with many long hairs. Hind femora 4 times as long as broad.

Wings: st triangular, moderately wide, r arising from near the middle, r1 very short, r2 1.25 times as long as cc1, r3 slightly bent outwards, 1.5 times as long as r2, R reaching apex of wing, Cu2 remarkably narrowing outwards, nr much postfurcal by a distance nearly as long as length of nr, d more than twice as long as nr, nv interstitial, B closed, outer side of B angulated, np arising from the middle of the outer side of B, m prevailing decoloured, cu3 mostly recognizable as a fold or not at all, np reaching near edge of wing; SM' half as long as M', r' absent, cu2' developed a part, nr only indicated.

Metasoma: T1 1.5 times as long as wide, behind twice as wide as in front, straight-lined narrowing towards base, rugose with longitudinal tendency, basal carinae in basal third, only indicated as far as hind margin, spiracles small. Limits between T2–T3 not recognizable.

Colouration: Black. Yellow: mouth parts, scape, pedicel, anellus, legs, tegulae, and wing venation. Wing membrane in part a little brownish.

♀: Unknown.

***Aulonotus gorabariensis* sp.n.** (Figs. 57–61)

**Holotype** ♀: India: W. B. Darjeeling Gorabari 15. VI. 2008 Coll. F.B. Khan (NHMW).

**Etymology:** Named after the holotype location.

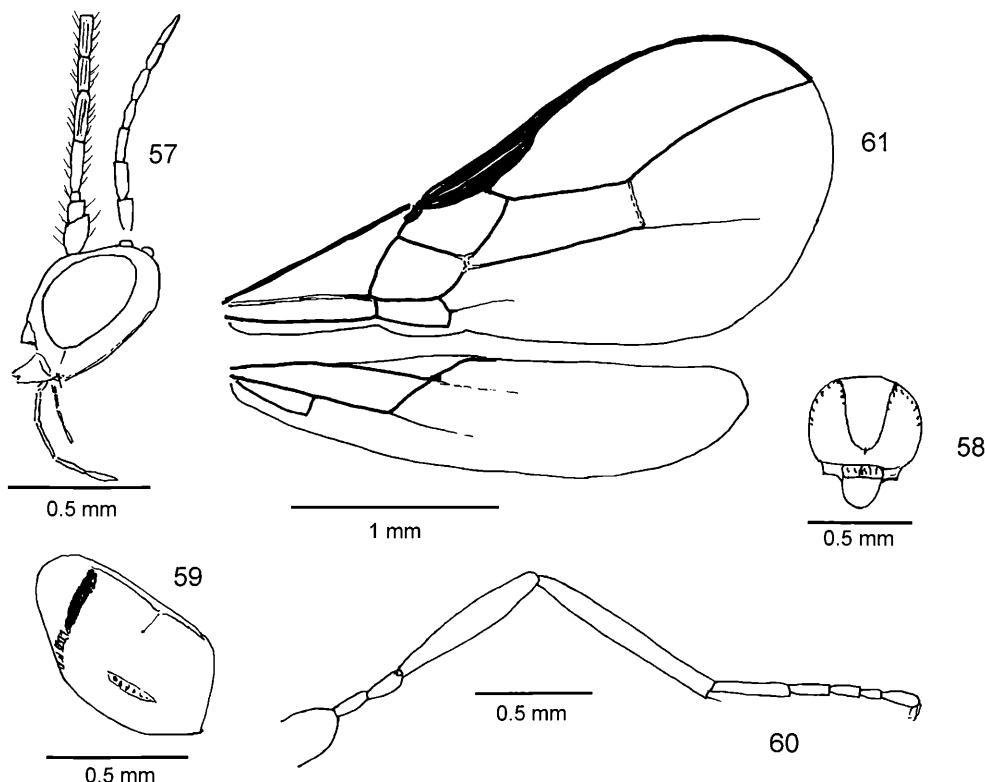
**Taxonomic position:** In the diagnostic system after FISCHER (1986 (1987), 2000), the species keys out near *A. lumpurensis* FISCHER, 1966 and cf. *Opius ovaliscapus* FISCHER, 1999. It can be distinguished as follows.

- |   |  |                                  |
|---|--|----------------------------------|
| 1 | Propodeum entirely smooth. r arising from st before middle. 2.5 mm. India.   | <i>A. gorabariensis</i> sp.n., ♀ |
| – | Propodeum rugose or with carinae.  | 2                                |
| 2 | Propodeum and metapleuron irregularly rugose. Mesosternum below with a great, round depression, the surroundings of which densely and delicately pointed, and beset with long, clear hairs. 2.7 mm. West Malaysia. | <i>A. lumpurensis</i> , ♀        |
| – | Propodeum with longitudinal and cross carina, in front of the latter smooth, only the margins crenulated. Mesosternum without such a depression. 3.1 mm. Thailand.   | cf. <i>Opius ovaliscapus</i> , ♂ |

**Description:** ♀. – Length of body: 2.5 mm.

Head: Twice as wide as long, 1.2 times as wide as mesoscutum, twice as wide as face, 2.2 times as wide as T1; eyes considerably protruding, 3 times as long as temples, narrowing behind eyes, eyes and temples rounded in a common curve, upper side smooth, only a few hairs scattered over surface, ocelli great, distance between them as long as their diameter, distance of a lateral ocellus from an eye little longer than width of ocellar area. Face 1.1 times as wide as high, median keel indicated only in upper half, with fine scattered hairs, hairs near eye margins long and erect, others bent towards the middle line, hair points very small and hardly discernible, eye margins nearly parallel. Clypeus twice as wide as high, little arched, lower edge a little retracted, with a row of long, erect hairs, the deep and smooth epistomal suture semicircular. Malar space as long as width of mandible at base. Subocular suture present. Mouth open, mandible at base not expanded, maxillary palpi about as long as height of head. Antennae 1.5 times as long as body, 30-articulated; F1–F3 2.5 times as long as wide, Fm and Fp twice as long as wide, F cylindrical, weakly separated from each other, F behind the middle becoming little narrower, 3 or 4 sensilla recognizable in lateral view.

Mesosoma: 1.33 times as long as high, upper side weakly arched. Mesoscutum a little wider than long, marginal furrows complete, not crenulated, smooth, notauli complete, reaching as far as the round dorsal fovea, united in front with marginal furrows, bare except for a few hairs at the sides, along notauli and around dorsal fovea. Prescutellar furrow with some cross folds. Scutellum triangular, as broad as long. Postaxillae striated. Lateral areas of metascutum crenulated. Propodeum smooth, shining, spiracles small, not separated from metapleuron, but completely fused. Sides of pronotum with its furrows smooth. Sternaulus crenulated, a little shortened on either side, posterior and



Figs. 57–61: *Aulonotus gorabariensis* sp.n.: (57) head with base and apex of antenna, lateral, (58) mesoscutum to scutellum, dorsal, (59) mesopleuron, (60) hind leg, (61) fore and hind wing.

anterior mesopleural furrow smooth. Metapleuron with a strong lamella on hind margin, lower marginal furrow smooth. Hind femora 5 times as long as wide.

Wings: st moderately wide, wedge-shaped distally, r arising before middle of st, r1 shorter than st broad, r1 passing in a curve into r2, r2 1.66 times as long as cc1, r3 1.6 times as long as r2, bent outwards, R reaching apex of wing, nr slightly postfurcal, Cu2 nearly parallel-sided, d 1.5 times as long as nr, nv interstitial, B closed, widened outwards, np arising from beneath the middle of outer side of B, sclerotized in basal third, the rest developed as a fold, m desclerotized towards base of wing; r' nearly absent, cu2' well developed in basal third, the rest as a fold, nr' absent, SM' less than half as long as M'

Metasoma: T1 1.5 times as long as wide, behind nearly twice as wide as in front, smooth, a semicircular carina delimiting basal area. The following T without sculpture. Ovipositor sheaths as long as T1, with two rows of long hairs, hypopygium reaching tip of metasoma.

Colouration: Black. Yellow: scape, anellus, mouth parts, legs, tegulae, and wing venation. Hind tibiae and hind tarsi darker. Coxae and trochanters white. Wing membrane uniformly brown.

♂: Unknown.



***Psytalia kuchingicola* FISCHER, 1996***Psytalia kuchingicola* FISCHER, 1996: 708, 730, ♀, ♂

**Material examined:** India: 1 ♀, Orissa. Puri Jariya, 28. VIII. 2007, Coll. F.R. Khan; 3 ♀ ♀, 1 ♂, W. B. New Alipurduar Changpara, 21. V. 2008, Coll. R.F. Khan; 1 ♀, W. B. Islampur Rasoolpur 09. VI. 2008, Coll. F.R. Khan; 1 ♀, "G Opius ♀ AZM (4) A, 15. V. 00, Samiuddin"

**Distribution:** Sarawak. New to India.

On the base of the present material a redescription with more details is presented.

**Description:** ♀. – Length of body: 2 mm.

Head: 2.2 times as wide as long, twice as wide as face, 1.25 times as wide as mesoscutum, twice as wide as T1; eyes protruding, eyes and temples rounded in a common curve, eyes twice as long as temples, distance of antennal sockets from eyes shorter than their diameter, their distance from each other about as long as their diameter, occiput nearly straight, upper side with few inconspicuous hairs, ocelli small, their distance from each other only little longer than their diameter, distance of a lateral ocellus from an eye longer than ocellar area is wide. Face 1.25 times as wide as high, middle elevation only weakly developed, smooth, eye margins parallel. Clypeus 1.5 times as wide as high, flat, in the same plane as face, much extended towards face and above nearly not separated from face, lower edge excavated, only with a few outstanding hairs. Tentorial pits small, their distance from each other 1.25 times as great as their distance from the eyes. Malar space as long as mandible is wide at base. Subocular suture fine. Mouth open, mandibles not expanded as base, but widened towards base. Antennae somewhat longer than body, 28-articulated; F1 and F2 3.5 times as wide as long, the following gradually becoming shorter, Fm and Fp about twice as wide as long, especially F of apical third clearly separated from each other at base, with numerous hairs around, hairs nearly as long as F broad, 3 sensilla visible in lateral view.

Mesosoma: 1.3 times as long as high, upper side medially flat, sloping down in front and behind (lateral view). Mesoscutum 1.4 times as wide as long, rounded in front of tegulae, notauli developed as smooth grooves on declivity, which do not reach the edge, marginal furrows only near tegulae, dorsal fovea absent. Prescutellar furrow narrow, crenulated. Scutellum wider than long, carinated behind, with numerous white hairs at the sides. A deep rugose area with numerous hairs behind the scutellum. Postaxillae crenulated behind. Propodeum rugose, with a medial keel, which is bifurcated behind. Anterior furrow of side of pronotum nearly smooth. Sternaulus broad, crenulated, reaching anterior margin, not reaching hind coxae, anterior and posterior mesopleural furrow smooth. Metapleuron with many long white hairs, lower furrow broad and crenulated, passing in front into a deep, rugose depression which is united with the propodeum. Hind femora 5 times as long as broad.

Wings: st nearly triangular, r arising near middle of st, r1 little shorter than st, forming a straight line with r2, r2 1.33 times as long as cc1, r3 bent outwards, 2.2 times as long as r2, R reaching apex of wing, nr postfurcal, Cu2 narrowing outwards, d 1.8 times as long as nr, nv postfurcal by its own length, B closed, np arising from the middle of the outer side of B, m decoloured on basal half, cu3 thin, normally coloured halfway to edge of wing; r' nearly absent, nr' absent, cu2' developed as a fold, coloured only a small part.

Metasoma: T1 as long as apically broad, in front half as wide as behind, straight-lined narrowing towards base, prevailing granulose, dorsal carinae only in front. T2 very short, very fine granulose, suture 2 hardly visible, sculpture recognizable only in traces on basal half of T2. Ovipositor sheaths about as long as metasoma.

Colouration: Head, mesosoma and T1 reddish yellow. Black: ocellar area, occiput, antennae, 3 spots on mesoscutum, propodeum more or less, and metasoma. Yellow: anellus, mouth parts, legs, and tegulae. Wing venation brownish. Wing membrane brownish.

Variability: Mesosoma in some specimens darker. Antennae 26-28-articulated.

♂: Nearly congruent with the female. Antennae of the present specimen 26-articulated, other specimens 27–29-articulated.

## Subfamily Alysiinae

### Tribus Alysiini

#### *Aspilota poonchensis* sp.n. (Figs. 62–65)

**Holotype** ♀: India: J & K Poonch, 25. III. 2006 (NHMW). **Paratype**: 1 ♀, same data as holotype.

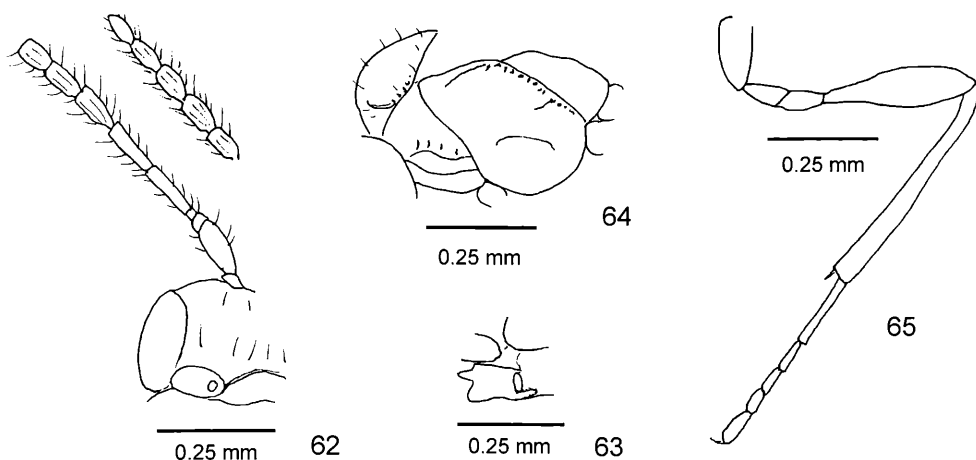
**Etymology**: Named after the type locality.

**Taxonomic position**: The species is nearest to *A. puliciformis* FISCHER, 1973 and can be distinguished as follows.

- |   |   |                             |
|---|---|-----------------------------|
| 1 | Tooth 3 of mandible extended upwards at apex. Antennae with 13–14 segments. Posterior mesopleural furrow crenulated only above, 1.8 mm Austria. | <i>puliciformis</i> , ♀     |
| – | Tooth 3 of mandible extended downwards at apex. Antennae with 15 segments. Posterior mesopleural furrow crenulated also below. 1.4 mm. India.   | <i>poonchensis</i> sp.n., ♀ |

**Description**: ♀. – Length of body: 1.4 mm.

Head: Twice as wide as long, 1.5 times as wide as face, 1.3 times as wide as mesoscutum, 5 times as wide as T1; eyes not protruding, but head across eyes as wide as across temples, temples separated weakly from eyes, distance of antennal sockets from each other as long as their diameter, their distance from eyes longer, occiput very little excavated; ocelli small, distance from each other longer than their diameter, distance of a lateral ocellus from the eye, as long as ocellar area is wide; upper side smooth, nearly completely bare, only some single long hairs near occiput and in ocellar area recognizable. Face twice as wide as high, evenly arched, with a narrow furrow medially in the upper two thirds, with some long hairs on either side of the furrow, some outstanding hairs near eye margins below, and a cross row of hairs on the more horizontal section of the face below, eye margins parallel. Clypeus 3 times as wide as high, little arched, upper edge round, lower edge straight in the middle, without hairs. Epistomal furrow smooth. Paraclypeal areas oval, extending as far as eyes. Mandible 1.5 times as long as apically wide, tooth 3 extended downwards at apex, tooth 2 pointed and longer than the others, outer side smooth, little concave, teeth 1 and 3 rounded and curved outwards; maxillary palpi as long as head is



Figs. 62–65: *Aspilota poonchensis* sp.n.: (62) part of head with base and apex of antenna, frontal, (63) mandible, (64) lower part of mesosoma, lateral, (65) hind leg.

high. Antennae shorter than body, 15-articulated; F1 and F2 3.5 times as long as broad and narrower than the following, the latter 1.25–1.5 times as long as broad, F clearly separated from each other, longest hairs as long as width of F, 2 or 3 sensilla visible in lateral view.

Mesosoma: 1.33 times as long as high, upper side rounded. Mesoscutum little wider than long, evenly rounded in front of tegulae, notauli narrow, developed on declivity and smooth, passing into the little crenulated marginal furrows, absent on disc, their imaginary course indicated by a few hairs, dorsal fovea absent. Prescutellar furrow divided, lateral areas as long as broad and smooth. Postaxillae and lateral areas of metascutum smooth. Propodeum with a basal carina and a broad pentagonal areola, the areas smooth, spiracle inconspicuous. Anterior furrow of the pronotum's side crenulated. Sternaulus impressed, but smooth, posterior mesopleural furrow crenulated. Metapleuron with its furrows smooth. Hind femur 4 times as long as broad.

Wings: st not differentiated from metacarp, r arising from base of marginal vein by the length of r1, r1 forming an obtuse angle with r2, r2 3 times as long as cc1, r3 straight, 2.25 times as long as r2, R reaching apex of wing, nr much postfurcal, Cu2 hardly narrowed outwards, d 2.5 times as long as nr, nv much postfurcal, B closed, widened outwards, np arising from above the middle of the outer side of B, only a stub of np developed, absent for the rest, the greater part of m decoloured, cu3 developed in basal half although narrowed distally, only a fold for the rest; r' and cu2' at most as folds recognizable, nr' absent, SM' half as long as M'

Metasoma: T1 3 times as long as wide, nearly parallel-sided, narrower only in front, rugose, basal excavation as long as broad, basal carinae developed in front. Ovipositor sheaths narrow, as long as T1 (lateral view), hypopygium reaching near tip of metasoma.

Colouration: Black. Yellow: scape, pedicel, anellus, F1 in part, mouth parts, legs, tegulae, and wing venation. Wing membrane hyaline.

♂: Unknown.

*Dinotrema behdalaense* sp.n. (Figs. 66–71)

**Holotype:** ♀, India: H. P. UNA Behdala, VII. 2006, Coll. S.M.A. Badruddin & F.R. Khan (NHMW). **Paratype:** India: 1 ♂, J & K Rajouri Budhal, Coll. Zaheer Mir, 25. II. 08; 1 ♀, J. & K. Poonch 25. III. 2006, donavit Zubair 2009.

**Distribution:** India.

**Etymology:** Named after the type locality.

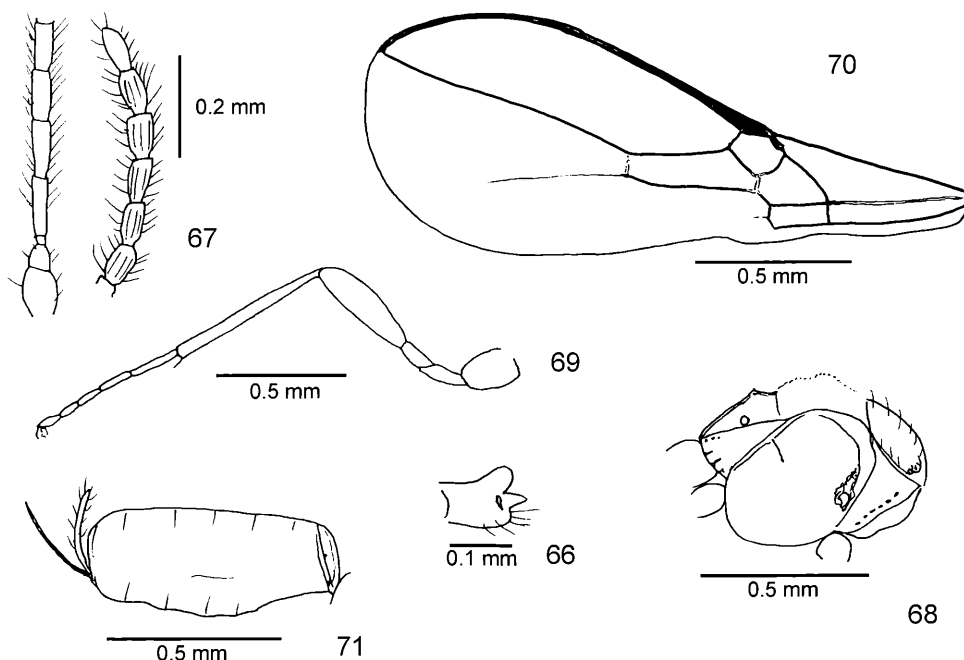
**Taxonomic position:** The next similar species is *D. significarium* (FISCHER, 1973). The two species can be separated from each other as follows.

- 1 Antennae 20- (♀) – 22–24- (♂) segmented. Black to chestnut brown, metasoma prevailing in bright light brown. Propodeum yellow, with broad longitudinal rugose stripe in ♀ (in ♂ less significant). 2.0 mm. Austria. *significarium* ♀, ♂
- Antennae 15–16- (♀) – 17- (♂) segmented. Entirely black, T1 in ♂ yellow. Propodeum with simple longitudinal carina, which is pointed in front of the middle. 1.7 mm. India. *behdalaense* sp.n. ♀, ♂

**Description:** ♀. – Length of body: 1.7 mm.

Head: 1.7 times as wide as long, 1.5 times as wide as face, 1.33 times as wide as mesoscutum, 3 times as wide as T1; eyes as long as temples, across temples as wide as between eyes, temples separated from eyes, diameter of antennal sockets hardly shorter than their distance from eyes or from each other, ocelli small, distance from each other longer than their diameter, distance from eyes longer than ocellar area is wide; occiput little excavated, upper side nearly completely bare. Face 1.5 times as wide as high, evenly convex, middle elevation only above recognizable, with scattered hairs, hair points very small. Tentorial pits slightly oval, as wide as their distance from eyes. Clypeus twice as wide as high, slightly arched and little projecting from the face, with a few hairs only. Mandible about as wide as long, tooth 1 broad, rounded apically, projecting as far as tooth 2, the latter pointed, tooth 3 rounded, between tooth 1 and 2 a sharp incision, between tooth 2 and 3 a right angle, the latter with some bent hairs, outer side shining, lower edge straight, upper edge bent upwards. Antennae shorter than body, 16-segmented; F1 3 times as long as wide and narrower than the following, the latter gradually becoming wider, Fm about 1.5–2 times as long as wide, Fp not more than 1.5 times as long as wide, most F clearly separated from each other, hairs as long as F are broad, 3 sensilla visible in lateral view.

Mesosoma: 1.3 times as long as high, upper side curved. Mesoscutum 1.2 times as wide as long, rounded at sides, more or less straight in front, notauli developed on declivity and crenulated, passing into marginal furrows, the latter little crenulated in anterior half, the imaginary course of the notauli indicated by some hairs, dorsal fovea small, little lengthened. Prescutellar furrow divided, smooth, lateral areas as long as wide. Metascutum pointed in the middle, lateral areas with a few crenae. Propodeum smooth, with median carina and pointed in the basal third, from here arising two short oblique carinae, lateral furrows with a few notches, spiracles small. Anterior furrow of the pronotum's side crenulated. Sternaulus crenulated, shortened on either side, posterior mesopleural furrow and all other furrows of the mesosoma's side smooth. Metapleuron shining, nearly without hairs, with some notches on hind edge. Hind femora 4 times as long as broad.



Figs. 66–71: *Dinotrema behdalaense* sp. n.: (66) mandible, (67) base and apex of antenna, (68) mesosoma lateral, (69) hind leg, (70) fore wing, (71) metasoma lateral.

**Wings:** st forming with metacarp a strong marginal vein which is little broader at the base of r, r1 arising by its own length distant from the base of the marginal vein, forming an obtuse angle with r2, r2 2.4 times as long as cc1, r3 nearly straight, 2.5 times as long as r2, R reaching apex of wing, nr postfurcal, Cu2 only weakly narrowing outwards, d 2.2 times as long as nr, nv interstitial, B closed, np arising from the middle of the outer side of B, basal half of m more or less decoloured, np developed as a fold, cu3 narrowing and reaching as far as two thirds towards the wing margin; r', cu2' and nv' absent, SM' half as long as M'

**Metasoma:** T1 1.8 times as long as apically wide, little narrowing towards base, smooth, dorsal carinae weakly indicated as far as hind margin, lateral spiracles inconspicuous. Ovipositor sheaths projecting beyond apex of metasoma, as long as T1 (lateral view).

**Variation:** Antennae 15-segmented. Crenulation of anterior furrow of the pronotum's side nearly absent. T1 dark yellow. Oblique carinae of propodeum shorter.

**Colouration:** Black. Yellow: scape, pedicel, anellus, mouth parts, legs, tegulae, and wing venation. Wing membrane hyaline.

♂: Antennae as long as body, 17-segmented, most segments twice as long as wide. Propleuron and T1 yellow.

### *Dinotrema kaleambense* sp.n. (Figs. 72–76)

**Holotype** ♀: India: H. P. Hamipur Kale Amb, 28. VI. 2006, Coll. S.M.A. Badruddin & F.R. Khan: (glued behind on a card together with another braconid belonging to *Opius* which is glued in front) (NHMW).

**Distribution:** India.

**Etymology:** Named after the type locality.

**Taxonomic position:** The next similar species is *D. nigricornis* (THOMSON, 1895). The two species can be separated from each other as follows.

- |   |  |                             |
|---|--|-----------------------------|
| 1 | Longitudinal carina and the lateral furrows of the propodeum simple. Ovipositor hardly projecting. 2.1–2.4 mm. Sweden, Austria.  | <i>nigricornis</i> , ♀ ♂    |
| – | Each side of the longitudinal carina of the propodeum with clear, short cross folds. Lateral furrows of the propodeum crenulated. Ovipositor sheaths projecting beyond the apex of the metasoma by a distance more than the length of the T1. 2 mm. India. | <i>kaleambense</i> sp.n., ♀ |

**Description:** ♀. – Length of body; 2 mm.

Head: Twice as wide as long, 1.66 times as wide as face, 1.4 times as wide as mesoscutum, 2.5 times as wide as T1; eyes as long as temples, across temples as wide as across eyes, upper side nearly bare, ocelli obviously small and of ordinary shape (exact size not possible to describe because of preparation), distance of antennal sockets from each other and from eyes about as long as their diameter. Face 1.66 times as wide as high, evenly convex, middle elevation nearly absent, with fine, scattered hairs, hair points hardly discernible, eye margins parallel. Clypeus 3 times as wide as high, obliquely outstanding, rhomboidal, with inconspicuous hairs. Tentorial pits oval, hardly as broad as their distance from eyes. Mandible little longer than wide, broadened towards apex, tooth 1 as long as tooth 2, tooth 3 broad and round, an incision between tooth 2 and 3, a right angle between tooth 1 and 2, upper edge bent upwards, lower edge straight, outer side smooth; maxillari palpi about as long as head is high. Antennae as long as body, 20-articulated; F1 3 times as long as wide and narrower than the following, F2 twice as long as wide, Fm about 1.5 times as long as wide, the few apical F twice as long as wide and little narrower; F clearly separated from each other, longest outstanding hairs at least as long as width of F, 3 sensilla visible in lateral view.

Mesosoma: 1.3 times as long as high, upper side curved. Mesoscutum somewhat wider than long, rounded in front of tegulae, notauli developed on declivity and with some cre-nae, passing into marginal furrows, which are hardly crenulated, imaginary course of the notauli indicated by a few hairs, dorsal fovea small. Prescutellar furrow divided, smooth, lateral areas hardly wider than long, weakly rounded behind and on sides. Scutellum round, little wider than long. Postscutellum smooth. Lateral areas of metascutum with a few folds. Propodeum smooth, with a median longitudinal carina, with short cross folds on either side of the carina, carina divided at apical end and passing on either side into an apical carina, lateral furrows little crenulated lateral, spiracles small. Sternaulus very weakly crenulated and shortened on either side, the remainder furrows of the mesosoma's side smooth. Hind femora 5 times as long as broad.

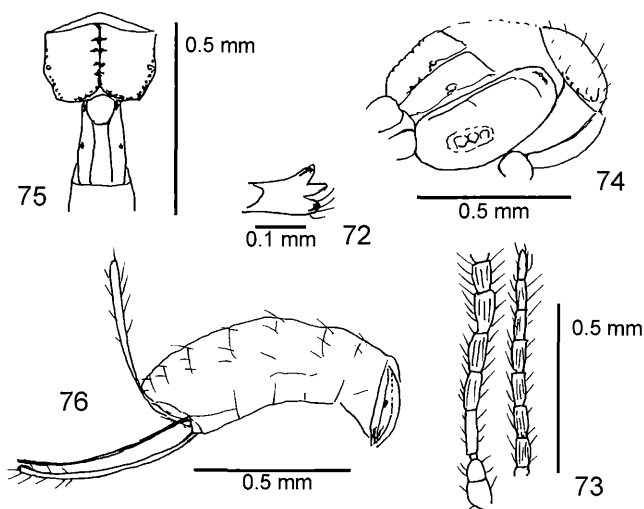
Wings: st and metacarp forming an anterior marginal vein, r arising from base of st by the length of r1, r1 forming an obtuse angle with r2, r2 twice as long as cc1, r3 weakly bent outwards, 2.5 times as long as r2, R reaching tip of wing, nr postfurcal, Cu2 very weakly narrowed outwards, d twice as long as nr, nv postfurcal, B closed, np arising from the middle of the outer side of B, m decoloured towards base, np prevailing indi-

cated as a fold, cu3 developed only a short distance; SM' half as long as M', nr' absent, cu2' prevailing developed as a fold.

Metasoma: T1 twice as long as wide, straight lined narrowing towards base, basal excision as long as wide, dorsal carinae reaching as far as hind edge, area between them elevated and with a longitudinal fold, lateral areas smooth, spiracles inconspicuous. Ovipositor sheaths at least half as long as metasoma (about as long as gaster).

Colouration: Black. Yellow: scape, pedicel, anellus, mouth parts, propleuron, legs, tegulae, and wing venation. T1 and part of T2 dull yellow. Wing membrane hyaline.

♂: Unknown.



Figs. 72–76: *Dinotrema kaleambense* sp.n.: (72) mandible, (73) base and apex of antenna, (74) mesosoma, lateral, (75) propodeum and T1, dorsal, (76) metasoma, lateral.

## Dacnusiini

The basic literature for identificaion of the Dacnusiini of the Old World constitute the papers by NIXON, GRIFFITHS, TOBIAS and BELOKOBYSKIY & TOBIAS (see references).

### *Chorebus rajouriensis* sp.n. (Figs. 77–80)

**Holotype** ♀ : India: J & K Rajouri Budhal, Coll. Zaheer Mir, 25. 11. 08 (glued near to pin on one card with a ♀ paratype) (NHMW). **Paratypes**: 2 ♀ ♀, J & K Poonch, 25. 10. 08, Coll. Zaheer Mir (♀ near to pin a specimen of *Ch. rajouriensis* sp.n., the other female is a *Orthostigma* sp.).

**Distribution**: India.

**Etymology**: Named after the Indian district Rajouri.

**Taxonomic position**: The species keys out at *C. parvungula* (THOMSON, 1895) in TOBIAS' key (1986/1995). It can be separated as follows.

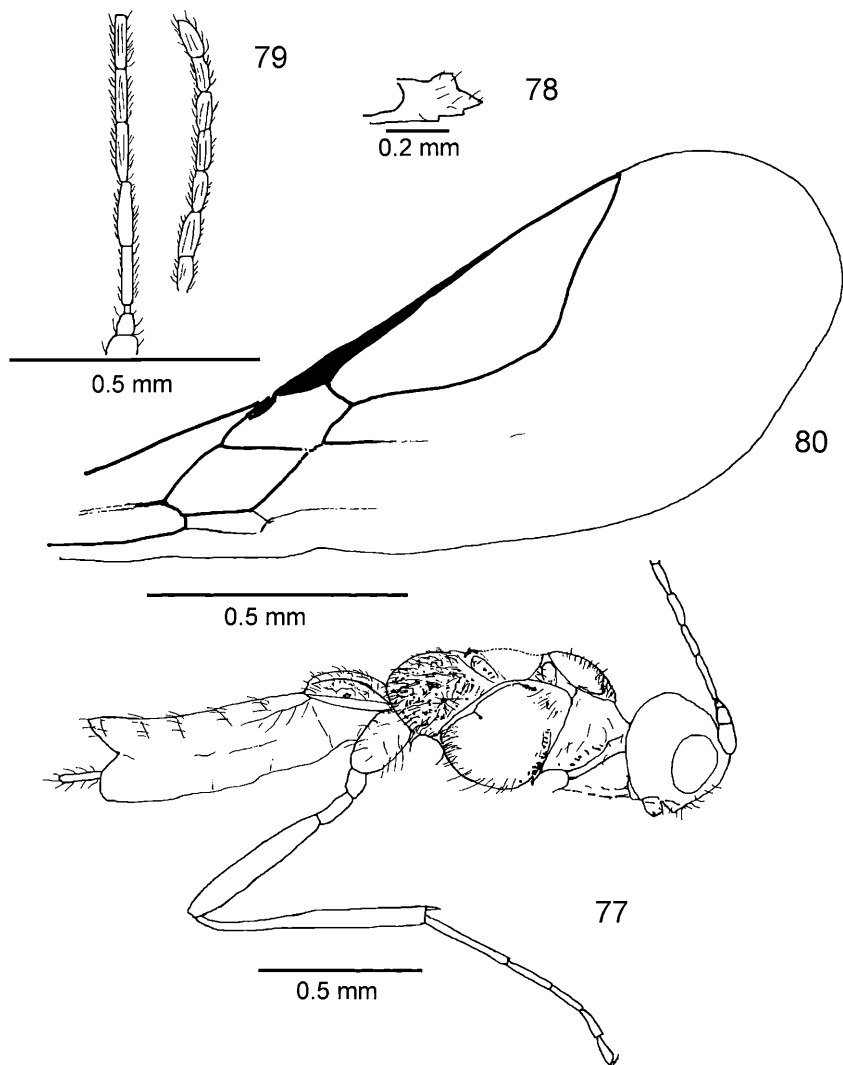
- 1 Sternaulus present and crenulated, extending as far as anterior margin and often reaching also hind margin. T2 reddish, the rest of the metasoma dark. Legs dark, at least the coxae and tarsi tending to brown. Western Europe, Kazakhstan.

*parvungula*, ♀, ♂

- Sternaulus absent. All legs entirely and metasoma bright yellow. 2 mm ♂. India.

*rajouriensis* sp.n., ♀

**Description**: ♀. – Length of body: 2 mm.



Figs. 77–80: *Chorebus rajouriensis* sp.n.: (77) head, mesosoma, metasoma, and hind leg, lateral, (78) mandible, (79) base and apex of antenna, (80) forewing.

Head: Rectangular, 1.6 times as wide as long, 1.7 times as wide as face, 1.4 times as wide as mesoscutum, twice as wide as T1; temples about 1.2 times as long as eyes, across temples as wide as between eyes, distance of antennal sockets from each other and from eyes about as long as their diameter, occiput nearly straight, upper side nearly bare, ocelli small, their distance from each other longer than their diameter, distance of a lateral ocellus from an eye longer than width of ocellar area, epicranial suture absent. Face (without clypeus) about 1.2 times as wide as high, middle elevation absent, with scattered hairs, white hairs of the middle stripe bent towards the middle line, hairs of lateral areas inconspicuous, hair-points hardly discernible, eye margins parallel. Clypeus 4 times as wide



as high, rhomboidal, lower edge little retracted, slightly arched, with very fine, longer, outstanding hairs, hair points hardly discernible. Tentorial pits small. Mandible little longer than wide, hardly broadened towards apex, tooth 1 rounded, tooth 2 pointed and projecting, teeth 3 and 4 pointed, tooth 3 nearer to tooth 2 than to tooth 4, teeth directed outwards, outer surface with numerous fine hairs, near the teeth bare; maxillary palpi about as long as head is high. Antennae little longer than body, 30-articulated; F1 and F2 4 times as long as wide, all F elongate, Fm about 3 times as long as wide, F becoming gradually shorter towards the end, those of the apical quarter 2–2.5 times as long as wide, Fp twice as long as wide; F clearly separated from each other at their basis, hairs shorter than their width, 2 sensilla discernible in lateral view.

Mesosoma: 1.6 times as long as high, upper side (lateral view) very slightly curved, nearly flat. Mesoscutum about 1.25 times wider than long, evenly rounded in front, anterior face of the three lobes with numerous hairs, hairs extending also over middle lobe, rest of lateral lobes bare and shining, hair points distinct, dorsal fovea narrow and elongated, notauli nearly absent on disc, very weak only on declivity and passing in a bend into the lateral furrows, a crenulation nearly absent. Prescutellar furrow rectangular, with some folds, lateral areas as wide as long. Scattered hairs over axillae. Postaxillae with some folds. Metascutum with a small point in the middle, lateral areas little sculptured in the depth, with some scattered hairs over them. Propodeum truncate in posterior fourth, with white-filthy hairs covering the surface, the latter granulated, spiracles inconspicuous, not clearly separated from metapleuron. Side of pronotum smooth, with long, white scattered hairs, which do not hide the surface, anterior furrow deep, with some folds. Sternaulus absent, presternal furrow crenulated, passing into anterior mesopleural furrow, which is crenulated in the lower part, posterior mesopleural furrow smooth, subscutellar area with numerous curved, white-filthy hairs, a few white hairs on the posterior corner. Mesosternum evenly convex, covered with scattered white hairs. Metapleuron like propodeum covered with long, white hairs completely covering the surface, with radiating hairs around a central swelling, a separation from propodeum not visible. Hind coxae without a tuft of hairs, but with some scattered outstanding hairs, hind femora 5 times as long as broad, hind tarsi as long as hind tibia.

Wings: st narrow, distally wedge shaped, metacarp shorter than st, r arising from base of st by a distance equal to the length of r1, r1 forming an obtuse angle with r2, r2 bisinuate, R ending near apex of wing, but not reaching it, cc1 little longer than r1, nr remarkable antefurcal, d about as long as nr, nv postfurcal, B closed, np arising from the middle of the distal side of B, cu2 a part normally developed, m decoloured in greater part; r' and cu2' indicated as folds, SM' half as long as M'

Metasoma: T1 1.5 times as long as broad, narrowed towards base, dorsal carinae weak, reaching as far as hind margin, with numerous evenly distributed white hairs, surface rough, spiracles inconspicuous. T2 and T3 laterally with sharp edges. Ovipositor sheaths not projecting beyond apex of metasoma.

Colouration: Black. Reddish-yellow: scape, anellus, mouth parts, legs, tegulae, wing venation, and metasoma except the 3 apical segments. Tarsi very weakly infuscated. Wing membrane hyaline.

Variability: In two paratypes pubescence of propodeum, metapleuron and T1 less dense.

♂: Unknown.

## Further records from the donated Indian material

### Subfamily Opiinae

#### *Opius (Tolbia) thaicorus* FISCHER, 1999

*Opius (Tolbia) thaicorus* FISCHER, 1999: 301, ♀.

**Material examined:** 1 ♀, India: Orissa, Puri Chandanpur, 29.XI.2007, Coll. R.F.Khan.

**Distribution:** Thailand, new to India.

#### *Opius (Phaedorotoma) phaseoli* FISCHER, 1963

*Eurytenes nanus* ASHMEAD, 1904: (praeocc.) 148, ♀ (pro 1905).

*Opius phaseoli* FISCHER, 1963 (nov. nom.): 222, 224 (redescription).

*Opius phaseoli*, FISCHER 1971: 12 (♂ new).

*Opius (Phaedorotoma) phaseoli*, FISCHER 1987: 481 (key).

**Material examined:** India: 7 ♀ ♀, H. P. Hamirpur, Kale Amb, 28.VI.2006, Coll. S.M.A. Badruddin & F.R. Khan; 1 ♀, W. B. Raiganj Seesgram, 11.VI.2008, Coll. F.R. Khan; 8 ♀ ♀, 1 ♂, W. B. Darjeeling Gorabari, 15.VI.2008, Coll. F.R. Khan.

**Distribution:** From Uganda, Ethiopia, Kenya over India as far as the Philippine Islands; introduced to Hawaii.

#### *Aulonotus illatus* (FISCHER, 1966)

**Material examined:** 1 ♀, India: Assam Guwahati, Sansari 29.X.2008, Coll. F.R. Khan.

### Subfamily Alysiinae

#### *Idiasta totinigra* FISCHER, 2008

*Idiasta totinigra* FISCHER, 2008: 715, ♀.

**Material examined:** 1 ♂, India: J & K. Poonch, Coll. Zaheer Mir 12.9.2008.

The male is new. Antennae somewhat longer than body, at least 45-articulated. Most F twice as long as wide.

**Distribution:** India.

#### *Aspilota brunnea* BHAT, 1979

*Aspilota brunneus* BHAT, 1979: 367 (key), 375, ♀, ♂.

*Aspilota brunnea*, FISCHER 1994: 196 (redescr.).

**Material examined:** 2 ♂ ♂, India: J & K Poonch, 25. III. 2006, donavit Zubair 2009.

***Lepton nigrum* (NEES, 1812)***Stephanus niger* NEES AB ESENBECK, (1811) 1812: 5, ♂.*Coelinus niger* NEES AB ESENBECK, 1834: 20*Coelinidea niger*, SHENEFELT 1974: 1072.*Lepton nigrum*, YU, VAN ACHTERBERG & HORSTMANN 2005.**Material examined:** 1 ♂, India: W. B. Darjeeling, Gorabari, 15.VI.2008, Coll. F.R. Khan.**Distribution:** Nearly entire Palearctic Region, India (new).**Acknowledgements**

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**References**

- ACHTERBERG C. VAN, 1997: Braconidae. An illustrated key to all subfamilies. – ETI World Biodiversity Database CD-ROM Series.
- ACHTERBERG C. VAN, 1988: The genera of the *Aspilota*-group and some descriptions of fungicolous Alysiini from the Netherlands. – Zoologische Verhandelingen, Leiden 247: 3–88.
- ASHMEAD W.H., 1904: Descriptions of new genera and species of Hymenoptera from the Philippine Islands. – Proceedings of the United States National Museum 28: 127–158.
- BELOKOBYLSKIJ S.A. & TOBIAS V.I., 1998: Key to the insects of Russian Far East, IV/3, Alysiinae: 162–411 (Russian).
- BHAT SHAMA, 1979: Studies on the genus *Aspilota* FOERSTER. – Oriental Insects 13: 365–381.
- DOCAVO I., FISCHER M. & TORMOS J., 2001: New species of *Chorebus* (Hymenoptera: Braconidae) from the Iberian Peninsula. – Entomological News: 232–240.
- DOCAVO I., TORMOS J. & FISCHER M., 2002: Three new species of *Chorebus* from Spain (Hymenoptera: Braconidae: Alysiinae). – Florida Entomologist 85 (1): 208–215.
- DOCAVO ALBERTI I., TORMOS FERRANDO J. & FISCHER M., 2006: Bracónidos de España (Hym., Braconidae). Síntesis general de la familia, subfamilia Alysiinae. – Diputació de València, Ajuntament de ajuntaments, Patronat Valencià de Zoologia Ignacio Docavo, Generalitat Valenciana: I–XVI, 1–376.
- FISCHER M., 1963: Die orientalischen und australischen Arten der Gattung *Opius* WESM. – Acta Entomologica Musei Nationalis Pragae 35: 197–242.
- FISCHER M., 1987: Das Tierreich. The Animal Kingdom 104, Hymenoptera, Opiinae III – äthiopische, orientalische, australische und ozeanische Region. – Publishers Walter de Gruyter, Berlin, XV + 734 pp.
- FISCHER M., 1988: Beschreibungen von Opiinen-Wespen; besonders aus Neu Guinea (Hymenoptera, Braconidae, Opiinae). – Linzer biologische Beiträge 20 (2): 847–917.
- FISCHER M., 1994: Überarbeitung von indischen Arten der *Aspilota*-Gruppe (Hymenoptera, Braconidae, Alysiinae). – Linzer biologische Beiträge 26 (1): 195–247.
- FISCHER M., 1996: Opiinen-Wespen der Alten Welt aus den Sammlungen in Leiden, München, Paris, Wien und Honolulu (Hymenoptera, Braconidae). – Linzer biologische Beiträge 28 (2): 675–730.
- FISCHER M., 1999: Zur Evolution und zum System der *Opius*-verwandten Gattungen der Unterfamilie Opiinae mit einer erweiterten Aufteilung dieses Gattungs-Komplexes (Hymenoptera, Braconidae, Opiinae). – Linzer biologische Beiträge 31 (1): 277–336.

- FISCHER M., 2001: Genauere Studien an jüngst beschriebenen Dacnusi aus dem Fernen Osten Russlands und weiteren Formen aus der Paläarktis (Mit einem Anhang über Alysini) (Hymenoptera, Braconidae, Alysini). – Linzer biologische Beiträge 33 (1): 35–82.
- FISCHER M., 2001: Mitteilungen über neue und schon bekannte *Opius* WESMAEL-Arten der Alten Welt (Hymenoptera, Braconidae, Opiinae). – Linzer biologische Beiträge 33 (1): 5–33.
- FISCHER M., 2008: Über die Gattungen *Idiasta* FOERSTER, *Aphaereta* FOERSTER und *Hylcalosia* FISCHER (Hymenoptera, Braconidae, Alysini). – Linzer biologische Beiträge 40 (1): 703–734.
- FISCHER M. & SAMIYUDDIN A., [2009] 2008: Tiny Indian Alysini (Insecta: Hymenoptera: Braconidae) collected by Ahmad Samiuddin. – Annalen des Naturhistorischen Museums in Wien, B, 109: 131–146.
- FISCHER M., TORMOS J., PARDO X. & JIMÉNEZ R., 2002: New Dacnusi from the Iberian Peninsula and the Canary Islands (Hymenoptera, Braconidae, Alysini). – Revue Suisse de Zoologie 109 (4): 715–723.
- FISCHER M., TORMOS J., DOCAVO I. & PARDO X., 2004: A new species of *Antrusa* and three new species of *Chorebus* (Hymenoptera: Braconidae) from the Iberian Peninsula. – Florida Entomologist 87 (3): 306–311.
- FISCHER M., TORMOS J., PARDO X. & JIMÉNEZ R., 2004: New species of *Chorebus* from the Canary Islands (Hymenoptera, Braconidae). – Fragmenta entomologica, Roma 36 (1): 85–88.
- FOERSTER A., 1862: Synopsis der Familien und Gattungen der Braconen. – Verhandlungen des Naturhistorischen Vereins der preußischen Rheinlande und Westphalens 19: 225–288.
- GRIFFITHS G.C.D., 1964: The Alysini (Hymenoptera, Braconidae) parasites of the Agromyzidae (Diptera). I. General questions of taxonomy, biology and evolution. – Beiträge zur Entomologie 14: 823–934.
- GRIFFITHS G.C.D., 1966a: The Alysini (Hym., Braconidae) parasites of the Agromyzidae (Diptera). II, The parasites of *Agromyza* FALLÉN. – Beiträge zur Entomologie 16: 551–605.
- GRIFFITHS G.C.D., 1966b: The Alysini (Hym., Braconidae) parasites of the Agromyzidae (Diptera). III. The parasites of *Paraphytomyza* ENDERLEIN, *Phytomyza* HENDEL and *Phytomyza* FALLÉN. – Beiträge zur Entomologie 16: 775–951.
- GRIFFITHS G.C.D., 1967: The Alysini (Hym., Braconidae) parasites of the Agromyzidae (Diptera) IV. The parasites of *Hexomyza* ENDERLEIN, *Melanagromyza* HENDEL, *Opiomyia* BRASCHNIKOV and *Napomyza* WESTWOOD. – Beiträge zur Entomologie 17: 653–696.
- GRIFFITHS G.C.D., 1968a: The Alysini (Hym., Braconidae) parasites of the Agromyzidae (Diptera). V. The parasites of *Liriomyza* MIK and certain small genera of Phytomyzinae. – Beiträge zur Entomologie 18: 5–62.
- GRIFFITHS G.C.D., 1968b: The Alysini (Hym., Braconidae) parasites of the Agromyzidae (Diptera). VI, The parasites of *Cerodontha* RONDANI s.l. – Beiträge zur Entomologie 18: 63–152.
- GRIFFITHS G.C.D., 1984: The Alysini (Hym., Braconidae) parasites of the Agromyzidae (Diptera). VII. Supplement. – Beiträge zur Entomologie 34: 343–363.
- HALIDAY A.H., 1833: An essay on the classification of the parasitic Hymenoptera of Britain, which correspond with the Ichneumones minuti of Linnaeus. – Entomological Magazine 1: 259–276.
- NEES AB ESENBECK C.G., (1812) 1814: Ichneumones adsciti, in genera et familias divisi. – Magazin der Gesellschaft Naturforschender Freunde zu Berlin 5: 3–37; 6: 183–221. – (1813) 1816, 7: 243–277.
- NEES AB ESENBECK C.G., 1834: Hymenopterorum Ichneumonibus affinium, monographiae genera Europaea et species illustrantes 1. – Stuttgart & Tübingen 320 pp.

- NIXON G.E.J., 1937: British species of *Dacnusa* (Braconidae). – Transactions of the Society for British Entomology 4: 1–88.
- NIXON G.E.J., 1943: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 79: 20–34, 159–168.
- NIXON G.E.J., 1944: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 80: 88–108, 140–151.
- NIXON G.E.J., 1945: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 81: 189–204, 217–229.
- NIXON G.E.J., 1946: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 82: 279–300.
- NIXON G.E.J., 1948: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 84: 207–224.
- NIXON G.E.J., 1949: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 85: 289–298.
- NIXON G.E.J., 1954: A revision of the European Dacnusiini (Hym., Braconidae, Dacnusiinae). – Entomologist's monthly Magazine 90: 257–290.
- RATZBURG J.C.T., 1844: Die Ichneumoniden der Forstinsekten in forstlicher und entomologischer Beziehung. – Berlin, Nicolai 1, 224 pp.
- SAMIUDDIN A., AHMAD Z. & SHAMIM M., 2009: Taxonomic studies of the genus *Opius* (Hymenoptera: Braconidae: Opiinae) from India. – Oriental Insects 43: 159–199.
- SHARMA V., 1978: Taxonomic studies on Indian Braconidae. – Oriental Insects 12: 173–132.
- SHENEFELT R.D., 1974: Hymenopterorum Catalogus, pars 11, Braconidae 7, Alysini: 937–1113.
- TOBIAS V., 1966: New species of braconids (Hymenoptera, Braconidae) from Turkmenia and adjacent territories. – Akademii Nauk, Trudy Zoologicheskogo Instituta 37: 111–131 (Russian).
- TOBIAS V.I., 1986: Opredelitel' nasekomykh Evropejskoj tchsasti SSSR III, Perep. Hymenoptera, Braconidae, Alysini 5: 100–231 (in Russian).
- TOBIAS V.I., 1995: Keys to the Fauna of the USSR III, Hymenoptera V, Science Publishers 10 Water St., # 310, Lebanon, NH 0376, USA (translation from Russian).
- TORMOS J., PARDO X., JIMÉNEZ R., ASIS J.D. & GAYUBO S.F., 2003: Descriptions of adults, immature stages, and venom apparatus of two new species of Dacnusiini: *Chorebus pseudoasphodeli* sp.n., parasitic on *Phytomyza chaerophili* KALTENBACH, and *C. pseudoasramenes* sp.n., parasitic on *Cerodontha phragmitophila* HERING (Hymenoptera: Braconidae: Alysini; Diptera: Agromyzidae). – European Journal of Entomology: 393–400.
- WHARTON R.A., 1987: Changes in nomenclature and classification of some Opiinae Braconidae (Hymenoptera). – Proceedings of the Entomological Society of Washington 89 (1): 61–73.
- WHARTON R.A., 1988: Classification of the braconid subfamily Opiinae (Hymenoptera). – Canadian Entomologist 120: 333–360.
- WHARTON R.A., 1997: Generic relationships of Opiinae (Hymenoptera) parasitic on fruit-infesting Tephritidae (Diptera). – Contributions of the American Entomological Institute 30 (3): 3–53.
- YU D.S., VAN ACHTERBERG C. & HORSTMANN K., 2005: World Ichneumonoidea 2005. Taxonomy, biology, morphology and distribution [Braconidae]. – Taxapad 2006 (Scientific names for information management) Interactive electronical catalogue on DVD/CD-ROM. Vancouver.
- ZETTERSTEDT J.W., 1838 (1840): Insecta Lapponica. Sectio secunda Hymenoptera. – Lipsiae, Voss. 1140 pp., Braconidae: 398–407.

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