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Generic synopsis of Mesitinae KIEFFER, 1914
(Hymenoptera: Bethylidae)

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Abstract

World genera of Mesitinae (Hymenoptera: Bethylidae) are revised and keyed. In view to ensure monophyly, seven genera are proposed as new, incorporated in four tribes with three of them new. Three new combinations are performed. This study, based on revision of material from all major collections, includes an identification key, a concise phylogenetic analysis, and distributional data.

Zusammenfassung

Die Welt Genera der Mesitinae (Hymenoptera, Bethylidae) werden revidiert und mit einem Bestimmungsschlüssel versehen. Im Bestreben nach Monophylie werden sieben neue Gattungen in vier Triben, drei davon neu, vorgeschlagen. Drei neue Kombinationen werden durchgeführt. Diese Arbeit basiert auf der Revision von Material aus allen wichtigen Sammlungen. Sie enthält einen Bestimmungsschlüssel, eine kurze phylogene-tische Analyse und Verbreitungsdaten.

Introduction

Members of the subfamily Mesitinae are minute aculeate wasps, which resemble at first sight to some Cleptidae and Ampulicidae, due to the longitudinally furrowed pronotal disc and acute propodeal spines. In their larval stage they develop as pupal ectoparasites of the leaf-beetles (Coleoptera: Chrysomelidae). All known species are confined to the Old World tropics and temperate areas. In the classical treatise of the Bethylidae by KIEFFER (1914) only 35 nominal species are enumerated and included into the genus *Mesitius* SPINOLA. Nowadays, there are altogether 202 species-group names available, placed into 12 extant genera (GORDH & MÓCZÁR 1990). Mesitines are extremely conspicuous habitually, both in their sculpture, habitus and coloration. Frequently possess very deeply engraved black or bright red integument, an external character state which not currently arises in other subfamilies of Bethylidae. Despite, mesitines maintain few taxonomically reliable character-states. In addition, they are highly variable. The strong sculpture is dimi-

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nished when the body size decrease, and probably this is host-size dependent character state. In very long series collected, all possible grades of character-release could be detected, from present, to imprecise, or completely absent. It was recognized, that three of all character-states are accurate, diagnostic and unambiguously definable within this subfamily: disposal of covering pubescence of male flagellum (MÓCZÁR 1970), general shape of subgenital plate (NAGY 1972), and placement of ocellar triangle. All other features considered in the past, are variable. Moreover, identification of male is relatively easy task, whereas identification of female is rather difficult to almost impossible, if no male associated with it. The key presented below introduces a number of newly revealed characters. The male genital structure, very possibly diagnostic, was not studied comparatively in all species involved.

The additional material studied in the present study is being mentioned here with exact citation of the original label, and not translated or updated. This because, some undesired alteration will made difficult recognition of the specimen in the collection at forthcoming time.

Phylogeny and classification

There are reasons to believe, that the precursor of Bethylidae was reminiscent to *Kisleva ohalona* ARGAMAN, 2001 (Kislevidae) (Pleistocene). Despite, that similar ancestor, *Protopristocera succini* BRUES, 1923, known from Lower Oligocene, with medio-longitudinal furrow on pronotal disc, as Mesitinae. Nevertheless, two earlier forms, *Procleptes carpenteri* EVANS, 1969 and *Hypocleptes rasnitsyni* EVANS, 1973 (both Cleptidae from the Cretaceous period) possess advanced tri- or quadridentate mandibles and compact clypeus, as arise in majority of contemporary Bethylidae. The Mesitinae, together with the Cleptinae, Dolichurinae and Ampulicinae, has been evolved from an earlier stock of relatively primitive aculeate wasps. All these, own the common character in having the outer frame of the middle coxae opened (Fig. 1). Thus the coxae freely rotate, and are not enclosed into a mesosternal capsule from sideward (Fig. 2), as in the more advanced Sphecidae, for instance. This type of suspended, narrow-necked mid coxa represents the strongest sinplesiomorphy for the above groups. Genus *Kisleva* ARGAMAN, 2001 gain large, sinuate eyes, ocellar triangle far removed from occipital margin, clypeus divided into upper and lower rims, and hypostoma hold large paramandibular link (Fig. 23). In addition, *Kisleva* has longitudinal genal escarpment for reception of resting antennae, as Orussidae. Paramindibular link, strong plesiomorphy, arise both in fossil Paroryssidae (Late Jurassic) and contemporaneous Megalodontidae (Hymenoptera: Symphyta). Within the subfamilies enumerated above, complete paramandibular link retained only in Ampulicinae. Large eyes present in all groups, except Mesitinae. Upper clypeal rim exhibited in *Kisleva*, is transformed in sharp triangle above of the lower clypeal lobe in additional genera of Bethylidae. The upper rim of clypeus develop in protruding longitudinal crest in Mesitinae (Figs 3, 43, 44) and numerous other bethylids. Any trace of upper rim of clypeus completely vanished in other subfamilies mentioned above (Cleptinae, Dolichurinae and Ampulicinae). The genal escarpment of *Kisleva* retained only in Mesitinae, in form of an elongated malar space. Malar space of the majority of Bethylidae equal one-half scape width. Elongated pronotum, frequently with acute humeral angles anterad, and holding thin medio-longitudinal furrow, was retained within different members of Mesitinae (Figs 3, 9, 18), Ampulicinae (Figs 10, 16), Dolichurinae (Fig. 14), Cleptinae (Figs 11-12, 17) and Amiseginae. Various genera of these similarly develop a backward directed, acutely protruding spine on postero-lateral corner of propodeum. The spine facilitates opening of the cocoon wall during the adult emergence. In some Cleptinae genera a particular, foveolate, transversal furrow is present at base of pronotal disc (Fig. 17). Similar, confluent, rather large punctures (Fig. 71), which imitate a transverse row of foveolae, evolved in most advanced genera of Mesitinae. In these genera, ocellar triangle

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to be found, partially (Fig. 19), or entirely (Fig. 22), between inner eye orbits, as in Cleptinae. Males of Cleptinae, Ampulicinae and Dolichurinae have subgenital plate entire at apex (Fig. 15), and with narrow basal stalk. The most remarkable feature of male genitalia is that the parameres are deeply divided into two longitudinal arms (Figs 27, 47, 56). Such division of parameres issue only in subfamily Cleptinae (Fig. 13), in Mesitinae, and in the genus *Sclerochroa* FÖRSTER (Bethylidae: Pristocerinae). It is again a strong sinplesiomorphy for these taxa concerned.

As a result of the present study, the subfamily Mesitinae divided into four tribes and 22 genera, considered to be monophyletic. The key presented below, however, does not follow the phylogenetic arrangement. In tribe Heterocoeliini flagellum of male is clothed with short, thick setulae (Fig. 38), subgenital plate with broad basal stalk (Fig. 49), except *Codorcas*, with narrow stalk (Fig. 6). In the tribes Mesitini, Domonkosini and Triglenusini the male flagellum is clothed with sparse thin hairs (Figs 36, 37). Subgenital plate with narrow basal stalk in Mesitini and Triglenusini (Figs 26, 33, 45), and with a broad stalk in Domonkosini (Fig. 65). In this last tribe the sides of the stalk usually diverge proximally (Fig. 63), except in *Pilomesitius* and *Domonkos*, these two having more or less parallel-sided stalk (Figs 61, 65). The most plesiomorphous genus is *Codorcas*. The *Codorcas* male possess very unusual type of subgenital plate of male (Fig. 6). Similar subgenital plate is only documented within the Bethylidae in *Sclerochroa montivagum* EVANS, 1964 (Pristocerinae) from Mexico. In the comparatively primitive tribe Mesitini upper clypeal lobe of *Kisleva* is still retained as longitudinally furrowed, apically canaliculate mid clypeal crest (Figs 43-44). This in case of both sexes of the genus *Mesitius*. In genus *Clytrovorus*, an incipient stage of longitudinally carinulated propodeal disc recognized in both sexes (Fig. 32), together with retention of anterior transverse ridge of male pronotal disc, a primitive character-state, which occur, besides, also in Dolichirinae (Fig. 14). In advanced genera, all longitudinal carinae of propodeal disc are developed (Figs 24-25, 40-42, 66, 71-72). The newly proposed tribe Heterocoeliini contains most of the generalized mesitines. They are in plentiful stage of an evolutionary progression. As consequence of this fact, the females of this tribe (Figs 24, 48, 52, 53) prove only minor diagnostic individuality. Most members of this tribe have the anterior ocellus collinear with upper top of eyes (fig. 21), as it take place in the single known species of Kislevidae (Fig. 23). In *Parvoculus* the elongated and bulky vertex (Figs 67-68) of genus *Kisleva* is still retained. The pronotal disc is delicately alutaceous, almost impunctate in *Anaylax* (Fig. 30), in *Incertosulcus* (Fig. 76,), and in some specimens of *Parvoculus*. The pronotal disc covered with rather large, flat-bottomed umbilicate setigerous punctures, especially in the case of females of the genera *Codorcas* (Fig. 18), *Heterocoelia* (Figs 24, 48, 53), *Gerbekas* (Fig. 52), *Ukayakos*, *Hamusmus* and *Pycnomesitius* (Figs 60, 62). The interpunctal spaces of pronotal disc in former three genera (*Codorcas*, *Heterocoelia* and *Gerbekas*) usually beset with minute, small and intermediate punctures, in mixture. The pronotal disc rugulose in *Itapayos*, as it is in members of tribe Domonkosini (Fig. 78). Interpunctal spaces of the head and of the thoracic dorsum are smooth, highly polished and shining in both sexes of the genera *Hamusmus* and *Ukayakos*. Are always dull alutaceous, thus opaque in other genera. Lateral areas of propodeal disc in general is coriaceous in *Codorcas* (Fig. 18) (and alutaceous in *Clytrovorus* (Fig. 32), but covered with acute transverse striolations in all other genera. In *Codorcas* the subgenital plate of male is entire at apex, with narrow basal stalk, having medio-longitudinal semitransparent stripe (Fig. 6). The male in all other genera of Heterocoeliini have subgenital plate emarginated at apex (Fig. 49, 86, 89), and broad basal stalk. In genus *Sulcomesitius* the propodeal spine is longer than in others (Fig. 72), front angle of ocellar triangle right angled in male (Fig. 74) and acute angled in female (Fig. 73). Basal stalk of *Sulcomesitius* male is broad and parallel-sided (Fig. 88). The newly proposed tribe Domonkosini contains genera that have been evolved in the direction of Cleptidae. They could have the entire ocellar triangle (Fig. 22),

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in *Zimankos* female (Fig. 71), or at least the anterior ocellus, in all other genera, placed within inner eye orbits (Fig. 19). Genus *Pilomesitius* is the most approximating overall habitus of members of subfamily Amiseginae, due to much flattened thoracic dorsum, and entirely sculptured, maculated second tergum in both sexes (Figs 60, 62). In *Domonkos*, *Topcobius* and *Zimankos* base of female pronotal disc reveal elongate, coalesced punctures. The postero-lateral spine of propodeum sometimes is very long, is fully as long as middle length of propodeal disc (Fig. 71). In *Sulcomesitius* and *Zimankos* females the flagellum is fusiform (Fig. 71), with very transverse intermediate segments. The new tribe Triglenusini also contains relatively plesiomorphous genera, with an entire subgenital plate of male (Fig. 26) and narrow basal stalk. However, they have been evolved in direction of Epyrinae, because both sexes hold on apical outer aspect of middle tibia conspicuously strong spines, as in the latter subfamily (Fig. 79). No such spinose tibiae are present in any other tribe of Mesitinae (Fig. 80). In the comparatively primitive genus *Triglenus*, both sexes are fully winged, with radialis of the female fore wing abridged into a spectral vein, and the hind basitarsus also strongly spinose as is the middle tibia. In *Pseudomesitius*, a genus of an intermediate placement, male is fully winged; the female is short winged and possess unarmed, normally pubescent hind basitarsus. In the further advanced genus *Bradepyris*, both sexes own rather short, scale-like wings (Fig. 34). Possibly that *Kisleva ohalona* ARGAMAN, as numerous woodborer parasites, also had spinose middle tibiae, a character-state retained only within the tribe Triglenusini. Owing to this, the tribe Triglenusini is considered here to be the sister-group of the complex Heterocoeliini-Mesitini-Domonkosini.

With the selection of outgroups, the Ampulicinae, Dolichurinae, Cleptinae and Amiseginae, and also Kislevidae, used in the present work, the monophyly of the subfamily Mesitinae is strongly supported. The longitudinal crest of mid clypeal lobe is developed only in Mesitinae, and in Bethylidae, but not in other subfamilies mentioned above. The presence of clypeal crest is synapomorphy of Bethylidae. On the contrary, the episternal sulcus is developed in the above mentioned subfamilies, as well as in Mesitinae, but not in any other member of the Bethylidae. The presence of episternal sulcus is an autapomorphy of the Mesitinae. An ancestral representative of Mesitinae was present in Lower Oligocene times, with the species *Uromesitius caudatus* BRUES, 1933. The analysis allows to postulate here a possible direct origin of Mesitinae from a Kislevidae-like ancestor. *Kisleva* was the first parasitic aculeate wasps, which evolved in the Early Jurassic period from primitive Megalondotidae, together with the Orussidae. Accordingly, *Kisleva* is the phylogenetically placed sister taxon of the clade Mesitinae plus Bethylidae s.lat. Only Mesitinae retain the enlarged malar space of *Kisleva*, a synplesiomorphous character-state, generating more parsimonious dendrogram. The sample characters and taxa used in this study resulted in a tribal classification of Mesitinae as it is currently recognized, and suggesting a more conservative nature of females. The grundplan condition and the diagnosis of the genera were assembled both from personal examination and published information of previous studies.

Behavior

The previously recorded host of *Clytrovorus* is Clytrinae (NAGY 1969), whereas host of *Metrionotus* and *Hamusmus*, as I as indicate here, are of Cryptocephalinae leaf beetles (Coleoptera: Chrysomelidae). The larva of both of these two subfamilies of leaf beetles reside in close-fitting portable cases, built of faecal material. The host larva when paralyzed, together with its pre-pupal case, is often transported by the wasp female into pre-existing soil crevices (Fig. 59). Worth while mentioning here that general shape of long oval cocoon of Chrysomelidae, host of Mesitinae, is altogether reminiscent of Tenthredinidae pupa, host of Cleptinae, also superficially resembles contour of walking stick eggs

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(Phasmida), host of Amiseginae.

Nomenclature

As stated by KIEFFER (1906: 384), the generic-group name, *Mesitius*, is derived from Greek "mesites" (μεσίτης, μεσιτεία, μεσιτεύειν), mediator or intermediate. It was latinized with substitution of the suffix *-es* with suffix *-ius* by SPINOLA (1851). Hence the stem is "mesit" and not "mesiti", the family group-name Mesitinae, as was proposed by BERLAND (1928), were properly composed; whereas the tribal name Mesitiini, as published by KIEFFER (1914) was incorrectly formalized. According to the International Code of Zoological Nomenclature (Edn 4, Article 11.7), the valid name of the subfamily is Mesitinae KIEFFER, 1914, attributed to the author who first proposed it and not to the author who accurately latinized it. In the following text, in conformity with the Code, senior synonymies are cited as type-species of the genera.

Subfamily **Mesitinae KIEFFER, 1914**

The unique autapomorphy of Mesitinae is that the mesopleurum divided into two halves by episternal sulcus, placed halfway between alar articulation and mesocoxal cavity. This sulcus is developed in both sexes (Fig. 2). Usually consist of an oblique row of enlarged punctures, running from meso-metapleural suture, touching ventral margin of mesopleural pit, then continues downward, up to the posterior margin of acetabular carina. The episternal sulcus of Mesitinae rather strongly developed, for instance in Chrysidinae (Chrysididae); perceptible in Dolichurinae (Ampulicidae), most of Cleptinae and Amiseginae (Cleptidae) and in family Pompilidae, but never present in any other subfamily of Bethylidae.

Presence of episternal sulcus, in combination with the following features, easily separates Mesitinae from other subfamilies of Bethylidae: antennae 13-segmented; pedicel individualized or not, i. e. first flagellar segment occasionally one-half times longer, or practically as long as pedicel (Figs 69-70); mid clypeal lobe flat ventrally, with medial, dorsal, longitudinal crest dorsally (Figs 43-44), complete from antennal toruli to apical margin of mid clypeal lobe; mandibles quadridentate (Fig. 3), but uppermost two teeth sporadically consolidated into one large, sinuate tooth; palpal formula 6-3 (Fig. 4); para-mandibular bridge not developed; malar space long, as long or longer than scape width (Fig. 2); eye moderately large, multi-facetted; lateral ocelli removed from occipital edge by width of ocellar triangle (Fig. 3); front angle of ocellar triangle acute angled, exceptionally right angled (males of *Sulcomesitius* and *Topcobius*); tegulae present; wings fully developed (Fig. 8), or abbreviated in some females (Figs 28, 32, 40, 53, 62, 68) and in male *Bradepyris* (Fig. 34); disc of mesoscutum with parapsidal furrows and notaulices; scutellum with deep, transverse basal furrow, often enlarged at extremities and also pit-like at middle; pro- and mesonotal disc, as well as scutellum frequently with medial longitudinal furrow, often unsure (or obscured by a pin or micropin, and thus not a reliable character-state for classificatory purposes); mesopleurum without prepectal carina; meta-notum not foveolate; propodeal spiracle placed dorsally, not intersect lateral carina of propodeum, separated from metanotal-propodeal suture by its own major diameter or less (Fig. 7); middle tibia spinose (Fig. 79) or unarmed (Fig. 80) on apical one-quarter; inner aspect of hind tibia with scopa; tarsal claws with minute basal tooth (Fig. 5); first sternum flat, not rectangularly abrupt on its apical half; female fourth sternum with stridulatory organ and resonator camera (Fig. 85); apical sterna of female with no protuberances or sinuate incisions; male genitalia with parameres deeply divided into two longitudinal arms (Fig. 47).

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Key to genera of the subfamily Mesitinae

1 Male flagellum densely clothed with parallel running thick setae, about one-third as long as segment thickness (Fig. 38) ..... Heterocoeliini **tribe nov.** 2
- Male flagellum clothed with thin hairs disposed at random, not less than one-half as long, or even longer, than segment thickness (Figs 36-37) 9
2 Heterocoeliini: Subgenital plate entire at apex, basal stalk narrow (Fig 6); lateral discal carinae of female propodeum completely absent ..... *Codorcas* NAGY
- Subgenital plate notched at apex, basal stalk wide (Figs 49, 64, 88); lateral discal carinae of female propodeum always present, having an abrupt outer wall 3
3 Anterior ocellus entirely placed onto vertex, above of imaginary line connecting upper eye tops (Fig. 20) ..... *Ukayakos* **gen. nov.**
- Anterior ocellus placed onto fronto-vertex, between inner eye orbits, frontal half always located anterad of imaginary line connecting upper eye tops 4
4 Entire anterior ocellus between inner eye orbits, imaginary line connecting upper eye tops run far above of anterior ocellus (Fig. 19) 5
- Fore half of anterior ocellus between inner eye orbits, imaginary line connecting upper eye tops intersect middle of anterior ocellus (Fig. 21) 6
5 Subgenital plate notched on apical two-thirds (Fig. 88); propodeal spine greatest than wide basally (Figs 73, 74); flagellum incrassate ..... *Sulcomesitius* MÓCZÁR
- Subgenital plate notched on apical one-third (Fig. 86); propodeal spine about as long as wide basally (Fig. 52); flagellum moniliform ..... *Hamusmus* **gen. nov.**
6 Subgenital plate notched on apical half or less (Figs 49, 64); interpunctal spaces on pronotal disc with intermixed minute, small and intermediate punctures 7
- Subgenital plate entirely notched on apical two-thirds (Figs 61, 63); interpunctal spaces of female pronotal disc covered with homogeneous minute punctures ... 8
7 Subgenital plate notched on apical one-third (Fig. 49); male antenna dark above and light brown below; female mesoscutum red ..... *Heterocoelia* DAHLBOM
- Subgenital plate notched on apical one-quarter (Fig. 64), male antenna usually is yellow, seldom reddish-brown; female mesoscutum black ... *Gerbekas* **gen. nov.**
8 Lateral lobe of subgenital plate slender than hollow (Fig. 61); male eye rotund; lateral declivity of female second tergum smooth ..... *Botoryan* **gen. nov.**
- Lateral lobe of subgenital plate wide than hollow (Fig. 63); male eye longer than wide; female second tergum punctate throughout ..... *Pycnomesitius* MÓCZÁR
9 Male subgenital plate with narrow basal stalk, progressively tapering proximally into an acute apex (Figs 26, 33, 45, 81-84, 87) 10
- Male subgenital plate with broad basal stalk, progressively diverging proximally (Fig. 86) or parallel-sided (Fig. 65) ..... Domonkosini **tribe nov.** 19
10 Male subgenital plate entire at apex (Fig. 26); apical outer quarter of middle tibia of both sexes armed with strong spinulae (fig. 79) ..... Triglenusini **tribe nov.** 11
- Male subgenital plate notched at apex (Figs 33, 45); middle tibia unarmed, outer aspect regularly pubescent in both sexes (Fig. 80). ..... Tribe Mesitini KIEFFER 13
11 Triglenusini: Lateral discal and sublateral carinae of propodeum lost, both sexes micropterous, with scale-like wings (Fig. 34) ..... *Bradepyris* KIEFFER
- Lateral discal and sublateral carinae of propodeum preserved; male fully winged, female macropterous or brachypterous 12
12 Male head elongated, eye shorter than occiput; apex and ventral aspect of female hind basitarsus pubescent ..... *Pseudomesitius* DUCHAUSSOY
- Male head round, eye longer than occiput; apex and ventral aspect of female hind basitarsus armed with strong spinulae ..... *Triglenus* MARSHALL
13 Mesitini: Anterior ocellus on vertex, above imaginary line connecting upper eye tops in both sexes (Fig. 20) 14

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- Anterior ocellus on upper frons, imaginary line connecting upper eye tops either transect middle of anterior ocellus, or run far above of it (Figs 19, 21) 16

14 Mid clypeal carina longitudinally excavated dorsally, canaliculated or spatulated apically in both sexes (Figs 43-44) ..... *Mesitius* SPINOLA

- Mid clypeal carina completely convex dorsally, never canaliculated or spatulated apically in either sex 15

15 Sublateral carina of propodeum lacking in both sexes (Fig. 32); pronotal disc of male with anterior, bordering transverse ridge ..... *Clytrovorus* NAGY

- Sublateral carina of propodeum present in both sexes Figs 25, 28); pronotal disc of male flat, without transverse ridge anteriorly ..... *Metrionotus* MÓCZÁR

16 Hairs of male flagellum are longer than segment thickness (Fig. 36); female first sternum convex, densely micropunctate throughout ..... *Parvoculus* MÓCZÁR

- Hairs of male flagellum only one-half of segment thickness (Fig. 37); female first sternum flat, dull rugulose basally, with superimposed acute costae on sides ... 17

17 Subgenital plate notched on apical one-quarter (Fig. 84); pronotal disc rugulose; first flagellar segment longer than pedicel; female unknown ..... *Itapayos* **gen. nov.**

- Subgenital plate notched on apical one-third (figs 81, 87); pronotal disc strongly alutaceous in both sexes; first flagellar segment not longer than pedicel 18

18 Propodeal spine thin, acute and protruding, generally yellow (Fig. 77); scutellum convex, female fore and hind tibia with sensorial spot ..... *Incertosulcus* MÓCZÁR

- Propodeal spine dark, about as long as wide basally (Fig. 50); scutellum flat and declivous behind; female tibia without sensorial spot ..... *Anaylax* MÓCZÁR

19 Domonkosini: Male flagellum is long pubescent (Fig. 36), hairs fully as long as segment thickness; female flagellum and legs black ..... *Domonkos* **gen. nov.**

- Pubescence of male flagellum clearly shorter (Fig. 37), about one-half as long as segment thickness; female flagellum and legs mostly red or testaceous 20

20 Surface of second tergum granulated in male, lineated in female; lateral lobes of subgenital plate slender than hollow (Fig. 61) ..... *Pilomesitius* MÓCZÁR

- Surface of second tergum fundamentally smooth, polished and shining, covered with scattered setigerous punctures in both sexes 21

21 Lateral lobes of subgenital plate wide than hollow (Fig. 63); female with lateral ocelli placed above of inner eye orbits (Fig. 19) ..... *Topcobius* NAGY

- Lateral lobes of subgenital plate narrow than hollow (Fig. 35); ocellar triangle of female placed between inner eye orbits (Fig. 22) ..... *Zimankos* **gen. nov.**

Tribe **Heterocoeliini tribe nov.**

Tribe contains males with short pubescent antenna (Fig. 38); with dull alutaceous integument, exceptionally smooth in black representatives of *Hamusmus*, *Ukayakos*, both sexes, and males of *Gerbekas* and *Heterocoelia*; head and pronotal disc nearly always covered with rather large, flat-bottomed, umbilicate setigerous punctures; in *Itapayos* pronotal disc rugulose; in *Codorcas*, *Gerbekas* and *Heterocoelia* secondary punctation of interpunctal spaces produced by dense, very different sized punctures: minute, small, intermediate and large ones, in mixture; clypeal keel compact; front angle of ocellar triangle acute angled, except in *Sulcomesitius* male right angled; imaginary line connecting upper eye tops intersect anterior ocellus (Fig. 21), but occasionally run below of it, *Ukayakos* (Fig. 20), or above of it, *Sulcomesitius* and *Hamusmus* (Fig. 19); subgenital plate emarginated apically, often very deeply so, in *Sulcomesitius*, *Botoryan* (Fig. 88), with broad basal stalk (Fig. 49), except *Codorcas*, with entire subgenital plate at apex, and narrow basal stalk (Fig. 6).

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Genus *Codorcas* NAGY, 1972

Type-species: *Mesitius cursor* KIEFFER, 1906, by monotypy and original designation.

Diagnosis. - Male fully winged (Fig. 39), female micropterous (Figs 3, 18) wings reach base of propodeal disc; male black, female thorax red; head and pronotal disc covered with rather large, flat-bottomed, umbilicate setigerous punctures (Figs 18, 39), interpunctal spaces less than punctures themselves, dull alutaceous and beset with different sort of mixed punctures; male antenna dark brown, flagellar segments cylindrical, circular in cross-section; imaginary line connecting upper eye tops transect anterior ocellus at middle (Fig. 3); scutellum flat, declivous; sublateral discal carinae of propodeum not developed, substituted by longitudinal impression, abrupt inwardly, but without distinct wall forming conspicuous carina outwardly; subgenital plate entire at apex, basal stalk narrow, tapering, acute proximally, with longitudinally impressed, semitransparent stripe (Fig. 6). One species known:

***Codorcas cursor* (KIEFFER, 1906)**. Holotype ♀, "Hispania, El Escorial, Castillia". Widely distributed, but local and rare. Known from Spain, France, Austria, Moravia, Hungary, Romania (including Transylvania) and Yugoslavia.

Note. - Additional material examined: 1♀ "Siebenbürgen, Vajda Récse, Fogaraschvár"; 1♂ and 1♀ "Siebenbürgen, Csíkvár, Karczfalva"; 1♀ "Siebenbürgen, Ohábicza, Szörényvár"; 1♀ "Croatia, Miholascica"; 2♀♀ "Austria inf., Hundsheimer Berg". The species *Mesitius cursor* var. *picardi* HOFFER, 1936, holotype ♀ from "Moravia, Mikulov, Sv. Kopacek" [examined] and *M. fuscicornis* var. *moravica* HOFFER, 1936 holotype ♂ from "Moravia, Steppe bei Pouzdrany" [examined] are inseparable.

Genus *Ukayakos* gen. nov.

Type-species: *Mesitius obscurus* KIEFFER, 1906, by monotypy and present designation.

Diagnosis. - Both sexes fully winged; body black; head densely covered with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, including small number of minute secondary punctures, interpunctal spaces basically smooth, highly polished and shining; pronotal disc with umbilicate punctures on sides, numerous secondary ones in middle half; male flagellar segments cylindrical, circular in cross-section; scutellum flat, declivous; postero-lateral propodeal spine as long as wide at base; subgenital plate emarginated on apical one-quarter, basal stalk wide, not tapering (Fig. 89). Resembles in many respects to *Gerbekas*. Differs with sculpture of head and thorax, and with placement of anterior ocellus above of inner eye orbits. One species known:

***Ukayakos obscurus* (KIEFFER, 1906)**. Holotype ♂, "Holland, Crève-coeur, Noord Brabant". Body black, but sometimes female pronotum with red spot; male antenna and mandible yellow or brown. Widely distributed but local and rare. Known from Russia, The Netherlands and Tadzhikistan.

Note. - The species *Metrionotus bekkeri* MÓCZÁR, 1984 holotype ♂ from Russia "Sarepta" in Zoological Institute, St. Petersburg [not seen] and *Heterocoelia nikolskajae* MÓCZÁR, 1984 holotype ♂ from Tadzhikistan in Zoological Institute, St. Petersburg [paratype examined], are inseparable. The statement of MÓCZÁR (1984) that SNELLEN described this species in 1867 is incorrect. As it was indicated by KIEFFER (1914: 303) the name was made available in 1906. According to the Code, it was a SNELLEN manuscript name, made available by KIEFFER 1906.

Remarks. - KIEFFER in his publications constantly uses the name VOLLENHOVEN for the author known as SNELLEN van VOLLENHOVEN, whereas in all books of Generic Group Names of Lepidoptera, edited by the Natural History Museum in London, uses only

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SNELLEN, as there is no source for confusion. But it is less flourishing the use of FISCHER for FISCHER von WALDHEIM, as it generates confusion with FISCHER von RÖSLERSTAMM. The complete name of the great LINNAEUS was CARL von LINNÉ, but he never used it, since scientific merit does not depends on nobility. Other author likewise uses PALISOT, while their foil uses BEAUVOIS, for the same person, PALISOT de BEAUVOIS. Hence the author name is not a component of the species nomenclature, the Code yet provides no regulations for it. In spite of this, the dissimilar use in same work, GORDH & MÓCZÁR (1990), either as: *Goniozus tibialis* VOLLENHOVEN, 1878 known from The Netherlands (on p. 31), or as: *Goniozus indicus* is a parasite on *Scirpophaga intacta* SNELLEN (p. 19), not only redundant, but it denotes an oversight and ignorance.

Genus *Pycnomesitius* MÓCZÁR, 1971

Type-species: *Mesitius peringueyi* KIEFFER, 1913, by monotypy and original designation.

Diagnosis. - Both sexes fully winged; male black, female pronotum, mesoscutum and scutellum red; head and pronotal disc covered with rather large, flat-bottomed, umbilicate setigerous punctures; interpunctal spaces less than punctures themselves, almost completely devoid of minute secondary punctures in both sexes, moderately alutaceous; imaginary line connecting upper eye tops transect anterior ocellus at middle; male antenna deep black, flagellar segments cylindrical, circular in cross-section; scutellum flat, declivous; postero-lateral propodeal spine as long as wide at base; lateral declivity of female second tergum rather densely punctate throughout, punctures large and deep; subgenital plate emarginated on apical two-thirds, lateral lobes wide than hollow, basal stalk wide. One species known:

***Pycnomesitius peringueyi* (KIEFFER, 1913)**. Distributed in Cape Province, Orange Free State, Pondoland, Natal, Namibia, Tanzania and Israel.

Note. - Additional material examined: 1♀ "South Africa, Orange Free State, Bethulie"; 1♂ "South Africa, Cape Vidal, Zulu Land"; 1♂ "Palästina, Jerusalem, Herodes Tor". Holotype ♀ of *peringueyi* from Natal, not in British Museum Natural History, London as stated by MÓCZÁR (1990); the male he associated to *peringueyi* is of *Mesitius fortidens* KIEFFER, 1913 from Cape Province, collected by TURNER in 1932, later than the description, thus could not be the type; *Mesitius turneri* BENOIT, 1968, holotype ♀ from Natal; *Metrionotus bachmaieri* MÓCZÁR, 1970, holotype ♂ from Pondoland, *M. laterinotus* MÓCZÁR, 1970, holotype ♂ from Namibia, *M. carbonarius* MÓCZÁR, 1970, holotype ♂ from Pondoland, *M. parvulus* sensu MÓCZÁR, 1970 ♂ from Tanzania, Arusha, not KIEFFER, 1906, *Heterocoelia fischeri* MÓCZÁR, 1971, holotype ♂ Pondoland and *Pycnomesitius densepunctatus* MÓCZÁR, 1971, holotype ♀ and allotype ♂ from Cape Province, Katberg, all in British Museum Natural History, London [paratypes examined], are inseparable.

Genus *Botoryan* gen. nov.

Type-species: *Mesitius discolor* NAGY, 1968, by monotypy and present designation.

Diagnosis. - Both sexes fully winged; head and thorax red dorsally, propodeum black; head and pronotal disc covered with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, weakly alutaceous, almost completely devoid of minute secondary punctures; imaginary line connecting upper eye tops transect anterior ocellus at middle; male scape bright red, flagellum brown dorsally, red ventrally; flagellar segments cylindrical, circular in cross-section; scutellum flat, declivous; postero-lateral propodeal spine as long as wide at base; lateral declivity of female second tergum basically smooth; subgenital plate emarginated on apical two-

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thirds, lateral lobes slender than hollow, basal stalk wide. One species known:

***Botoryan discolor* (NAGY, 1968).** Holotype ♂, "India, Avellieri or Arevalli, near Delhi", in United States National Museum of Natural History, Washington, D. C. [examined]. Distributed in India and Iran.

Note. - Additional material examined: 1♀ "India, Bijawar, Bundelkhand"; 1♂ "Madras, Nanguneli Taluk, Madurai". *Sulcomesitius persicus* MÓCZÁR, 1971, holotype ♀ from Iran "S. W. Persia, Escalera" in British Museum of Natural History, London [not seen] is inseparable.

Genus *Heterocoelia* DAHLBOM, 1854

Type-species: *Cleptes nigriventris* DAHLBOM, 1845, by subsequent designation of BODENSTEIN (1939).

Diagnosis. - Both sexes fully winged or female short winged; male black, female black, pronotum, mesoscutum and scutellum red; head and pronotal disc covered with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, alutaceous in female, entirely or partially smooth in male, interpunctal spaces of female densely beset with differently sized secondary punctures; imaginary line connecting upper eye tops transect anterior ocellus at middle; male scape black or brown, flagellum black, dark brown or reddish-brown dorsally and always are conspicuously lighter reddish-brown ventrally; flagellar segments dilated, strongly dorso-ventrally flattened, very long oval in cross-section; scutellum flat, declivous; postero-lateral propodeal spine as long as wide at base; lateral declivity of female second tergum with scattered setigerous punctures, of very different size; subgenital plate emarginated on apical one-third, emargination bisinuate, basal stalk wide (Fig. 49). One species known:

***Heterocoelia nigriventris* DAHLBOM, 1845.** Lectotype ♀ from Algier in Naturhistoriska Rijksmuseet, Stockholm [examined]. Distributed in Algeria, Morocco, Tunisia, Spain, Italy (including Sicily), Greece and Romania (including Transylvania).

Note. - Additional material examined: 1♀ "Algerien, Ain Sefra, Grand Atlas"; 1♀ "Algerien, Bône, Djebel Cheliah"; 1♀ "Brescello, Reggio nell'Emilia"; 1♀ "Lombardien, Villa Carlotta, Cadenabbia"; 1♀ "Marignano, San Giovanni, Forli Cattolica"; 1♀ "Grosetto, Isola di Giglio"; 1♀ "Zaragoza, Gallocanta Salzsee"; 1♂ "Palästina, Haifa, Mont Carmel"; 1♀ "Palästina, Beisan, Es Safa"; 1♂ "Albanien, Kap Pali, Durazzo". The species *Mesitius halidaii* WESTWOOD, 1874, lectotype ♂ from Italy, in Hope Museum, Oxford [examined]; *M. nitidus* KIEFFER, 1906, holotype ♀ from Tunisia; *M. ruficollis* KIEFFER, 1906, holotype ♀ from France; *Epyris pulchellus* LUCAS, 1849, holotype ♀ from Algeria; all in Museum National d'Histoire Naturelle, Paris [examined]; *M. scutellaris* KIEFFER, 1906, holotype ♀, "Griechenland, Peloponnesos, Messinia Koroni" and *M. foenarius* NAGY, 1968, holotype ♀ from Transylvania [examined], are inseparable. Actually, *nigriventris* a macropterous female, with rather scattered setigerous punctures on second tergum, head is black. No any North African male was ever examined. Is assumed that *halidaii* is the hitherto unassociated male of that species. This male frequently collected in Central and South Europe, together with *ruficollis*, a female of smaller body size than *nigriventris*. The females of both *scutellaris* and *foenarius* possess abbreviated wings and rather densely punctate second tergum. Head is dark red, entirely or on the ventral aspect in *scutellaris*, head deep black in *foenarius*. The latter species has black scutellum and side of mesoscutum; these are all red in all other females. The male from Mont Carmel has dark red pronotum and citron yellow antenna, both are very unusual features within this genus, but subgenital plate identical. Until distinct males being discovered for *scutellaris* and *foenarius*, it is considered here that all these represent the same variable species.

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Genus *Gerbekas* gen. nov.

Type-species: *Mesitius carcelii* WESTWOOD, 1874, by monotypy and present designation.

Diagnosis. - Both sexes fully winged; black, female pronotum red, mesoscutum black; head and pronotal disc of both sexes covered with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, alutaceous in female often smooth in male, and densely beset with very differently sized secondary punctures in both sexes; imaginary line connecting upper eye tops transect anterior ocellus at middle; male scape black or brown, flagellum uniformly yellow or light brown, flagellar segments cylindrical, slightly dorso-ventrally flattened, long oval in cross-section; scutellum flat, declivous; propodeal spine as long as wide at base; lateral declivity of female second tergum with scattered, minute setigerous punctures; subgenital plate with almost straight lateral margin, emarginated on apical one-quarter, basal stalk wide. One species known:

***Gerbekas carcelii* WESTWOOD, 1874.** Lectotype ♀, "France, Montpellier", in Hope Museum, Oxford [examined]. Distributed in France (including Corsica), Italy (including Sicily), Spain, Austria, Hungary, Germany, Bohemia, Greece (including Archipelago of Kykladhes), Dalmatia, Serbia, Russia, Ukraine, Romania (including Transylvania), Tunisia and Israel.

Note. - Additional material examined: 1♀ "Hérault, Montpellier, France, Castries"; 1♂ "Hungaria, Csehánka Puszta, Nógrád"; 1♂ "Siebenbürgen, Aradvár, Csermö Barakony"; 1♂ "Siebenbürgen, Biharvár, Drágacséke; 1♂ "Rumänien, Peceneaga, Dobrudscha"; 1♀ "O. Rußland, Sarepta, Volga Region", 1♀ "Rußland, Atbassar, Akmolinsk"; 1♂ "Volhynien, Zhitomir, Constantinov"; 1♂ "Palästina, Taricheae, Chirbet Kerak". The species *Mesitius halidayellus* WESTWOOD, 1874, lectotype ♂, Italy, in Hope Museum, Oxford [examined]; *M. hungaricus* KIEFFER, 1906, holotype ♂, Hungary, in Hungarian Natural History Museum, Budapest [examined], *M. gracilis* KIEFFER, 1906, holotype ♀, Tunisia, in Museum National d'Histoire Naturelle, Paris [examined]; and *M. nagyi* MÓCZÁR, 1969, holotype ♀, Corsica, in Hungarian Natural History Museum, Budapest [examined] are inseparable. The species *M. hungaricus* was described by KIEFFER from four localities of the historical Hungary: P (ilis) Maroth, Novi, Hüvösvögy and Trieste. MÓCZÁR (1966) designated the unique specimen from Novi as lectotype. Later however, MÓCZÁR (1971) stated that a specimen from Dunaharaszti, collected by BIRÓ, IX. 1907, is the lectotype. Is technically impossible that KIEFFER described in 1906 a species firstly collected in 1907.

Genus *Sulcomesitius* MÓCZÁR, 1970

Type-species: *Mesitius pondo* BENOIT, 1968, by monotypy and original designation.

Diagnosis. - Both sexes fully winged; male black, head, thorax, propodeum of female red; head covered with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, alutaceous, almost entirely devoid of small secondary punctures; pronotal disc with conspicuously deep punctures, forming irregular rugosities, stronger in male than in female; front angle of ocellar triangle acute in female, right angled in male; imaginary line connecting upper eye tops run far above of the anterior ocellus in both sexes; male antenna dark yellowish-brown; flagellar segments dorso-ventrally flattened, obliquely truncated apically, long oval in cross-section, longer than wide, in female wide than long and the flagellum fusiform; pronotal disc bisinuate at base in both sexes, often producing into an acute triangular tubercle over the mesoscutum (Figs 73-74); scutellum flat, declivous; postero-lateral propodeal spine twice as long as wide at base; subgenital plate emarginated on apical two-thirds, lateral lobes wide than

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hollow, basal stalk wide, parallel-sided (Fig. 88). One species known:

***Sulcomesitius pondo* BENOIT, 1968.** Holotype ♀ from Port St. John, Pondoland in British Museum of Natural History, London [not seen]. Distributed in Southern Africa (Natal, Pondoland, Transvaal), Tanzania, Uganda, India and Laos.

Note .- Additional material examined: 1♀ "Madras, Anaimalai Hills, Cinchona"; 1♂ "Tanganyika, Chepalungu Forest, Nyanza"; 1♀ "Zululand, Dhlinza Forest, Eshowe, Natal"; 1♀ "South Africa, Amanzimyama Lake, Zululand"; 1♂ "Uganda, Impenetrable Forest, Kigezi"; 1♂ "Uganda, Kavirondo Bay, Victoria Nyanza". The species *Mesitius clavicornis* NAGY, 1968, holotype ♀ from India; *Sulcomesitius longispinus* MÓCZÁR, 1970, holotype ♀ from Transvaal, Johannesburg, in Hungarian Natural History Museum, Budapest [examined], and *S. crassiantennis* MÓCZÁR, 1976, holotype ♂ from Laos, Wapikhamtong Province, Wapi, in Bernice Bishop Museum, Honolulu [not seen], are inseparable. Dr. MÓCZÁR compared *clavicornis* with type of *pondo* and find it identical. The posterior margin of pronotal disc acutely produced in all males and in female of *pondo*, moderately produced in *longispinus*, and not produced at all in *clavicornis*. Therefore this is a disputable character separating *longispinus* from *pondo*.

Genus ***Hamusmus* gen. nov.**

Type-species: *Mesitius punctatus* KIEFFER, 1906, by monotypy and present designation.

Diagnosis. - Both sexes fully winged; body black; head and pronotal disc covered with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, are perfectly smooth, polished and shining, nowhere alutaceous; anterior ocellus placed between inner eye orbits, below imaginary line connecting upper eye tops; male antenna dark red on proximal half, infuscated on apical half; flagellar segments cylindrical, circular in cross-section, pterostigma of fore wing black, and not pale yellow on its basal half as in other genera of this tribe; subgenital plate with emargination on apical one-third, basal stalk wide (Fig. 86). Differs from *Ukayakos* with placement of anterior ocellus and shape of subgenital plate. One species known:

***Hamusmus punctatus* KIEFFER, 1906.** Holotype ♂, "Algerien, Setif, Grand Atlas Oriental". Hitherto known from Algeria and Israel.

Note. - Additional material examined: "Israel, Dead Sea area, Ein Feschka", "5. VII. 2001" 2♂♂ and 2♀♀, collected and reared by Y. MALICHI; the host is *Cryptocephalus sinaita* SUFFRIAN subsp. *moricei* PIC (Coleoptera: Chrysomelidae). This beetle lives on three shadow trees of Tamaricaceae (*Tamarix jordanis*, *T. nilotica*, *T. tetragyna*) in Dead Sea area of Israel. The species *Hamusmus punctatus* ovoposit only in the prepupal cases found on the ground, in a proportion of 60-62 %, whereas the prepupal cases adhered to the steems of trees are parasitized by another Chalcididae wasp (Hymenoptera).

Tribe **Triglenusini tribe nov.**

For proposal of tribal name, see appendix. Tribe contains males with moderately long haired flagellum (Fig. 37), subgenital plate entire at apex, with narrow, tapering basal stalk (Fig. 26); middle tibia spinose (Fig. 79) in both sexes, never spinose as in other tribes; crest of clypeus compact dorsally; male flagellar segments cylindrical, circular in cross section; front angle of ocellar triangle acute angled; anterior ocellus located beyond inner eye orbits, above of imaginary line connecting upper eye tops; head and pronotal disc alutaceous, covered with scattered, moderate sized, obviously deep setigerous punctures; wings normal or abbreviated.

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Genus *Triglenus* MARSHALL, 1905

Type-species: *Triglenus numidus* MARSHALL, 1906, by monotypy.

Diagnosis. - Both sexes fully winged or female short-winged; fore wing of fully winged female with radialis retained as a spectral vein, a detectable dark stripe, but not tubular; body black; lateral discal carinae of propodeum well developed; male head round, eye oval, obviously longer than occiput; apical rim and ventral aspect of female hind basitarsus armed with strong spines. Two species examined:

***Triglenus numidus* MARSHALL, 1906.** Holotype ♀, from "Algerien, Oasis El Golea, Erg Occidental". Male antenna and tibiae yellow; wings slightly infuscated; female anterior ocellus not greater than lateral ones, propodeal disc longitudinally impressed between lateral discal carinae, not with an individual deep furrow (as stated by MARSHALL). Distributed in Algeria, Spain and Israel.

Note. - Additional material examined: 1♀ "Palästina, Galilea, Kafr Yasif"; 1♂ "Palästina, Jordan Valley, Hawat Eden". The species *Rhabdepyris proximus* KIEFFER, 1906, holotype ♂, Spain "Castillien, Pozuelo de Calatrava", is inseparable.

***Triglenus fuscipennis* (KIEFFER, 1906) comb. nov.** from *Rhabdepyris*. Lectotype ♂, "Hispania, Madrid, Castillien". Male antenna and tibiae black, wings often rather strongly, at instances moderately infuscated, of female abbreviated, slightly exceed propodeum. Distributed in Algeria, Morocco, Spain and Israel.

Note - The species *Anaylax pardoi* MÓCZÁR, 1984, ♀ holotype and four ♀♀ paratypes from Morocco, Taurirt, B. Sicar-Marruecos, holotype in Instituto Español de Entomologia, Madrid [paratype examined], is inseparable.

Genus *Pseudomesitius* DUCHAUSSOY, 1916

Type-species: *Pseudomesitius dimorphus* KIEFFER, 1911, by monotypy.

Diagnosis. - Male fully winged, with long radialis; female short-winged, wings reach apex of propodeum; body black; lateral discal carinae of propodeum present; head narrow, moderately elongated, eye shorter than occiput in both sexes; female hind basitarsus with dense pubescence, unarmed. One species known:

***Pseudomesitius dimorphus* KIEFFER, 1911.** - New combination from *Rhabdepyris*. Lectotype ♀ and paralectotype ♂, "Tanger, Sultanat Marokko". Male as previously described (NAGY 1972); female ocelli rather small, not conspicuously wide than nearby punctures, but distinct (not absent as stated by DUCHAUSSOY). Distributed in Algeria, Morocco, Caucasus and Israel.

Note. - Additional material examined: 1♂ "Kaukazus, Baku, Lenkoran"; 1♂ "Palästina, Har Batur, Negev Wüste"; 1♂ "Algerien, Fort Mirabel, Erg Occidental". *Pseudomesitius validithorax* DUCHAUSSOY, 1916, lectotype ♀, from "Marokko, Agadir, Anti Atlas" and "Exemplaris ex VAUCHER Collection", is inseparable.

Genus *Bradepyris* KIEFFER, 1905

Type-species: *Bradepyris apterus* KIEFFER, 1905, by original designation.

Diagnosis. - Both sexes with scale-like wings (Fig. 34); lateral discal carinae of propodeum not developed in either sex; male head elongated, of female round; eye longer than occiput in both sexes; apical rim of female hind tibia, and ventral aspect of hind basitarsus armed with strong spinulae. One species examined:

***Bradepyris apterus* KIEFFER, 1905.** Holotype ♀, "Tunisien, Carthago Ruins". Antenna of male, thorax with propodeum, and legs uniformly bright red, of female basically dark

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red, with various black spots here and there, propodeum mostly black. Distributed in Tunisia, Morocco, Gibraltar and Israel.

Note. - Additional material examined: 1♂ "Palästina, Jericho, Duyuk"; 1♂ "Palästina, Hebron, Esh Shuyukh"; 1♂ "Palästina, Betlehem, Artas"; 1♂ "Palästina, Bethlehem, Wadi Fukin". The species *Bradepyris inermis* KIEFFER, 1906, holotype ♂ from Morocco, Casablanca, in Hungarian Natural History Museum, Budapest [examined]; *Clytrovorus suarezi* MÓCZÁR, 1984, ♀ holotype and ♀♀ paratypes from Morocco, Taurirt, B. Sicar-Marruecos, holotype in Instituto Español de Entomologia, Madrid [paratype examined], and *C. levis* MÓCZÁR, 1986, holotype ♀ from Gibraltar, in Biosystematics Research Institute, Ottawa [not seen], are inseparable.

Tribe Mesitini KIEFFER, 1914

Tribe contains males with long pubescent antennae (Fig. 37), subgenital plate with narrow, proximally tapering basal stalk (Figs 33, 45), middle tibia not spinose in either sex (Fig. 80); head and pronotal disc covered with rather large, flat-bottomed umbilicate punctures, interpunctal spaces as wide as punctures themselves; clypeal crest longitudinally excavated dorsally or compact; if excavated, then canaliculate or spatulate apically (Figs 43-44); antennal segments of male cylindrical, circular in cross-section; front angle of ocellar triangle acute angled in both sexes; anterior ocellus either entirely placed on vertex (Fig. 20), beyond inner eye orbits, above of imaginary line connecting upper eye tops, or imaginary line transect anterior ocellus at middle (Fig. 21); inner aspect of fore and hind tibia with polished, dark sensorial spot before apex, seldom barely distinct, especially in dark legged species; male fully winged; females macropterous, brachypterous or micropterous.

Genus *Mesitius* SPINOLA, 1851

Type-species: *Mesitius ghilianii* SPINOLA, 1851, by monotypy.

Diagnosis. - Both sexes fully winged or female short winged, then brachypterous or micropterous; mid clypeal lobe with longitudinal keel always excavated dorsally, suddenly enlarged apically and canaliculate, or gradually enlarged apically, and long spatulate (Figs 43-44), never conformed so in any other genus; subgenital plate with semicircular emargination on apical one-third (Fig. 45); female head and thorax red (Fig. 40), propodeum infuscated, blackish in different degree; male black. One species known:

***Mesitius ghilianii* SPINOLA, 1851.** Holotype ♀ from Italy, Sicily, in Museo di Zoologia della Universita, Torino [examined]. Widely distributed, therefore rather variable species. It was described repeatedly in the past, but very large series of both sexes examined does not support this separation. Aberrant sculptural, structural or color features are not specific characters. For instance, the interpunctal spaces of the pronotal disc completely devoid of an alutaceous sculpture in *Mesitius levicollis* KIEFFER, 1906, species also described as *M. andriescui* NAGY, 1970. The propodeal disc strongly alutaceous in all other species. In all West Mediterranean short winged females the anterior ocellus placed relatively hight on the vertex, with one-half of its own major diameter above of the imaginary line connecting upper eye tops. This is the *ghilianii*-group. In the East Mediterranean short winged females anterior margin of anterior ocellus touching the imaginary line connecting upper eye tops. This is the *orcus*-group. Side of propodeum sometimes bisinuate (Fig. 41), or obliquely straight (Fig. 42). Fully winged female of *M. spathulifer* PICARD also belong to *ghilianii*-group. Males of *M. kiefferi*, *M. concii* and *M. orcus* were described due to difficulty in associating them with already described females. The males not support the above separation into distinctive groups. It is clear, however, that when more material will

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become available from Central Mediterranean countries, then more transitory forms will be discovered certainly.

Note - The species *Mesitius rufithorax* WESTWOOD, 1874, holotype ♀ from Italy, in Hope Museum, Oxford [examined]; *M. brevipennis* CAMERON, 1889, holotype ♀ from Gibraltar [examined]; *M. apterus* CAMERON, 1888, holotype ♀ from Gibraltar; *M. cameroni* KIEFFER, 1906, holotype ♀ from Gibraltar, both in British Museum Natural History, London [not seen]; *M. erythrothorax* MARSHALL, 1906, lectotype ♀ from Sardinia, Cagliari, in Museo Civico di Storia Naturale, Genova [cotype examined]; *M. levicollis* KIEFFER, 1906, holotype ♀ from Sicily [examined]; *M. scutellatus* KIEFFER, 1906, holotype ♀, "Hispania, Los Molinos, Castillien", and "Exemplaris ex MERCET Collection"; *M. hemipterus* KIEFFER, 1906, holotype ♀ from Balkans, Corfu; *M. cursitans* KIEFFER, 1906, holotype ♀ from Southern Spain, Algeciras; *M. spathulifer* PICARD, 1932, holotype ♀, Syria, Ghazir, all three in Museum National d'Histoire Naturelle, Paris [examined]; *M. micromma* KIEFFER, 1906, holotype ♀, "Tanger, Sultanat Marokko" [examined]; *M. nigrescens* PICARD, 1932, holotype ♀, from Tunisia, location unknown, paratype ♀ "Algerien, Bône" [examined]; *M. lugubris* NAGY, 1970, holotype ♀, Morocco, Tanger; *M. andriescui* NAGY, 1970, holotype ♀, Morocco, Tanger; *M. cerasinus* NAGY, 1970, holotype ♀, Morocco, all three are in Museum d'Histoire Naturelle Geneve [examined]; *M. kiefferi* NAGY, 1970, holotype ♂, Algeria, Bildah-Medeah, in Humboldt University, Berlin [examined]; *M. concii* NAGY, 1972, holotype ♂ Baleares, Palma de Mallorca; *M. orcus* NAGY, 1972, holotype ♂ Palaestina; *M. africanus* KIEFFER, 1906, holotype ♀ from Morocco, Casablanca; *M. macropterus* MÓCZÁR, 1970, holotype ♀ Spain; *M. szaboi* MÓCZÁR, 1970, holotype ♀ Algeria; all three in Hungarian Natural History Museum, Budapest [examined], are inseparable.

Genus *Clytrovorus* NAGY, 1972

Types-species: *Scleroderma mutilloides* COSTA, 1864, by monotypy and original designation.

Diagnosis. - Male fully winged, female micropterous (Fig. 32), wings reach base of propodeum; body black, female thoracic dorsum partially dark red; longitudinal keel of clypeus compact; male pronotal disc with blunt transverse ridge anteriorly, ridge irregular, punctate-foveolate proximally; female propodeal disc with lateral discal and sublateral carinae not developed, subgenital plate narrowly emarginated on apical one-quarter (Fig. 33). One species known:

***Clytrovorus mutilloides* (COSTA, 1864) comb. nov.** from *Scleroderma*. Holotype ♀, "Regio di Calabria, Aspromonte". Known from Italy (including Sicily), Hungary, Moravia, Russia, Slovakia and Romania (including Transylvania).

Note. - Additional material examined: 1♀ "Rußland, Sarepta, Orenburg"; 2 ♂♂ "Italia, Piemonte, Voldieri"; 1♂ "Italia, Sicilia, Syracusa". The species *Mesitius fuscicornis* KIEFFER, 1906, holotype ♂ from Hungary, Mont Gellérthegy, Budapest; *M. horvathi* KIEFFER, 1906, holotype ♀ from Hungary, Mont Sashegy, Budapest, both in Hungarian Natural History Museum, Budapest [examined]; *M. zavadili* HOFFER, 1936, holotype ♀ from "Párkány, Südliche Slovakei" [examined]; and *M. viator* NAGY, 1968, holotype ♀ from Russia, Sarepta, in Humboldt University Museum, Berlin [examined] are inseparable.

Genus *Metrionotus* MÓCZÁR, 1970

Type-species: *Mesitius minimus* KIEFFER, 1906, by monotypy and original designation.

Diagnosis. - Both sexes fully winged (Fig. 25), or female short winged (Fig. 28), brachypterous or micropterous; subgenital plate emarginated on apical one-third (Fig. 87);

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head and thorax testaceous, propodeum and abdomen predominantly black in both sexes, but in very small specimens propodeum often dark obscure red. One species known:

***Metrionotus minimus* KIEFFER, 1906.** Lectotype ♀, "Cyprus, Sapho, Limasol, Yermasoyia River". Widely distributed and therefore very variable species. It was described more than once from southern Africa, progressing northward within the East African Great Rift Valley up to Anatolia, then eastward up to Mesopotamia and westward up to Cyprus. Distributed in South Africa (Cape Province), Cyprus, Corfu, France, Russia, Turkey, Afghanistan, Lebanon, Syria, Iraq, Israel (widely spread here in all faunistic areas), Egypt, Saudi Arabia, Yemen and Namibia.

Note - Additional material examined: Numerous males and females, both fully winged and short winged ones, were collected in Israel, Yavne, Wadi Soreq, on sandy desert spots populated by the mesquite, *Prosopis farcta*. The plant species was heavily infested by the cryptocephaline leaf-beetle *Pachybrachys scripticollis* FALDERMANN (Coleoptera: Chrysomelidae). In same habitat was once found by the author female of the species *Ticopla parila* NAGY, 1970 (Hymenoptera: Mutillidae) (ARGAMAN 1988). The species *Mesitius minor* BENOIT, 1968, holotype ♀ from Cape Province, in British Museum of Natural History, London; and *Metrionotus pappi* MÓCZÁR, 1970, holotype ♀ from Cape Province, in Hungarian Natural History Museum, Budapest [examined], are inseparable.

Genus *Parvoculus* MÓCZÁR, 1970

Type-species: *Mesitius indicus* KIEFFER, 1905, by monotypy and original designation.

Diagnosis. - Both sexes fully winged, or female short winged; body black, or head and thoracic dorsum, including propodeum bright red; at instances pronotal disc yellowish red dorsally, intermediate segments of apparent abdomen sometimes obscure red in both sexes (*indicus* and *myrmecophilus*); male flagellum clothed with extremely long pale pubescence, hairs longer than width of a segment (Fig. 36); eye small, round; vertex flat, long and wide, imaginary line connecting upper eye tops transect middle of anterior ocellus; head and pronotal disc delicately alutaceous in small sized specimens, rugulose in large ones; female first sternum, including its petiolar sector, convex, bulging, densely covered with minute punctures, rugulose and with longitudinal carinules in other genera; subgenital plate with broad, shallow emargination on apical one-third, basal stalk narrow, tapering (Fig. 83). Three species examined:

***Parvoculus indicus* KIEFFER, 1905.** Holotype ♂ from India or. (= orientalis), Bombay, in Hungarian Natural History Museum, Budapest [examined]. A widely distributed and variable species; pronotal disc of male red, yellowish red or red with extended black maculation; sometimes delicately alutaceous, or often dull, deeply rugulose in both sexes; temples behind eyes moderately converge toward occipital margin. Recorded from France, Russia, India, Iraq (Mesopotamia), Jordan, Israel, Egypt (Sinai), W. Aden (Yemen), Congo (Zaire), Natal, Pondoland, Transkei, Cape Province, Botswana and Namibia.

Note. - Additional material examined: 1 ♂ from Egypt "Palästina, Majat Jarqa, Sinai Halbinsel"; 2 ♀♀ "Palästina, Jericho Plain, Wadi El Kelt"; 1 ♂ "Palästina, Har Oded, Negev Wüste"; 1♀ "Palästina, Idumäa, El Medschdel"; 1♀ "Palästina, Samaria, Arabbuna". The species *Mesitius pyrenaicus* KIEFFER, 1906, holotype ♀ from France, Pyrenèes; *M. caspicus* NAGY, 1969, holotype ♀ from Umgebund des Kaspischen Meeres, both are in Museum National d'Histoire Naturelle, Paris [examined]; *M. brevispinosus* BENOIT, 1968, holotype ♀ from Cape Province; *Incertosulcus krombeini* MÓCZÁR, 1970, holotype ♂ from Iraq, Gisil Rubat, Mesopotamia; *Metrionotus africanus* MÓCZÁR, 1970, holotype ♂ from Cape Province; *M. szelenyii* MÓCZÁR, 1970, holotype ♂ from W. Aden Port, Jebel Jihaf; *M. mocsaryi* MÓCZÁR, 1970, holotype ♂ from Cape Province; *M. wolfi* MÓCZÁR, 1970, holotype ♂ from Cape Province; *M. yarrowi* MÓCZÁR, 1970, holotype ♂ from

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Pondoland, all are in British Museum of Natural History, London; *Parvoculus myrmecophilus* MÓCZÁR, 1970, holotype ♀ from Kivu, Terr. Lubero, in Musee Royal d'Afrique Centrale, Tervuren, are inseparable.

***Parvoculus parvulus* KIEFFER, 1906.** Holotype ♂, "Sicilien, Mussomelli, Caltanisetta". Differs from *indicus* with its smaller size, entirely black body, temples behind eyes conspicuously converge toward the occipital margin; no females are associated till now. Distributed in Italy (including Sicily), Israel and South Africa.

Note. - Additional material examined: 1 ♂ "Palästina, Har Zenifim, Negev Wüste"; 1 ♂ "South Africa, Kaffraria, Tembuland".

***Parvoculus* spec.** An interesting small male specimen, partly broken, from Israel ("Palästina, Har Marpeq, Negev Wüste"); body black, dull alutaceous; head almost impunctate, flat dorsally; pronotal disc unusually wide and rounded, but not sinuate and strangulate before tegulae, as in other species. This species closely approximates *Mesitius alutaceus* BENOIT, 1968 (Cape Province), though in that species flagellum is clothed with thick setulae. No females are associated with it. Not proposed here to describe it until more material will be available.

Genus *Itapayos* gen. nov.

Type-species: *Mesitius spinosus* KIEFFER, 1906, by monotypy and present designation.

Diagnosis. - Male fully winged, female unknown; head black or with extended red spot on vertex and genae; thorax black or red dorsally; propodeum black; head densely covered with rather large, flat-bottomed, umbilicate setigerous punctures; interpunctal spaces less than punctures themselves; alutaceous; punctures of head moderately, of pronotal disc deeply engraved, forming irregular rugosities; male antenna clothed with scattered thin hairs, one-half as long as width of a segment; flagellar segments cylindrical, circular in cross-section; imaginary line connecting upper eye tops transect anterior ocellus at middle, or run slightly above of it, or a bit below of it; scutellum flat, declivous; posterolateral propodeal spine as long as wide at base; subgenital plate of male with narrow emargination on apical one-quarter or less, basal stalk narrow, tapering, acute proximally (Fig. 89). One species known:

***Itapayos spinosus* KIEFFER, 1906.** Holotype ♂, herewith designated "Hungaria, Csepel Sziget, Promontorium". Completely black specimen, as the one from Iksal. Other males examined here have red spotted head on ventral aspect and on the sides, and the thoracic dorsum also is mostly red. No other characters were found to enable me to consider these peculiar specimens as to be an independent species. Widely distributed, but local and rare. Known from Hungary, Greece, Libya and Israel.

Note. - Additional material examined: 1 ♂ "Thessalien, Larissa, Ossa Kissabos"; 1♂ "Tripolis, El Murzuk Oasis, Fezzan"; 1♂ "Palästina, Beersheba, Hanajira"; 1♂ "Palästina, Safad, En Nabi Huda"; 1♂ "Palästina, Nazareth, Iksal".

Genus *Anaylax* MÓCZÁR, 1970

Type-species: *Mesitius integer* KIEFFER, 1906, by original designation.

Diagnosis. - Both sexes fully winged; body black, or female body with indefinite red maculation here and there; head of female covered with scattered deep punctures, of intermediary size, almost as in Triglenusini; male head covered with rather large, flat-bottomed, umbilicate setigerous punctures; interpunctal spaces of head and pronotal disc as wide as punctures themselves and delicately alutaceous in both sexes; male antenna with thin hairs, one-half as long as width of a segment; flagellar segments cylindrical,

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circular in cross-section; imaginary line connecting upper eye tops transect middle of anterior ocellus; scutellum flat, declivous; postero-lateral propodeal spine as long as wide at base; subgenital plate with broad emargination on apical one-third, basal stalk narrow, tapering and acute proximally (Fig. 84). This genus has no unique apomorphies, no at least one, to separate it from other genera. Closely resembles *Metrionotus*, except for placement of anterior ocellus, subgenital plate and black head. *Incertosulcus* even more allied to it, excepting postero-lateral propodeal spine. One species known:

***Anaylax integer* KIEFFER, 1906.** Lectotype ♀ and paralectotype ♀ from Greece, Attica and Corfu, respectively, all are in Museum National d'Histoire Naturelle, Paris [examined]. Recorded from Dalmatia, Greece (including Corfu), Israel, Egypt, Iraq, Afghanistan and India.

Note. - Additional material examined: 1♀ "Afghanistan, Shirparak, Koh-i-Baba"; 1♂ "Palästina, Samaria, Wadi El Faria"; 1♂ "Palästina, Beisan, El Bawati"; 1♂ from Egypt "Palästina, Sta. Katharina, Sinai Halbinsel". The species *Rhabdepyris agraensis* KURIAN, 1955, holotype ♀ from India, Agra, in Saint John's College, Agra; *Mesitius moczari* NAGY, 1968, holotype ♀ from S. Afghanistan, Kandahar Kuna; *Anaylax dalmaticus* MÓCZÁR, 1970, holotype ♂ from Dalmatia, Lesina, both are in Hungarian Natural History Museum, Budapest [examined], are inseparable.

Genus *Incertosulcus* MÓCZÁR, 1970

Type-species: *Mesitius judaeorum* PICARD, 1932, by original designation.

Diagnosis. - Both sexes fully winged, or female short winged; head and thorax, including propodeum bright red; head with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, alutaceous; pronotal disc often as densely punctate as head, but especially in females, punctures of head sometimes with faded contour or rather shallow, indefinable; male antenna clothed with scattered thin hairs, one-half as long as width of a segment; flagellar segments cylindrical, circular in cross-section; imaginary line connecting upper eye tops transect anterior ocellus at middle; scutellum unusually convex, humped, but never so convex in any other genus; postero-lateral propodeal spine unusually slim, both in dorsal view and in lateral view, in some specimens collected at same place and time, the spine is very often pale yellow, or semitransparent, contrasting from basically red propodeum, sometimes, however, spine stout and of same color with propodeum; subgenital plate of male with abrupt emargination on apical one-third, basal stalk narrow, tapering, acute proximally. One species known:

***Incertosulcus judaeorum* PICARD, 1932.** Holotype ♀ from Jericho, in Museum National d'Histoire Naturelle, Paris [examined]. Distributed in France, Spain, Israel, Jordan and Egypt (Sinai).

Note. - Additional material examined: 1♀ from Jordan "Palästina, Zerka Main, Transjordan"; 1♀ "Palästina, Galilea, Mispa West Reserve"; 1♀ "Palästina, Askalon, Karimon"; 1♂ "Palästina, Samaria, Ghor el Faria". *Mesitius hispanicus* HELLÉN, 1930, lectotype ♀ from Spain, Sierra de Cordoba, in Zoological Museum, Helsinki [paralectotype examined], was erroneously been considered to be a junior primary homonym of *Epyris hispanicus* CAMERON, 1888, and unnecessarily renamed as *helleni* MÓCZÁR, 1970, hence the species of CAMERON never was included into the genus *Mesitius*. The species *Anaylax maroccanus* MÓCZÁR, 1970, holotype ♀ from Morocco, Tanger, in British Museum of Natural History, London [not seen]; *A. pilaulti* MÓCZÁR, 1970, holotype ♀ from France, Collliure; and *Incertosulcus soikai* MÓCZÁR, 1970, holotype ♂ from S. Jordan, Wadi Main am Toten Meer (not Totan!), and paratype ♀ from Egypt, Sinai Peninsula, Wadi Feran, both in Hungarian Natural History Museum, Budapest [examined], are inseparable.

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MÓCZÁR (1990) incorporated *judaeorum* at same time both in the genus *Mesitius* and in his *Anaylax*, statement in principle unmanageable.

Tribe **Domonkosini tribe nov.**

Tribe contains males with long pubescent antennae, subgenital plate with broad basal stalk, proximally diverging or parallel-sided; outer aspect of middle tibia not spinose in either sex; both sexes macropterous (Fig. 60), or female with scale-like wings in *Pilomesitius* (Fig. 62); longitudinal crest of clypeus compact dorsally; pronotal disc covered with deep rugosities and conspicuously elongated punctures, in large black females developed transverse row of irregular foveolae at base of pronotal disc (Fig. 71); male flagellar segments clothed with thin hairs, fully as long as width of a segment in *Domonkos* (Fig. 36), or only one-half as long as width of a segment (Fig. 37), in remaining genera; anterior ocellus between inner eye orbits, below the imaginary line connecting upper eye tops (Figs 19, 22); front angle of ocellar triangle acute angled, exceptionally right angled in male *Topcobius*; subgenital plate emarginated apically, with broad basal stalk, which also diverge proximally (Figs 35, 63), save *Pilomesitius* and *Domonkos*; with moderately wide, parallel-sided stalk (Figs 61, 65).

Genus ***Pilomesitius* MÓCZÁR, 1970**

Type-species: *Pilomesitius madagascarensis* MÓCZÁR, 1970, by monotypy and original designation.

Diagnosis. - Male fully winged (Fig. 60), female with scale-like wings, which reach base of propodeum (Fig. 62); head and thorax red, male propodeum black, of female also red; head and pronotal disc rugulose, interpunctal spaces narrow, less than punctures themselves, alutaceous, devoid of minute secondary punctures; male antenna light red on proximal one-third, almost black on apical two-thirds; flagellar segments cylindrical, circular in cross-section; female scutellum flat, horizontal, of male flat, declivous behind; postero-lateral propodeal spine of male rather acute and considerably longer than wide at base, directed along longitudinal axis of body, of female as long as wide; directed suddenly downward; female first and second terga with broad apical stripe of golden yellow tomentose pubescence; tergal disc covered with dense, delicate longitudinal carinules, of male granular, with deeply engraved network of individually convex reticulations, no tomentose pubescence; subgenital plate emarginated on apical two-thirds, lateral lobes slender than hollow; basal stalk moderately wide, parallel-sided (Fig. 61). One species known:

***Pilomesitius madagascarensis* MÓCZÁR, 1970**. Holotype ♀ and numerous ♂♂ and ♀♀ paratypes, from Madagascar, Bekily, Behara, in Musee Royal d'Afrique Centrale, Tervuren [examined]. Species endemic to the Malagasy subregion.

Genus ***Domonkos* gen. nov.**

Type-species: *Mesitius capensis* KIEFFER, 1911, by monotypy and by present designation.

Diagnosis. - Both sexes fully winged; head, propodeum black, thoracic dorsum dark red in both sexes; head and pronotal disc rugulose, interpunctal spaces narrow, with tendency to form longitudinal carinules on fronto-vertex, alutaceous and almost completely devoid of minute secondary punctures; male antenna shining black, each flagellar segment with smooth and glabrous strangulation at base; flagellar segments conical in outline, circular in cross-section, with pale pubescence, hairs longer than width of a segment;

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anterior ocellus between inner eye orbits, below imaginary line connecting upper eye tops; scutellum flat, declivous; postero-lateral propodeal spine twice as long as wide at base; subgenital plate emarginated on apical one-quarter, basal stalk moderately wide, parallel-sided (Fig. 65). One species known:

***Domonkos capensis* KIEFFER, 1911.** The type locality was not mentioned by KIEFFER in 1911, but in 1914 he gave Natal. The indication of BENOIT (1968) that the type came from Algoa Bay, and is deposited in Transvaal Museum, Pretoria, is incorrect, as is the indication of MÓCZÁR (1990) that it came from N.E. Rhodesia. Holotype ♀, from "South Africa, Van Reenen's Pass, Natal". Till now only BENOIT (1968) identified properly this species in both sexes. Recorded from Natal, Cape Province, Orange Free State, Transvaal, Malawi, Zambia and Zimbabwe.

Note. - Additional material examined: 1♀ "South Africa, Mossel Bay, Aliwal South"; 1♀ "Transvaal, Letaba, Kruger Park"; 1♀ "Transvaal, Shingwedzi, Kruger Park"; 1♂ "South Africa, Algoa Bay, Cape Province"; 1♂ "South Africa, Hester Malan, Cape Province"; 1♂ "South Africa, Kalahari Desert, Twee Rivieren".

Genus *Topcobius* NAGY, 1972

Type-species: *Mesitius haemorrhoidalis* MAGRETTI, 1897, by monotypy and original designation.

Diagnosis. - Fully winged; body black, except apical half of female abdomen dark red; head and pronotal disc covered with irregular rugosities, male head with flat, alutaceous interpunctal spaces and with minute secondary punctures; anterior ocellus on fronto-vertex, between inner eye orbits, below imaginary line connecting upper eye tops; front angle of ocellar triangle acute angled in female, right angled in male; antenna yellowish brown or brown; flagellar segments cylindrical, circular in cross-section; clothed with yellow scattered thin pubescence, hairs one-half as long as width of a segment; scutellum flat, declivous behind; postero-lateral propodeal spine as long as wide at base, or longer; subgenital plate emarginated on apical one-half, lateral lobes wide than hollow, basal stalk wide (Fig. 63). One species known:

***Topcobius haemorrhoidalis* MAGRETTI, 1897.** Holotype ♀, according to the description, came from Italy, deposited in Museo Civico di Storia Naturale, Genova, information not impossible but little probable, as no such large black species known from Southern Europe. The examination of KIEFFER prove, however, that it actually came from Burma, where MAGRETTI studied different other families of Hymenoptera. I herewith designate the ♀ labelled: "Empire Birma, Irawadi, Mandalay", as the holotype. Recorded from Burma, Malaysia (Sabah) and Brunei.

Note. - Additional material examined: 1♂ "North Borneo, Kuching, Sarawak"; 1♂ "Indo-chine, Laos, Vientiane". The species *Mesitius punctaticollis* FOUTS, 1930, holotype ♂ from North Borneo, Sandakan, in National Museum of Natural History, Washington; *Sulcomesitius kuncheriai* MÓCZÁR; 1976, holotype ♂ from North Borneo, Forest Camp, and *S. borneoensis* MÓCZÁR; 1976, holotype ♂ from the same place and time, both in Bernice Bishop Museum, Honolulu [paratype examined], are inseparable.

Genus *Zimankos* gen. nov.

Type-species: *Mesitius alluaudi* KIEFFER, 1913, by monotypy and present designation.

Diagnosis. - Fully winged; body black, except apical half of female abdomen dark red; head, pronotal disc with rather large, flat-bottomed, umbilicate setigerous punctures, interpunctal spaces less than punctures themselves, alutaceous, with few minute secondary punctures; anterior ocellus of male and entire ocellar triangle of female between inner eye

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orbits, below imaginary line connecting upper eye tops; front angle of ocellar triangle acute angled in both sexes; male scape dark brown, flagellum yellowish brown, flagellar segments cylindrical, circular in cross-section; scutellum flat, declivous; postero-lateral propodeal spine of female more than twice as long as wide basally, about one and half times as long in male; subgenital plate with broad emargination on apical half, lateral lobes slender than hollow, basal stalk wide (Fig. 35). One species known:

***Zimankos alluaudi* KIEFFER, 1913.** Holotype ♀ from Kenya, Wa-Kikuyu, Basin of Athi, Kamiti River, in Museum National d'Histoire Naturelle, Paris [examined]. Male was described from Zaire and Kenya by BENOIT (1968).

Note. - Additional material examined: 1♀ "Congo Belge, Katanga, Mufungwa"; 1♂ "Great Karoo, Willowmore, Cape Province". The species *Mesitius luzonicus* KIEFFER, 1914, holotype ♂ "Philippines, Los Baños, Luzon Island" [examined], is inseparable.

Appendix

Reverend MARSHALL (1905) in his general introduction to the monographic work of Bethylidae of Europe and Algeria (KIEFFER & MARSHALL 1906: 25) proposed a new generic-group name, *Triglena*. In the final form, Abe KIEFFER, who finished this joint work due to the premature dead of MARSHALL, very probably discovered that the proposed name *Triglena* is already preoccupied by *Triglena* FIEBER, 1875 (Homoptera: Cicadiae). In any case, KIEFFER, to avoid generating a homonymous generic-group name, has emended it (1906: 372) into *Triglenus*, and has attributed it to MARSHALL. On behalf of the same reason, the new tribe have been proposed here as Triglenusini, and not otherwise.

Acknowledgments

The revision has been initiated while Prof. A. FREIDBERG from Department of Zoology, Tel Aviv University, requested identification of a species, emerged from the host pupae by Y. MALACHI. Part of the figures presented here are redrawn from BAJÁRI, CEBALLOS, HAUPT, HOFFER, MÓCZÁR, other figures are original. I am indebted to the very numerous friends and colleagues, for the donation or loan of the material investigated in the present study. To the publishers of ENTOMOFAUNA, for courtesy, patience, and cooperation, grateful recognition is extended.

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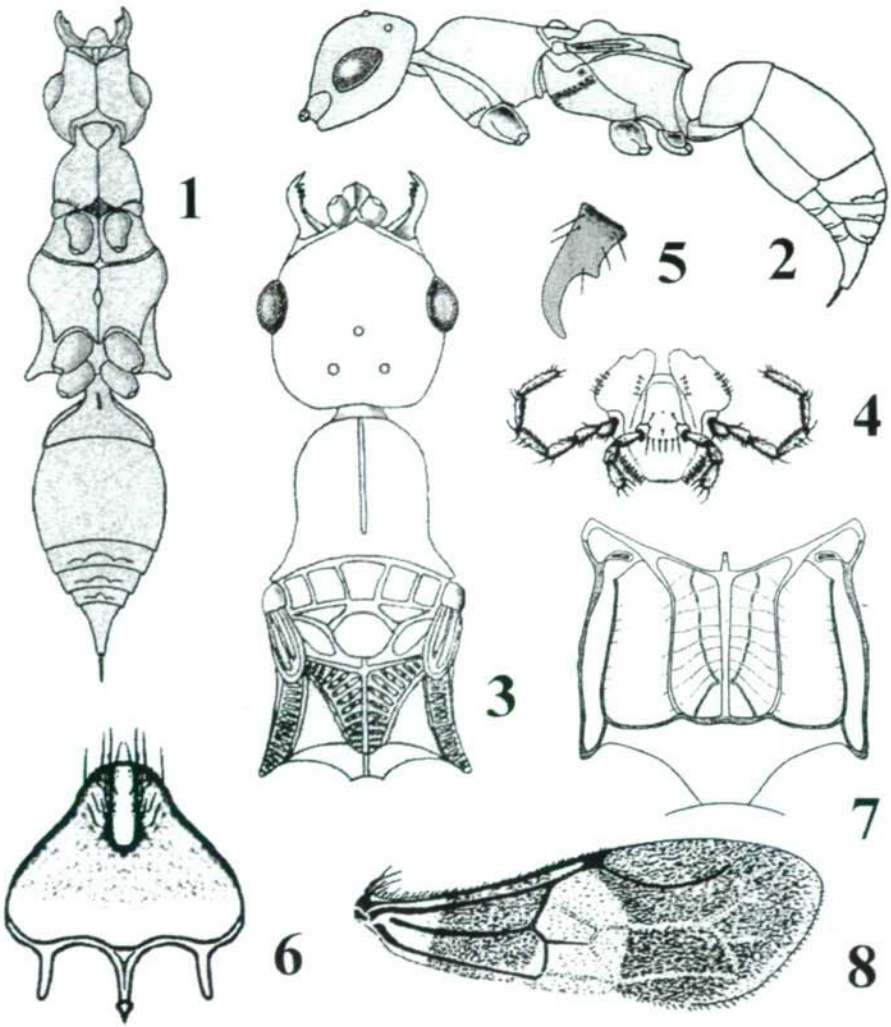

Figs 1-8. Morphology of *Codorcas cursor* KIEFFER: (1) female ventral; (2) lateral, showing oblique episternal sulcus of mesopleurum; (3) head and thorax dorsal; (4) maxillary and labial palpi; (5) tarsal claw; (6) male subgenital plate; (7) generalized dorsal propodeal disc of Mesitinae; (8) generalized fore wing of Mesitinae.

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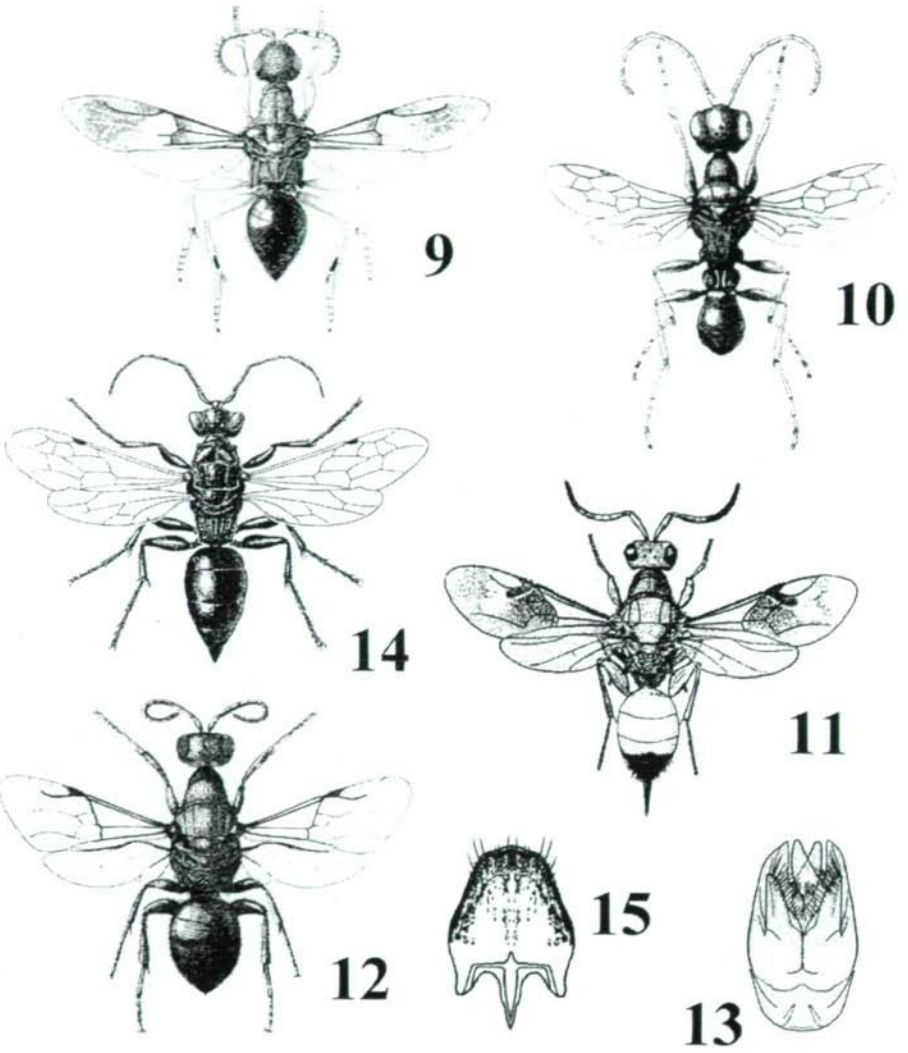

Figs 9-15. Comparative adult habitus: (9) *Heterocoelia nigriventris* DAHLBOM (Mesitinae); (10) *Ampulex ruficollis* CAMERON (Ampulicinae); (11) *Cleptes semiaurata* LINNAEUS; (12) *C. afra* LUCAS (Cleptinae); (14) *Dolichurus corniculus* SPINOLA (Dolichurinae). (13) male genitalia of *Cleptes semiaurata*, ventral. (15) male subgenital plate of *Dolichurus corniculus*.

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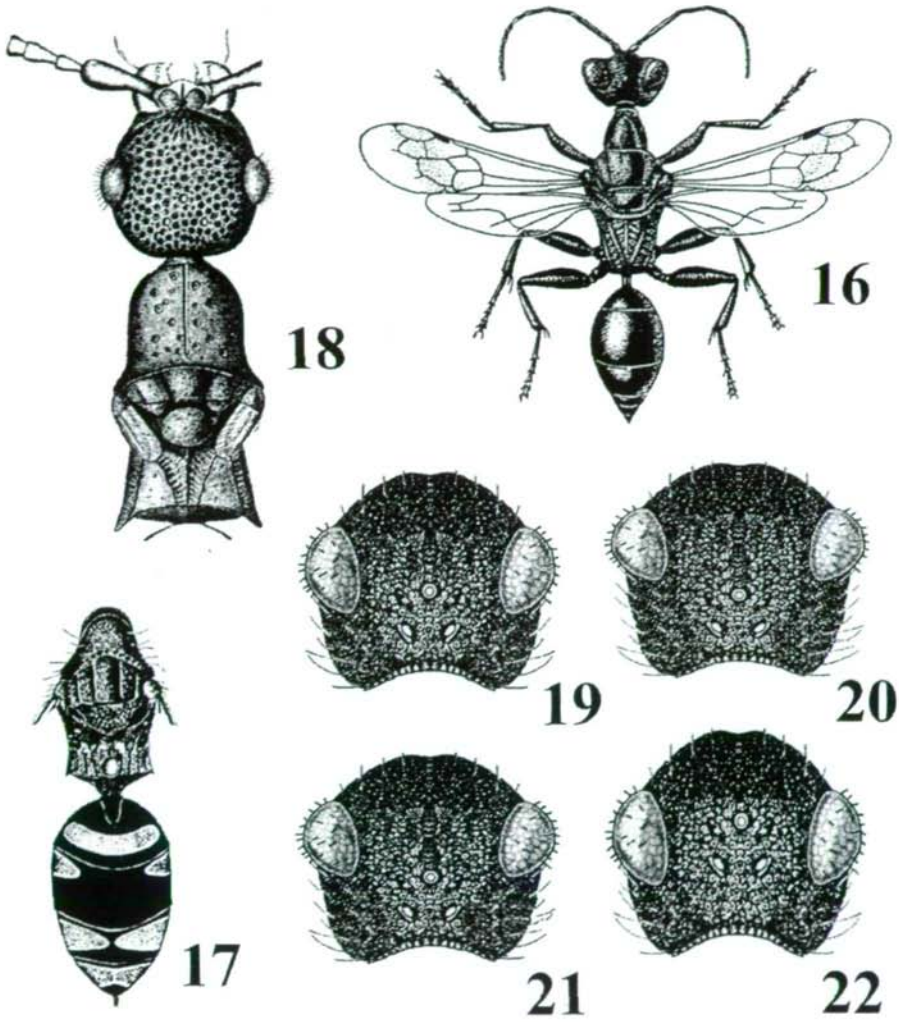

Figs 16-22. (16) adult habitus of *Ampulex fasciata* JURINE (Ampulicinae). (17) thorax and abdomen of *Lustrina assamensis* KURIAN (Cleptinae). (18) head and thorax of *Codorcas cursor* KIEFFER female. (19-22) placement of ocelli within different genera of Mesitinae: (19) anterior ocellus between inner eye orbits; (20) beyond it; (21) colinear; (22) on fronto -vertex.

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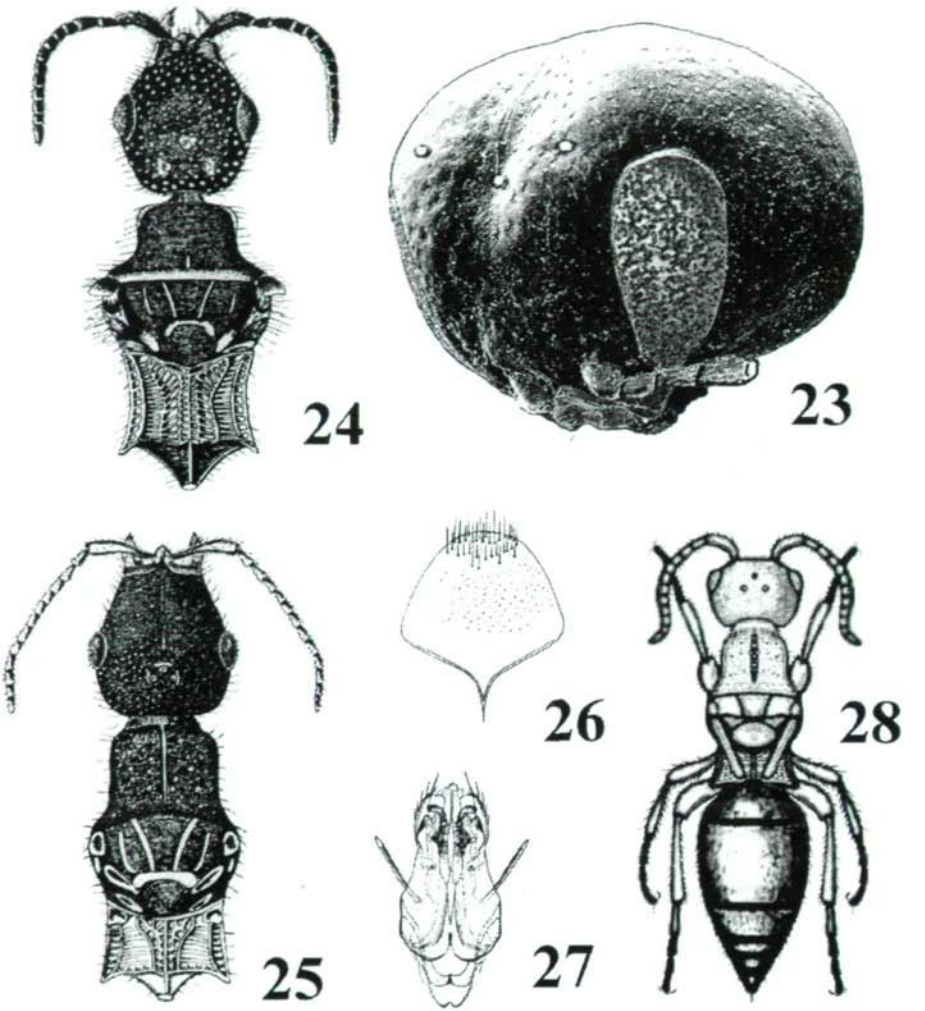

Figs 23-28. (23) head of *Kisleva ohalona* ARGAMAN (Kislevidae), sublateral. Female head and thorax: (24) *Heterocoelia nigriventris* DAHLBOM; (25) *Metrionotus minimus* KIEFFER, fully winged female. (28) the same, short winged female. (26) *Bradepyris apterus* KIEFFER, male subgenital plate. (27) male genitalia of *Domonkos capensis* KIEFFER, ventral.

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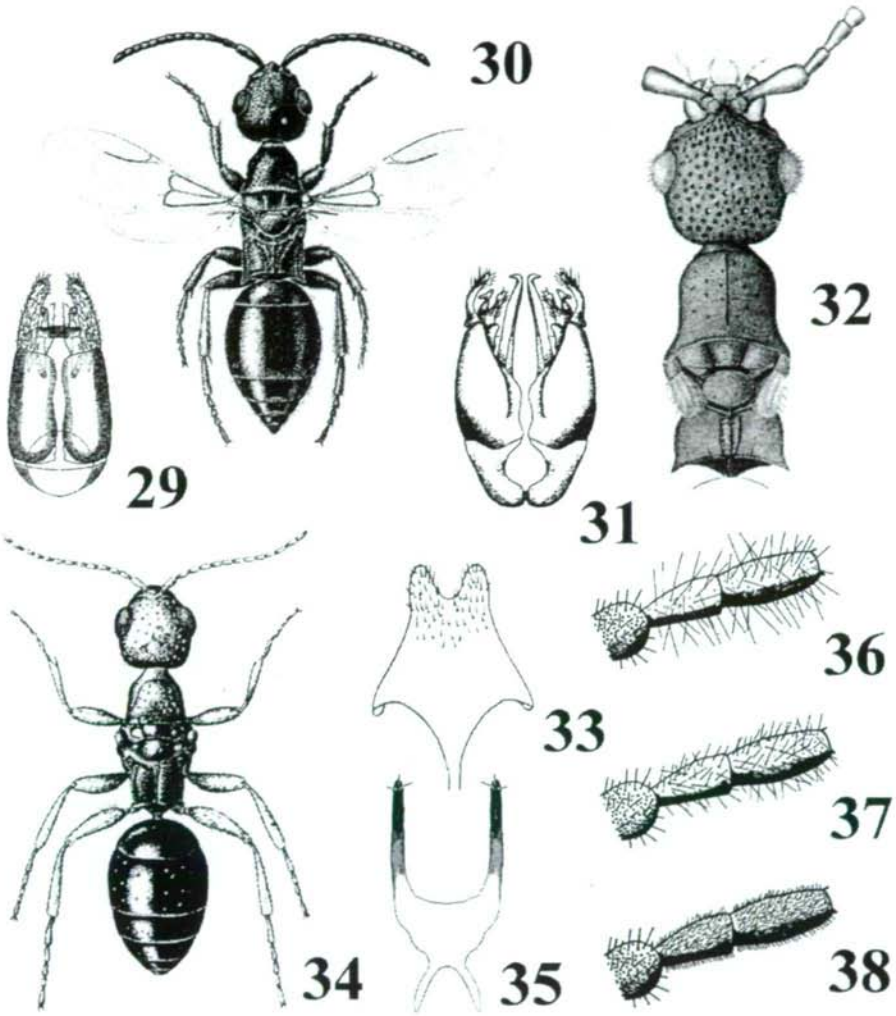

Figs 29-38. Male of *Bradepyris apterus* KIEFFER: (29) genitalia; (34) habitus. (30) *Anaylax integer* KIEFFER, female. (31-33) *Clytrovorus mutilloides* COSTA: (31) male genitalia; (32) female head and thorax; (33) subgenital plate. (35) the same of *Zimankos alluaudi* KIEFFER. (36) long, (37) intermediate, and (38) short pubescent male flagellar segments.

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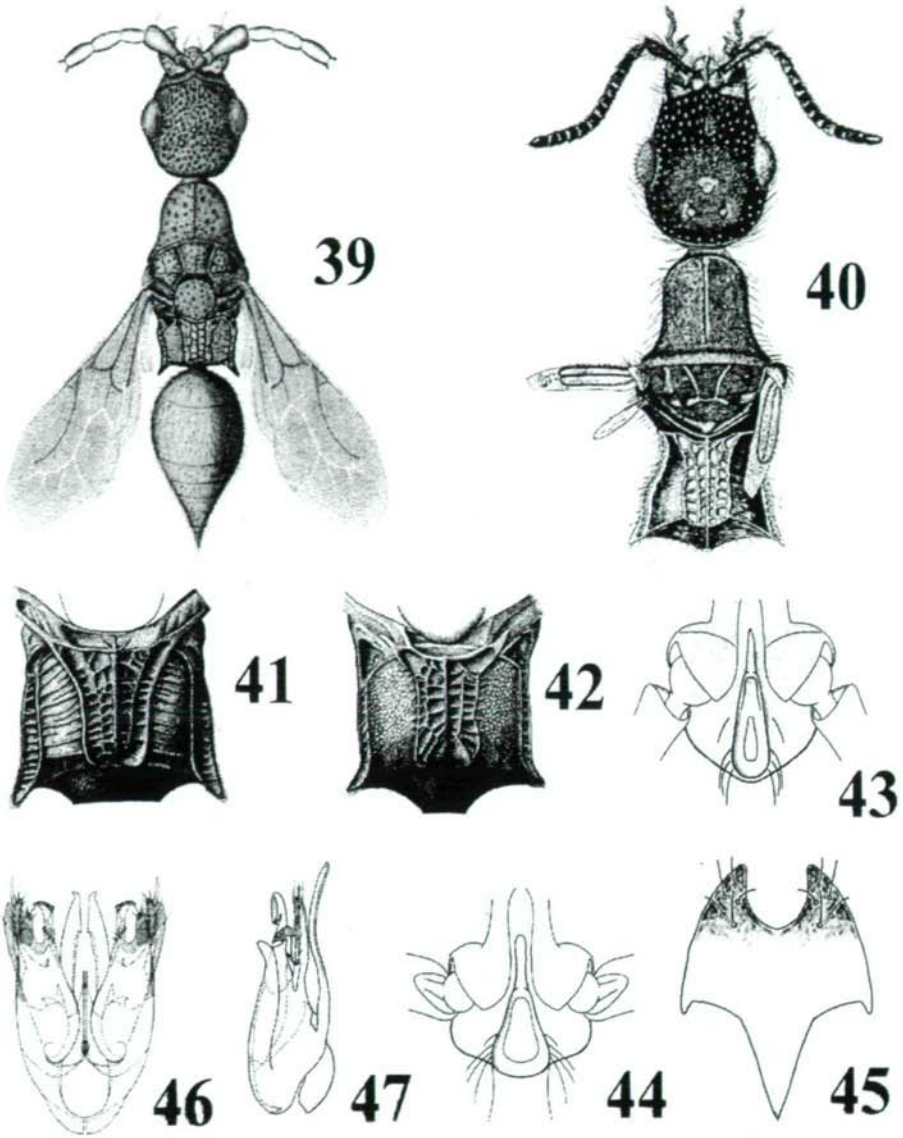

Figs 39-45. (39) male of *Codorcas cursor* KIEFFER. (40-44) female of *Mesitius ghilianii* SPINOLA: (40) head and thorax; (41) dorsal disc of propodeum with sinuate margins; (42) the same with straight margins; (43) spatulate, and (44) canaliculate mid clypeal lobe. (45) male of *M. ghilianii*, subgenital plate. Genitalia of *Gerbekas carcelii* WESTWOOD: (46) ventral; (47) lateral.

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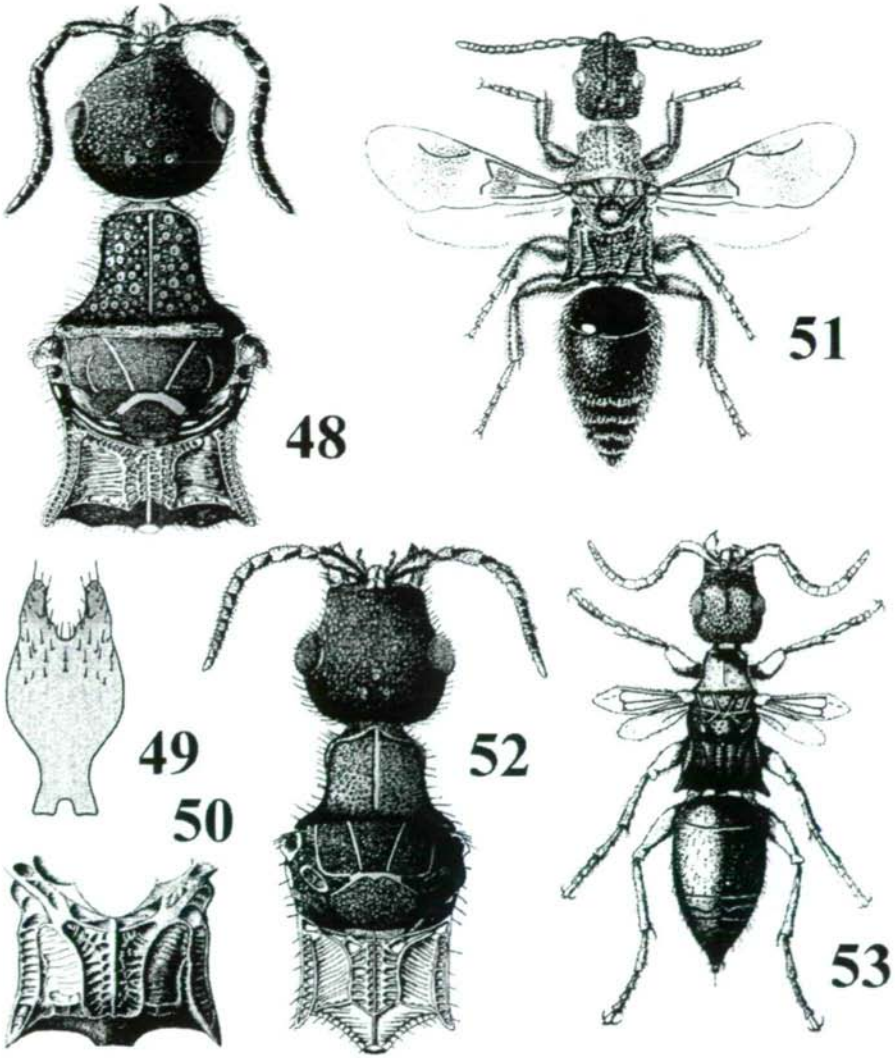

Figs 48-53. (48) female head and thorax of *Heterocoelia nitidus* KIEFFER. (49) male subgenital plate of the same. (50-52) female of *Gerbekas carcelii* WESTWOOD: (50) dorsal disc of propodeum; (51) habitus; (52) head and thorax. (53) female habitus of *Heterocoelia foenarius* NAGY, brachypterous form.

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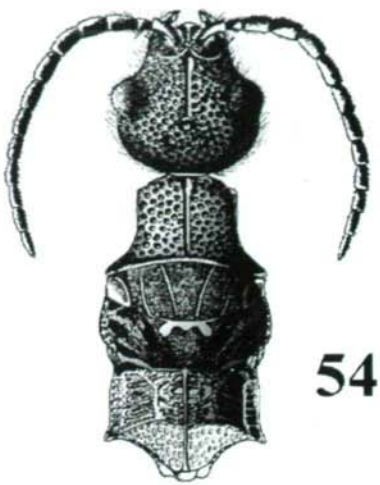

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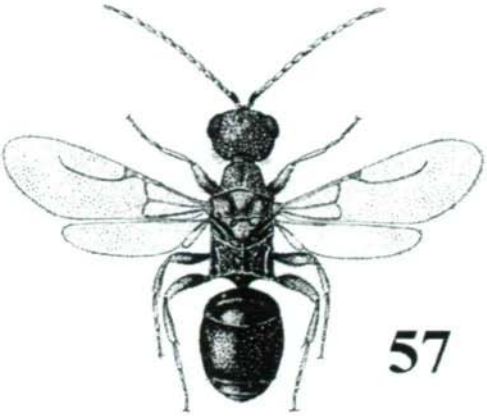

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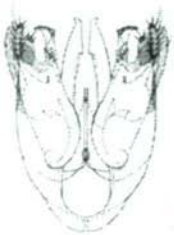

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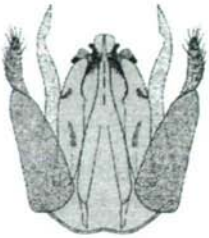

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Figs 54-59. (54) male head and thorax of *Heterocoelia nigriventris* DAHLBOM. (57) male habitus, and (55-56) genitalia of *Gerbekas carcelii* WESTWOOD: (55) misleading differences when it was heated in potasium hydroxide, or (56) macerated with lactid acid. (58) *Clytrovorus mutilloides* COSTA, male genitalia, and (59) female transporting pre-pupal case of the host.

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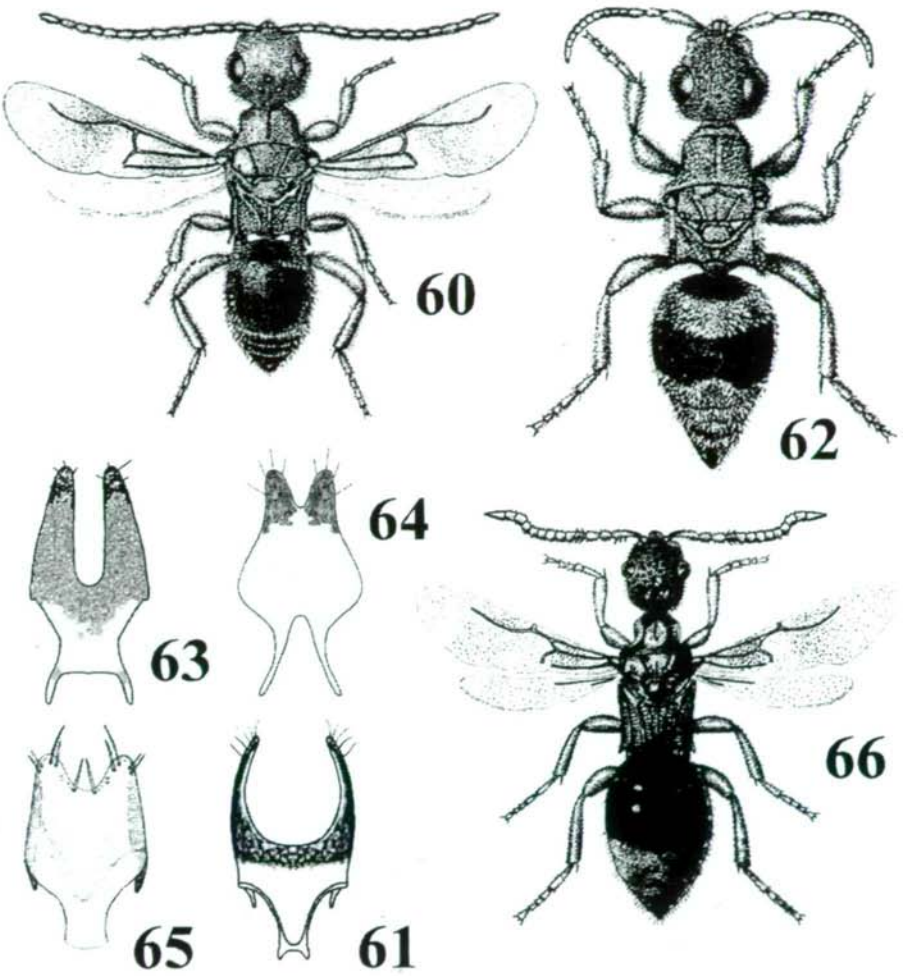

Figs 60-66. Habitus of *Pilomesitius madagascarensis* MÓCZÁR: (60) male; (62) female; (61) subgenital plate. (63-65) Subgenital plate: (63) *Topcobius haemorrhoidalis* MAGRETTI; (64) *Gerbekas carcelii* WESTWOOD; (65) *Domonkos capensis* KIEFFER. (66) female habitus of *Parvoculus indicus* KIEFFER.

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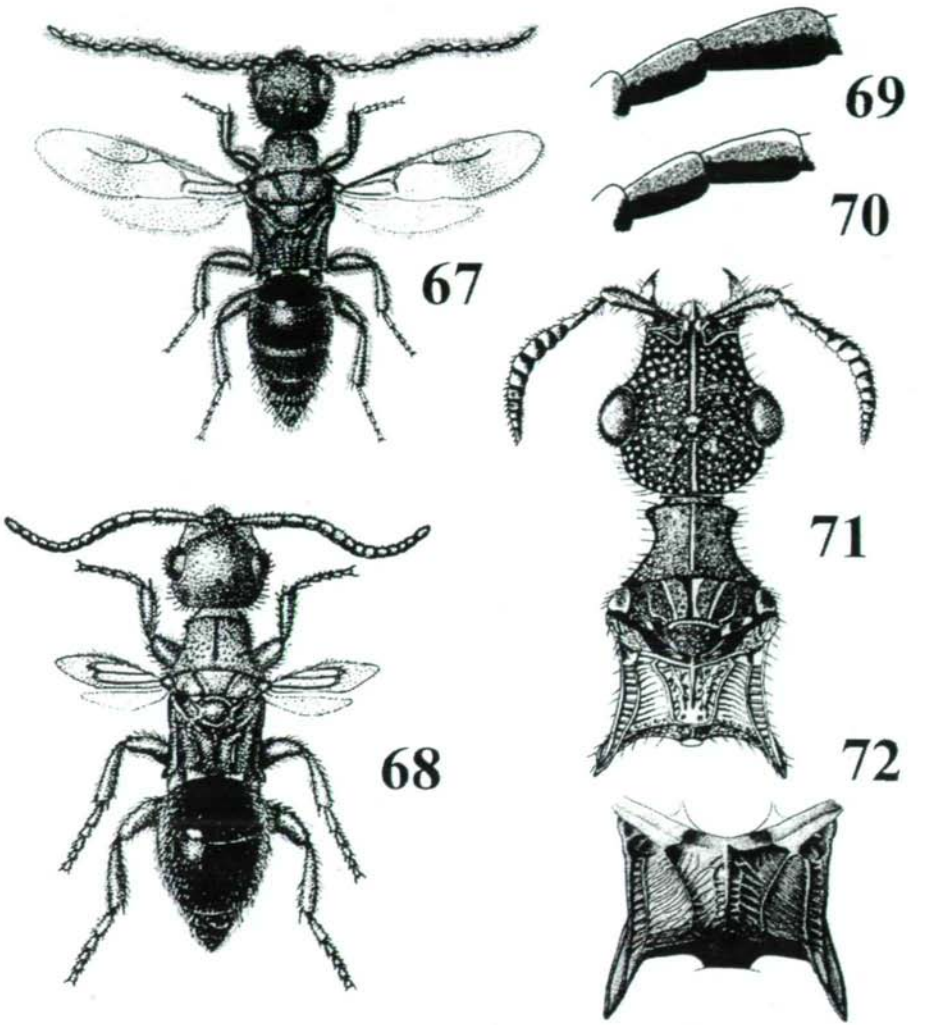

Figs 67-72. (67-68) *Parvoculus indicus* KIEFFER: (67) male habitus; (68) short winged female. (69-70) size differences of first and second flagellar segment of Mesitinae: (69) with the pedicel differentiated, or (70) not distinct. (71) female head and thorax of *Zimankos alluaudi* KIEFFER. (72) dorsal disc of female propodeum of *Sulcomesitius pondo* BENOIT.

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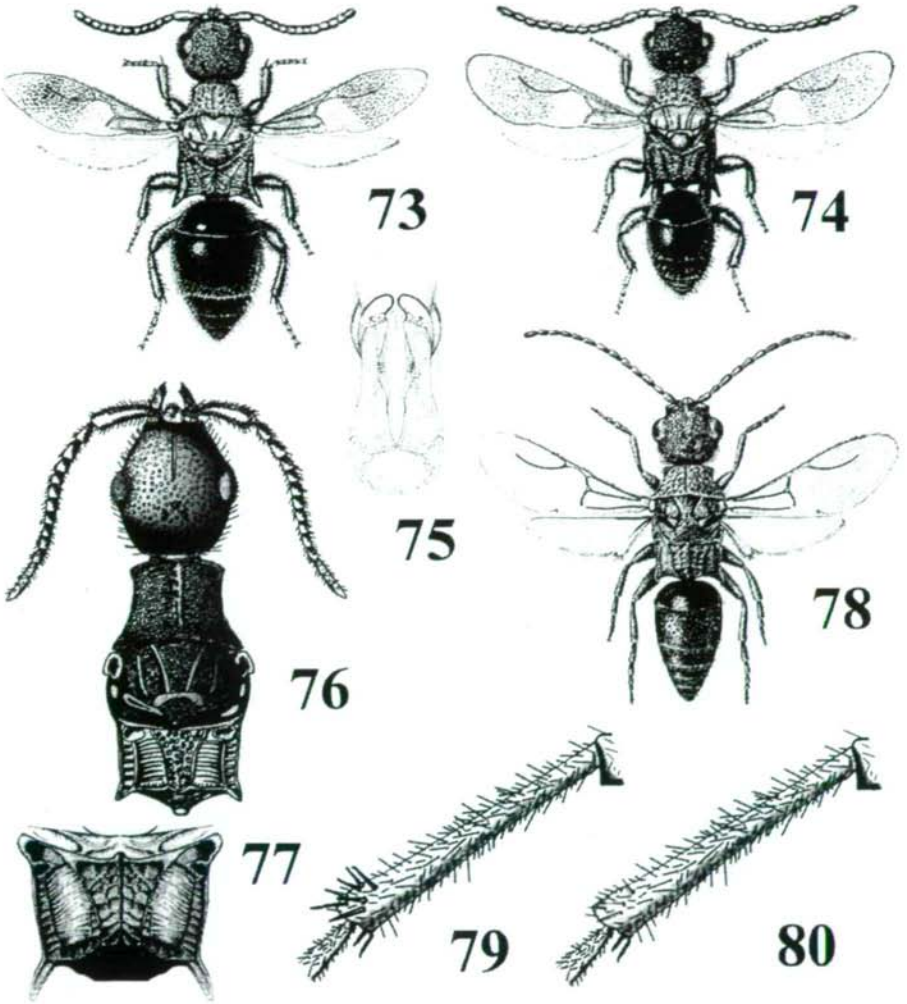

Figs 73-80. (73-75) *Sulcomesitius pondo* BENOIT: (73) male habitus; (74) female habitus; (75) male genitalia.(76) *Incertosulcus judaeorum* PICARD, female head and thorax; (77) the same, dorsal disc of male propodeum with slender postero-lateral spines. (78) male habitus of *Domonkos capensis* KIEFFER. (79-80)) middle tibia of Mesitinae: (79) spinose, or (78) pubescent.

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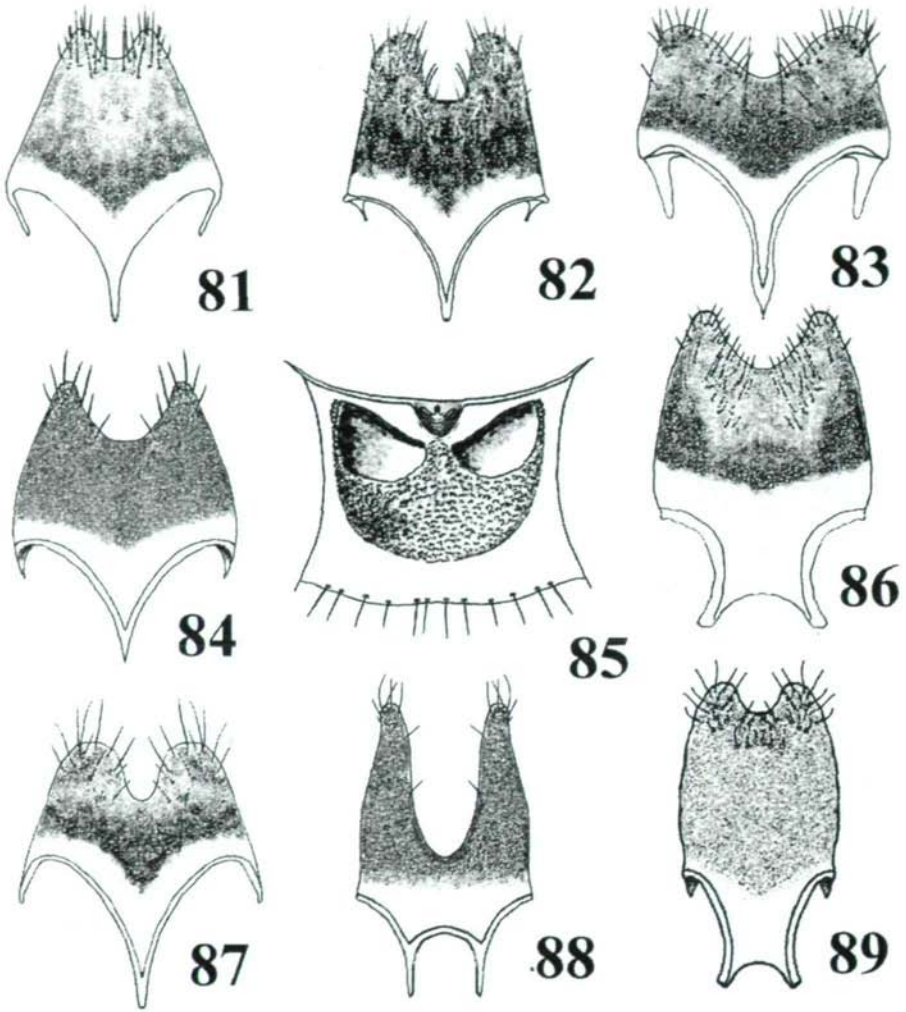

Figs 81-89. Subgenital plate of male: (81) *Anaylax*; (82) *Incertosulcus*; (83) *Parvoculus*; (84) *Itapayos*; (86) *Hamusmus*; (87) *Metrionotus*; (88) *Sulcomesitius*; (89) *Ukayakos*. (85) completely exposed female fourth sternum in Mesitinae, unidentified Afrotropical genus (*hilarius* NAGY), with both, stridulatory organ and resonator camera.

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Literaturbesprechung

KLAUSNITZER, B. 2002: Wunderwelt der Käfer. - Spektrum Akademischer Verlag, Heidelberg-Berlin, 238 S.

Bekanntermaßen sind die Käfer die artenreichste Ordnung der Insekten, man schätzt ihre Artenzahl heute auf etwa 380.000, wobei täglich neue Arten entdeckt und beschrieben werden. Bücher und Artikel in Fachzeitschriften sind außerordentlich zahlreich, sehr selten sind "populärwissenschaftliche" Bücher, die über eine reine Bestimmung hinausgehend sich auch mit der Kultur- und Entwicklungsgeschichte der Käfer, ihres faszinierenden Verhalten, ihrer Überlebensstrategien und Ernährungsweisen beschäftigen.

Der bekannte Entomologe und Koleopterologe Bernhard KLAUSNITZER sprengt diesen Rahmen und bietet dem Leser einen opulenten Bildband über alle Facetten der bizarren Käferwelt. Die Liebe zur Natur und Kreatur ist in jedem Kapitel zu spüren, und wer sich von dieser Faszination nicht anstecken läßt, dem kann nicht mehr geholfen werden. Beginnend mit dem Scarabaeus, dem heiligen Symbol des Alten Ägypten und der Inspiration von Malern und Poeten, erfolgt der Einstieg in die Käferkunde, logischerweise mit dem Körperbau. Welches sind die größten und kleinsten Käfer der Welt, wie sieht ein Käfer von innen aus? Es folgen Orientierung und Sinnesleistung sowie Besonderheiten der Fortbewegung. Noch spannender wird es dann mit den vielen bemerkenswerten Verhaltensweisen und Abwehrmechanismen (Bombardierkäfer, Giftdrüsen, Tarnung, Pfeilhaare, "betrunkene" Käfer, Gedächtnis und Dressur). Käfer waren und sind in der Volksmedizin und im medizinischen Aberglauben wichtig. Im Rahmen von "Stammesgeschichte und Systematik" wird auf die historische und rezente Käferbesiedelung unserer Erde, auf die Bedeutung der Käferkunde, extreme Lebensräume und einige interessante Käferfamilien eingegangen. Das Kapitel "Ernährung, Nutzen und Schaden der Käfer" beschreibt Ernährungsorgane und Nahrungsquellen, die Atmung unter Wasser, die Feinde der Käfer und das komplexe Feld der Beziehungen Mensch-Käfer, also Käfer als "Nützlinge" und "Schädlinge". Die beiden letzten Kapitel widmen sich der Vermehrung (Partnerfindung, Entwicklungsstadien und Metamorphose, Käferzuchten, Brutfürsorge und Brutpflege) und den "Käfern in künstlerischem Schaffen" (u.a. Malerei, Briefmarken, Schmiedekunst). Diese zweite Auflage wurde völlig überarbeitet, erweitert und durchgehend vierfarbig gestaltet.

Es ist schön, lobenswert und wichtig, daß auch heute noch - im kurzlebigen Zeitalter schneller Medien aller Art - solche Bücher gemacht werden. R. GERSTMEIER

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