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Synopsis of the Neotropical Bug Genus *Malacopus* STÅL, with the Description of a New Fossil Species from Dominican Amber (Heteroptera: Reduviidae, Emesinae)

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With 13 figures

Summary

A synopsis is given of the species of the Neotropical genus *Malacopus* STÅL, a member of the peculiar carnivorous bug subfamily Emesinae (Reduviidae). This genus has proved to comprise six extant (*M. cellularis* STÅL, *M. romani* WYGOD., *M. zeteki* WYGOD., *M. banksi* WYGOD., *M. schubarti* WYGOD., and *M. fragilis* MALD. et BRAIL.) and one fossil species (*M. wygodzinskyi* n. sp. from Dominican amber).

Both variability and stability of 25 characters (coloration and external morphology) have been analysed, with discrimination of specific and of generic features. A new key for the known *Malacopus* species has been developed and a new species, *M. wygodzinskyi* n. sp. from Dominican amber, described (Amber Collection of the Staatliches Museum für Naturkunde in Stuttgart). This is the second record of fossil Emesinae from Dominican amber, the first has been published by SCHLEE (1980).

Zusammenfassung

Ein Überblick über die Arten der neotropischen Gattung *Malacopus* STÅL aus der eigenartigen räuberischen Wanzen-Subfamilie Emesinae (Reduviidae) wird gegeben. Diese Gattung besteht derzeit aus 6 rezenten Arten (*M. cellularis* STÅL, *M. romani* WYGOD., *M. zeteki* WYGOD., *M. banksi* WYGOD., *M. schubarti* WYGOD. und *M. fragilis* MALD. & BRAIL.) und einer fossilen Form, die hier beschrieben wird: *M. wygodzinskyi* n. sp. aus dem Dominikanischen Bernstein (Sammlung des Staatlichen Museums für Naturkunde Stuttgart).

Die Variabilität von 25 Farb- und Struktur-Merkmalen wird analysiert, um zu einer Definition von Art- und Gattungsmerkmalen zu gelangen. Ein neuer Bestimmungsschlüssel für alle bekannten *Malacopus*-Arten wird gegeben. Bisher wurde erst ein Fund fossiler Emesinae, ebenfalls aus dem Dominikanischen Bernstein, publiziert (SCHLEE 1980: Tafel 31).

1. Introduction

During the last two decades, due to the efforts of Dr. D. Schlee of the Staatliches Museum für Naturkunde in Stuttgart (SMNS) a very fine collection of amber inclusions, especially of Dominican amber, has been built up at the SMNS. In addition to two reviews (Schlee & Glöckner 1978, Schlee 1980) numerous special publications dealing with separate inclusions have appeared, especially on Dominican amber. However, none of them dealt with Heteroptera. Only Schlee (1980: 50, Plate 31) published a colour photograph of a bug belonging to the subfamily Emesinae (Reduviidae), constituting the first fossil record of Emesinae in Dominican amber.

During my stay at the SMNS in 1982 I was privileged to study no less than seven inclusions of Emesinae in the Dominican amber collection. The present paper deals only with one of them, while the others will be published separately.

I wish to extend my sincerest thanks to Dr. D. Schlee and the Natural History Museum Stuttgart for all the facilities provided for my research at the SMNS. Dr. S. I. Golovatch and Dr. H. Schmalfuss have been kind enough to check the English of the final manuscript.

2. Historical

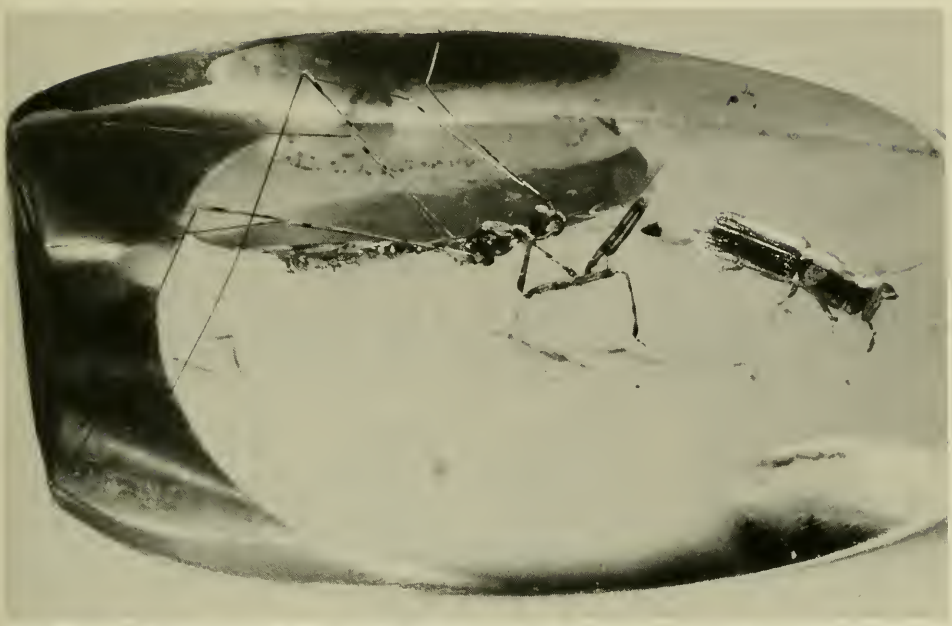
The genus *Malacopus* was initially established by Stål (1860) for a small Brazilian species, *M. cellularis* Stål. Later it was revised by Dohrn (1863) and Wygodzinsky (1947). The latter author (Wygodzinsky, 1947, 1950) described four additional Neotropical species, namely *M. romani*, *M. zeteki*, *M. banksi*, and *M. schubarti*, and provided a key to all five forms known at that time. Finally, Maldonado Capriles & Brailovsky (1983) recently added another species of *Malacopus*, namely *M. fragilis* from Mexico. Thus, six nominal species, all extant and all confined to the Neotropical Region, have hitherto been known within *Malacopus*.

All species of *Malacopus* form a clearly monophyletic group of closely related species, some of them being barely distinguishable. Wygodzinsky (1966) stated quite correctly that "in all cases descriptions or identified specimens must be consulted for one to arrive at correct determinations" (p. 394). Indeed, the species of this genus are characterized by a combinatory system of similar and distinguishing features (s. Tables 1 & 2). Besides, the poverty of comparative material (four out of the six hitherto described forms have been based but upon holotypes, while *M. schubarti* and *M. banksi* upon three specimens each) makes it extremely difficult to outline the variability vz. stability of the majority of the characters used for delimination of the species. Since I have been unable to restudy the types, the following comparative analysis of these characters must be understood only as preliminary. The same holds true for the key below. This attempt has been made to incorporate another new species of *Malacopus* from Dominican amber (Oligocene-Lower Miocene of Hispaniola, Caribbean).

3. Analysis of the characters

The following 25 characters of *Malacopus* have been chosen to delimit the seven currently known species: colour of the antennae, of rostrum, of legs, and of hemelytra (Table 1), as well as the external structure of head, thorax, legs, hemelytra, and male genital segment (pygophore) (Table 2).

As one can see from Table 1, the coloration of different parts of the body is rather



Figs. 1—2. *Malacopus wygodzinskyi* n. sp., ♂ holotype in Dominican amber. — 1: The amber piece (15 × 9 mm) with the holotype (general view, lateral), and a Platypodidae beetle. — 2: Holotype, anterior body portion, lateral (4 mm). (Photomicrographs by Dr. D. Schlee).

variable and in many cases fails to give clear criteria for outlining the species. However, some of those characters seem useful, with a certain degree of reliability, in species definition.

Species: / Characters:	*wygodzinskyi* n. sp. fossil	*cellularis*	*romani*	*banksi*	*zeteki*	*schubarti*	*fragilis*
Antennal joint 1	2 rings (subbasal, subapical)	2 rings (subbasal, subapical)	?	3 rings (basal, subbas., subapical)	3 rings	3 rings	?
Rostrum	Bases of 1+2, & distal part of 3 dark	Bases of 1+2 dark, 3 entirely pale yellow	?	Bases of 1+2 dark, 3 entirely pale yellow	?	Bases of 1+2, and distal part of 3 dark	?
Head dorsally	Dark at base of rostrum, posterior lobe with 2 dark stripes	Dark at base of rostrum, posterior lobe with 2 dark stripes	Anterior lobe pale, posterior lobe with scattered irregular spots	Dark at base of rostrum, posterior lobe with 4 dark spots	Anterior lobe pale, posterior lobe with 2 dark spots	Anterior lobe pale, posterior lobe with 4 dark spots	?
Pronotum	Anterior lobe with a dark spot, posteior lobe with 3 longitudinal stripes	Anterior and posterior lobes with a transverse dark stripe & 2 dark spots each	?	Anterior and posterior lobes with thin interrupted stripes	Anterior lobe with a wide axial stripe bifurcating at apex	Anterior lobe with a wide axial stripe bifurcating at apex	Anterior margin of anterior lobe with a dark spot
Coxa 1	2 rings (thin submedial and wide subapical)	3 rings (thin basal, wider both submedial & subapical)	3 rings (all wide)	2 rings and a basal spot (thin submedial and wide subapical)	3 rings (all more or less wide)	2 rings and a basal spot (thin submedial and wide subapical)	1 ring (subapical)
Femur 1	4 rings	4 rings	5 rings	5 rings	5 rings	5 rings	3 rings

Femur 2	5 rings (all thin)	2 rings (wide subapical, thin apical)	?	?	?	4 rings	No rings
Femur 3	4 rings (wide subbasal, submedial and subapical, thin submedial)	2 rings (wide subapical, thin apical)	?	4 rings	4 rings (thin basal & subbasal, wide submedial & apical)	3 rings (thin basal & subbasal, wide submedial)	No rings
Tibia 1	3 wide rings (subbasal, medial, and apical)	3 wide rings (subbasal, medial, and apical)	3 wide rings (subbasal, medial, and apical)	2 wide rings (medial and apical) and 2 subbas. spots	2 wide rings (medial and apical), and 2 subbas. spots	1 ring (medial), and 2 subbasal spots	3 wide rings (subbasal, medial, and apical)
Tibiae 2 + 3	1 ring (subbasal)	2 rings (subbasal)	2 rings (subbasal)	2 rings (subbasal)	1 ring (subbasal)	2 rings (subbasal)	No rings
Hemelytra	A basal and a distal group of spots	A basal and a distal group of spots	A basal and a distal group of spots	A basal and a distal group of spots	A continuous stripe	A continuous stripe	A continuous stripe
	Basal group = 2 spots	Basal group = 1 spot (incompletely covering base of distal cell)	Basal group = 1 spot (completely covering base of distal cell)	Basal group = 2 spots	Base of distal cell with 1 spot	Base of distal cell with 1 spot	Base of distal cell spotless

Table 1. Distribution of coloration characters among *Malacopus* species.

Species: / Characters:	*wygodzinskyi* n. sp. *fossil*	*cellularis*	*romani*	*banksi*	*zeteki*	*schubarti*	*fragilis*
Buccula	Apex wide, dorsally +/- flattened	Apex narrower, dorsally flattened	Apex narrower, dorsally slightly flattened	Apex narrower, dorsally well convex	Apex narrower, dorsally well convex	Apex narrower, dorsally slightly convex	Apex narrower?
Ratio of antennal joints 1 and 2 (mm)	3.0 : 3.1	4.0 : 3.8	4.0 : 3.8	4.0 : 3.8	4.1 : 4.0	4.3 : 4.3	4.1 : 3.9
Rostrum (joints 1, 2, and 3; overall shape)	Joint 1 considerably longer than either joint 2 or 3	Joint 1 a bit longer than joint 2, and longer than joint 3	Joint 1 a bit longer than joint 2, and longer than joint 3	Joint 1 considerably longer than joint 2, and subequal to 3	Joint 1 nearly double as long as joint 2, and longer than joint 3	Joint 1 longer than joint 2, and a bit longer than joint 3	Joint 1 equal to joint 2, and shorter than joint 3
	Very stout	Stout	Stout	Slender	Stout	Stout	Very slender
Ratio of interocular isthmus and eye width	Former almost as wide as latter	Former much smaller than latter	Former smaller than latter	Former much smaller than latter	Former a bit smaller than latter	Former (?) a bit smaller than latter	Former much smaller than latter
Pronotum: Ratio of length of anterior and posterior lobes	1 : 1.6	1 : 1.6	1 : 1.6	1 : 1.5	1 : 1.6	1 : 1.6	1 : 2.0
Ratio of anterior lobe and total length	1 : 2.6	1 : 2.9	1 : 2.6	1 : 2.9	1 : 2.6	1 : 2.6	1 : 3.0

Spines of scutellum, metanotum and abdominal segment 1	Scutellar much longer than the two others, which are long; that of metanotum shorter and thicker	Scutellar very short, shorter than the others, which are of subequal length	Scutellar much longer than 2 others (which are equal); metanotal a bit longer and thicker	Scutellar much longer than the other two, which are of equal length	Scutellar very long, a little longer than the other 2, which are long; metanotal a bit longer and thicker	?	Scutellar very short, subequal to metanotal, and shorter than abdominal spine
Spines on femur 1 (big ones in brackets)	10 (5)	9 (4)	?7 (3)	8 (4)	8 (3)	8 (4)	?
Hemelytra: Ratio of M and M + Cu	1 : 1.9	1 : 3.5	1 : 3.0	1 : 2.2	1 : 3.0	1 : 2.5	1 : 6.4
Length and direction of M	Very long, a bit anteriad	Short, a bit posteriad	Short, perpendicular	Long, perpendicular	Short, perpendicular	Long, a bit anteriad	Very short, perpendicular
Pygophore: Apophysis	Long, +/- thin, obtuse at apex	?	Long, broad, rounded at apex	Short, thin, pointed at apex	?	Short, thin, pointed at apex	Very long, needle-shaped
Parameres	Apices at level of apophysis	?	Apices converging above apophysis	Apices converging above apophysis	?	Apices converging above apophysis	Apices well below apophysis

Table 2. Distribution of somatic characters among *Malacopus* species.

The colour of the antennae and femur 1, as well as the general coloration of the hemelytra seem less variable. For instance, the colour of both antennae and femur 1 makes both *M. cellularis* and *M. wygodzinskyi* n. sp. well distinguishable from all the other species except *M. fragilis.* Antennae with two dark rings and femur 1 with three rings are found nowadays only in *M. fragilis*. By the general coloration of the hemelytra all species may clearly be divided into two groups, one with a single group of spots in the form of a continuous, irregularly shaped, longitudinal stripe (*M. zeteki*, *M. schubarti*, *M. fragilis*) and the other with one basal and one distal group of spots (*M. cellularis*, *M. romani*, *M. banksi*, and *M. wygodzinskyi* n. sp.). However, the pattern varies between the species. In the latter group, the colour of the basal part of the wing is most variable and seems characteristic of the species involved, while only in *M. wygodzinskyi* n. sp. the colour of the distal part of the wing differs as well.

The colour of the rostrum is, as a rule, invariable; the base of both segment 1 and segment 2 is always dark and only segment 3 is either completely pale yellow (*M. cellularis* and *M. banksi*) or its distal part is dark as well (*M. schubarti* and *M. wygodzinskyi* n. sp.).

In other instances the colour varies quite significantly and displays two kinds of variation. In one case a gradual reduction of the colour is observed. For example, in the colour of coxae 1 a gradual reduction is elucidable, from three more or less broad rings (*M. romani* and *M. zeteki*) via a partial reduction of the basal ring (a very narrow ring in *M. cellularis*, already a spot in both *M. banksi* and *M. schubarti*) up to the complete disappearence of the basal (*M. wygodzinskyi* n. sp.) or of both basal and medial rings (*M. fragilis*). As for femur 3, the presence of four rings seems initial (retained in *M. banksi*, *M. zeteki*, *M. wygodzinskyi* n. sp.), three rings are known in *M. schubarti*, two in *M. cellularis*, while the complete reduction of the rings is observed in *M. fragilis*.

By the colour of tibia 1, two groups of species can be distinguished, one with three wide rings (*M. cellularis*, *M. romani*, *M. fragilis*, *M. wygodzinskyi* n. sp.) and the other with reduced rings, either partially (the subbasal ring broken into two spots in *M. banksi* and *M. zeteki*) or completely (apical ring lacking in *M. schubarti*). The colour of tibiae 2 and 3 also displays a gradual degradation: two dark rings in *M. cellularis*, *M. romani* and *M. banksi*, one ring in *M. zeteki* and *M. wygodzinskyi* n. sp., no rings in *M. fragilis*.

In other cases the colour seems to change without any evident regularity. For instance, the colour of the dorsal part of the head is either dark (*M. banksi*) or light (*M. schubarti*), with four darker spots in the posterior portion of the head; in another case these four darker spots coalesce into two spots (*M. cellularis*, *M. zeteki* and *M. wygodzinskyi* n. sp.); in still another instance, the spots are represented by irregularly scattered, smaller spotlets on the posterior lobe (*M. romani*). The colour of pronotum is different in each species but *M. zeteki* and *M. schubarti*, which have a similar coloration. This means that in most cases the combination of characters of coloration is unique.

As regards the other characters, such as the colour of the scutellar, metathoracic and the 1st abdominal spines, of the trochanter, the tarsus, and some other body portions, they also may probably serve as distinguishing features. However, only for *M. cellularis* and *M. wygodzinskyi* n. sp. reliable colour characters can be indicated. In the latter species, the spine of the scutellum is dark, that of the metanotum is pale, while the trochanter is almost entirely dark; only the protarsal segments 1 and 2 are light, whereas the tarsi 2 and 3 are completely dark. In *M. cellularis,* the spines of the scutellum and the metanotum are dark, the trochanter is almost entirely dark; all the segments of the tarsus 1 are pale, while the tarsi 2 and 3 are completely dark.

A considerable variability is also found in the structure of certain body parts. It is

important to elucidate which of the characters involved are variable indeed, which are stable enough or have only limited variations. As one can see from Table 2, the form of the antennal buccula, the length of the rostral segments, the number and arrangement of the spines on femur 1, the length of M in the distal part of the hemelytra, as well as the length and shape of the apophysis of the pygophore are highly variable and seem characteristic of each species involved. On the other hand, the length ratio of the antennal joints 1 and 2 has turned out to be quite a stable character, perhaps indicating a generic feature. Besides, the width ratio of the anterior and posterior lobes of the pronotum has happened to be close to 1.6 times in almost all the species of *Malacopus*; only in *M. fragilis* the anterior lobe is half the width of the posterior one.

Also quite stable is the length ratio of the anterior lobe of the pronotum and the entire pronotum; two groups of species are distinguishable according to this character, one with a longer and the other with a shorter pronotum (*M. romani*, *M. schubarti*, and *M. wygodzinskyi* n. sp. with a longer pronotum, while *M. cellularis*, *M. banksi*, *M. zeteki*, and *M. fragilis* have shorter one). This ratio seems stable regardless of the sex: *M. cellularis* (♀), *M. banksi* (♂, ♀), *M. zeteki* (♀), *M. fragilis* (♂). Besides, the anterior lobe of the pronotum displays a gradual variability of its shape: transverse in *M. cellularis*, slightly transverse in *M. zeteki*, *M. romani*, *M. banksi* and *M. wygodzinskyi* n. sp., subquadrate in *M. schubarti*, and longitudinal in *M. fragilis*. As regards some other characters, a gradual variability distinguishing separate species or species groups can be observed. For instance, by the ratio of the interocular isthmus and the eye width the species form a decreasing succession as follows: *M. wygodzinskyi* n. sp. — *M. zeteki*, *M. schubarti* — *M. romani* — *M. cellularis*, *M. banksi*, *M. fragilis*. A gradual shortening of M in relation to M + Cu is obvious as well: *M. wygodzinskyi* n. sp. (1.9), *M. banksi* (2.2), *M. schubarti* (2.5), *M. romani* and *M. zeteki* (3.0), *M. cellularis* (3.5), and *M. fragilis* (6.4). The disposition of M in the distal portion of the hemelytra is generally perpendicular (*M. romani*, *M. banksi*, *M. zeteki*, *M. fragilis*) or subperpendicular, i.e. directed a little forward (*M. schubarti*, *M. wygodzinskyi* n. sp.) or slightly backward (*M. cellularis*). According to the stable length of the scutellar spine, two groups of species can be delimited, one with a longer spine (*M. romani*, *M. banksi*, *M. zeteki* and *M. wygodzinskyi* n. sp.) and the other with a shorter one (*M. cellularis*, *M. fragilis*). In contrast the spine of the metanotum and that of the abdominal segment 1 strongly vary in both length and shape and seem characteristic of each species in question. Yet their length and shape do not depend on the sex, as can be seen, e.g., in *M. romani* (♂) and *M. zeteki* (♀).

According to published work, the following characters, partly given in Tables 1 & 2, seem to delimit each of the described *Malacopus* species:

M. cellularis (type species). — Colour of pronotum, of coxa 1, of femur 2 and femur 3, and of hemelytra; form of antennal buccula, of spine of scutellum, metanotum and abdominal segment 1; number and arrangement of bigger spines of femur 1; venation of hemelytra.

M. romani. — Colour of head and hemelytra; number and arrangement of bigger spines of femur 1; apophysis of pygophore. Morphologically, this species seems to share a particularly rich number of characters with *M. zeteki*: ratio of interocular isthmus and eye width, structure of pronotum, spines of scutellum, metanotum and abdominal segment 1, and venation of hemelytra. Besides, in both of them the coloration of the fore legs, the structure of the antennal buccula, and the length ratio of the antennal joints 1 and 2 are very similar. The inconspicuous differences in the coloration of the head, the legs, and the hemelytra might be due to sexual dimorphism (to verify it, one needs much more material).

M. zeteki. — Colour of head; length ratio of rostral segments. Besides, see *M. romani.*

M. banksi. — Colour of head, of pronotum and of hemelytra; shape of antennal buccula; length ratio of rostral segments and their form; venation of hemelytra; apophysis of pygophore.

M. schubarti. — Colour of head, of femora 2 and 3, and of hemelytra; ratio of rostral segments' length; venation of hemelytra; apophysis of pygophore.

M. fragilis. — Colour of pronotum, of legs, and of hemelytra; length ratio of rostral segments and their form; shape of pronotum; venation of hemelytra. By the set of its characters, this species is highly different from all the other known *Malacopus*, primarily by the well-elongated anterior lobe of pronotum.

M. wygodzinskyi n. sp. — Colour of pronotum, of coxa 1, of femur 2, and of hemelytra; shape of antennal buccula; ratio of interocular isthmus and eye width; ratio of rostral segments' length; number and arrangement of bigger spines of femur 1; venation of hemelytra; apophysis of pygophore; smallest body size. By the set of its characters, the new species is also very well different from the other known *Malacopus*.

4. A key to the *Malacopus* species

1 (12) Anterior lobe of pronotum a little narrower than long, or as wide as long; M + Cu more than 3.5 times as long as M; coxa 1 with no less than two rings; femur 1 with no less than four rings.

2 (11) Anterior lobe of pronotum wider than long; apex of tibia 1 dark.

3 (10) Anterior lobe of pronotum ca. 1.2 times broader than long; scutellar, metanotal and abdominal spines (of segment 1) long.

4 (9) Entire pronotum ca. 2.6 times as long as its anterior lobe.

5 (6) M + Cu ca. 1.9 times as long as M; coxa 1 with two rings; femur 1 with four rings.
Fossil (Dominican amber of Hispaniola) . . . . . *wygodzinskyi* n. sp.

6 (5) M + Cu ca. 3.0 times as long as M; coxa 1 with three rings; femur 1 with five rings.

7 (8) Joint 1 of rostrum a little longer than joint 2; tibiae 2 and 3 with two subbasal rings each; hemelytra with a basal and a distal group of spots.
Brazil . . . . . *romani* Wygodzinsky 1947

8 (7) Joint 1 of rostrum almost twice as long as joint 2; tibiae 2 and 3 with one subbasal ring each; hemelytra with a continuous band.
Panama . . . . . *zeteki* Wygodzinsky 1947

9 (4) Anterior lobe of pronotum ca. one third of total length of pronotum; M + Cu ca. 2.2 times as long as M.
Cuba . . . . . *banksi* Wygodzinsky 1950

10 (3) Anterior lobe of pronotum almost 1.5 times wider than long; scutellar, metanotal and abdominal spines (of segment 1) very short; M + Cu ca. 3.5 times as long as M.
Brazil . . . . . *cellularis* Stål 1860

11 (2) Anterior lobe of pronotum as broad as long; M + Cu ca. 2.5 times as long as M; apex of tibia 1 pale.
Brazil . . . . . *schubarti* Wygodzinsky 1950

12 (1) Anterior lobe of pronotum ca. twice as long as narrow; M + Cu more than six times as long as M; coxa 1 only with a single subapical ring; femur 1 with three rings.
Mexico . . . . . *fragilis* Maldonado Capriles & Brailovsky 1983

5. Description of the new species
Malacopus wygodzinskyi n. sp.
Figs. 1—13

Holotype: ♂ from Dominican amber of Hispaniola. Desposited in SMNS, Inv.-Nr. Do—3390—M (Figs. 1, 2).

Derivatio nominis: The new spacies is gladly devoted to the outstanding hemipterologist and main contributor to the knowledge of the genus *Malacopus*, Dr. P. W. Wygodzinsky.

Description: Length from apices of hemelytra 5.0 mm, maximum length of hemelytra 3.75 mm, widt 0.75 mm.

Ground coloration straw yellow, with brownish vittae and stripes (Fig. 3). Head yellowish, darker on anterior lobe and anteriorly above insertion of rostral segment 1, as well as laterally on its posterior lobe (Fig. 4). Basal half of rostral segment 1 and base of segment 1, as well as distal half of segment 3 dark brown (Fig. 4). Antennal joint 1 with a subbasal and a subapical brownish ring, other parts of the joint, as well as all distal antennal joints pale yellow (Figs. 3, 5). Pronotum yellowish, anterior lobe at midlength with a medial darker vague spot extending up to anterior margin and latero-ventrad (Fig. 4), posterior lobe with three longitudinal stripes (two lateral broad and one axial narrower) and a darker spot at posterior margin (Fig. 4). Scutellum pale brownish, its lateral margins and its spine yellowish. Metanotum entirely yellow, mesopleura with wide darker stripes (Fig. 4). Fore legs yellowish, coxa with two brownish rings (a narrow medial and a wide subapical one), trochanter almost completely dark, only basally pale, femur with four wide and tibia with three wide (subbasal, medial, and apical) brownish rings (Figs. 3, 6 and 7), tarsus with a darker joint 3 (Fig. 8). Middle legs with coxa only distally pale; trochanter almost entirely dark (pale only at its base), femur with five and tibia with one narrow (subbasal) dark brown ring (Fig. 3). Femur of hind legs with four rings (wide subbasal, submedial and subapical, and a narrow submedial one), tibia with a wide subbasal ring (Fig. 3). Tarsi 2 and 3 entirely brown. Hemelytra pale whitish, with brown or dark brown spots; those on discal cell form a basal and a distal group of numerous spots; basal group consists of two large irregular spots located at the base of the cell; distal group consists of numerous smaller spotlets and several larger spots; costal margin from furcation of R + M and Cu

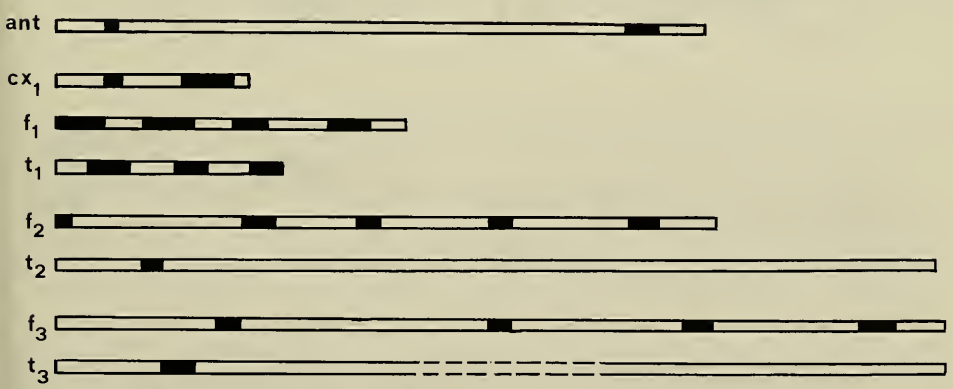
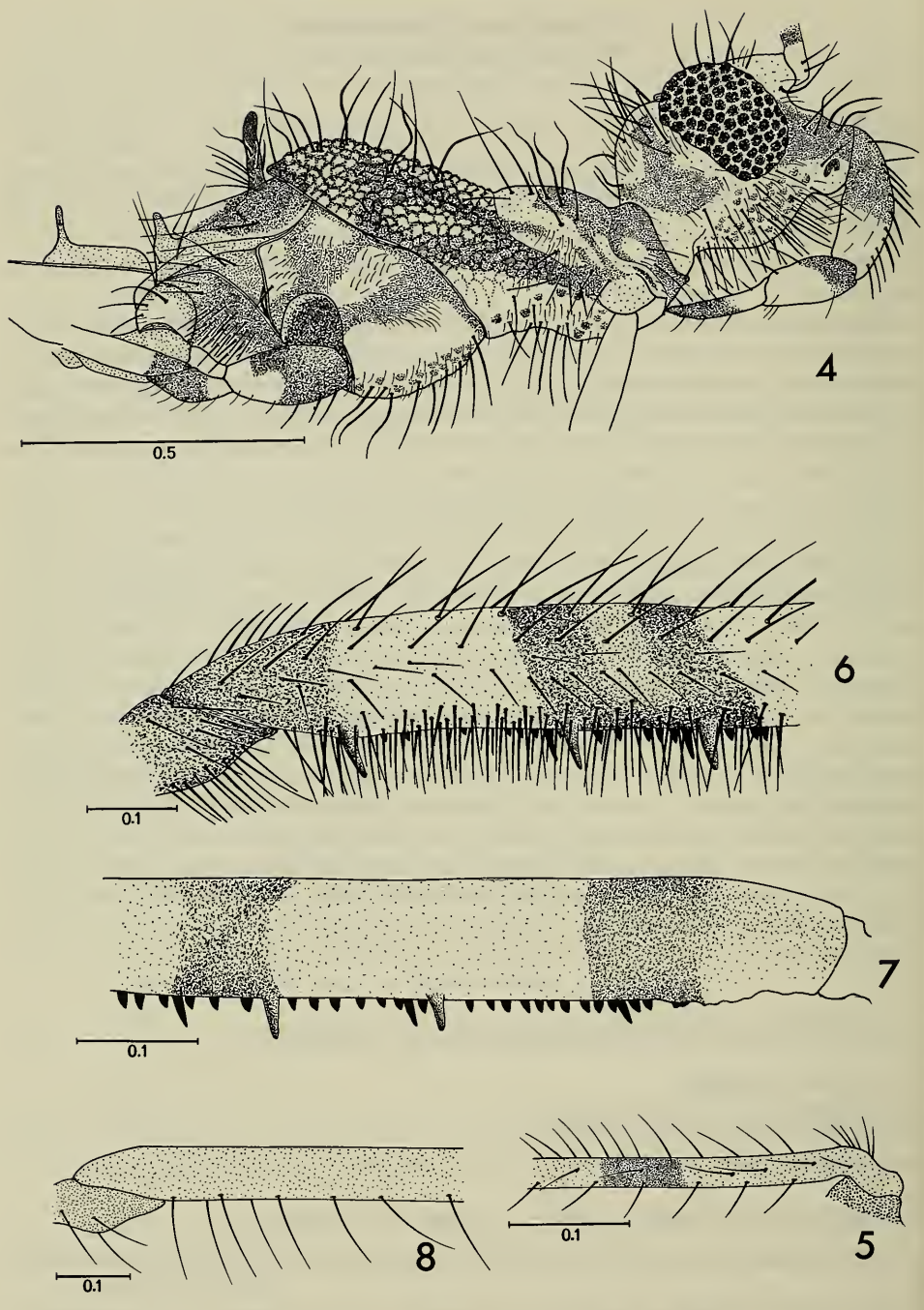
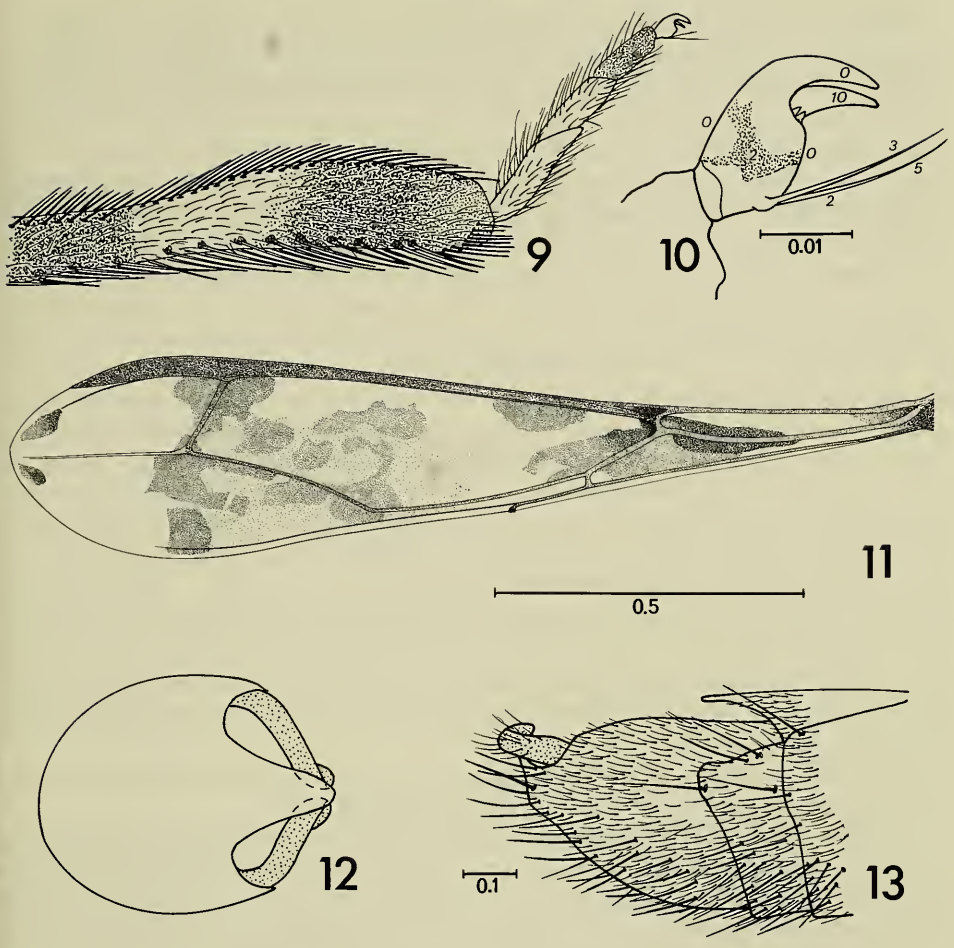


Fig. 3. *Malacopus wygodzinskyi* n. sp., ♂ holotype. Distribution of colour patterns on antennae (ant), coxa (cx_1), femora ($f_{1, 2, 3}$), and tibiae ($t_{1, 2, 3}$), drawn not to scale.



Figs. 4—8. *Malacopus wygodzinskyi* n. sp., ♂ holotype. — 4: Head, thorax and abdominal segment 1 in lateral view. — 5: Basal portion of antennal joint 1. — 6: Basal portion of femur 1. — 7: Distal portion of femur 1. — 8: Basal portion of femur 3. Drawings (Figs. 3—13) by the author.



Figs. 9—13. *Malacopus wygodzinskyi* n. sp., ♂ holotype. — 9: Distal part of tibia 1 and entire tarsus 1. — 10: Claws of tarsus 1. The numbers indicate the depth relations, i.e. 0-0-0 is in plain level position, not oblique (according to Schlee & Glöckner 1978). — 11: Hemelytron. — 12: Hypopygium, caudal view. — 13: Hind body portion, lateral view.

almost up to apex, as well as two apical spots dark brown (Fig. 11). Abdomen entirely yellowish.

Shape of the head as in Fig. 4, interocular sulcus distinct. Eyes rather large, semicircular, in dorsal view interocular isthmus almost equal to eye width (ratio 7 : 8). Antennal buccula well developed, dorsally more or less flattened, apex wide and not elongated (Fig. 4). Rostrum with segment 1 considerably longer than segment 2 and almost twice as long as the interocular isthmus; segments 2 and 3 subequal; lengths of the rostrum segments 1, 2 and 3 are; 0.32, 0.24, and 0.25 mm. Antennae (preserved only joint 1 and major part of joint 2) clothed with distinctive hairs; joint 1 with long and erect hairs set apart, well exceeding diameter of the joint proper (Fig. 5); joint 2 with only very short and dense, adpressed hairs; joint 1 is 3.0 mm, preserved portion of joint 2 is 3.1 mm.

Pronotum as in Fig. 4; surface clothed with sparse, long and erect hairs; total length of pronotum ca. 2.6 times as long as anterior lobe, shining, its anterior corners with poorly developed, rounded tubercles, medially near basal margin with a small depression extending anteriorly into a small, Y-shaped, shallow furrow; posterior lobe as broad as head with eyes, caudad gradually broadening, with a distinctly granulated surface. Scutellum with a long and slender spine well exceeding in length that of either metanotum or abdominal segment 1 (Fig. 4). Metanotum posteriorly with a short and more or less stout spine. Abdominal segment 1 with a long and slender spine (longer than that of metanotum).

Shape and coloration of the fore legs as in Fig. 6—9; lengths of coxa, femur and tibia are 0.98, 1.6 and 1.2 mm. Coxa, trochanter and femur clothed with long, dense and erect hairs, which are shorter and denser on the ventral side of trochanter and femur; tibia covered with dense and adpressed hairs, which tend to be more setiform and better adpressed ventrally (Figs. 6, 7 & 9). Femur ca. 11 times longer than wide, postero-ventrally with five bigger spines, of which the subapical one is considerably shorter; 3rd and 4th medial spines well apart (Fig. 7); antero-ventral side of femur with five smaller spines; beyond the base of the second basal spine begin two rows with ca. 35—40 denticles. Lengths of tarsal joints 1, 2, and 3 are 35, 30, and 20 mm; all tarsal joints clothed with simple suberect hairs (Fig. 9). Claws well curved, on ventral side with two very small, but distinct teeth, basally with two long chaetae well projecting beyond claws proper (Fig. 10). Lengths of middle femur and tibia are 3.1 and 4.2 mm, both clothed with very short and adpressed hairs; at apex of femur there are 6 to 8 longer and suberect hairs. Lengths of hind femur and tibia are 4.1 and 6.0 mm, clothed with dense and adpressed hairs; ventral side of basal third of femur with sparse (ca. 10 to 12), long and suberect hairs more than twice as long as diameter of joint proper (Fig. 8).

Hemelytra apically pointed. M on distal part of hemelytra subperpendicular, directed a little anteriad, long, nearly half the length of M + Cu (Fig. 11).

Abdomen slender, its sides subparallel; tergite 7 projects above basal part of pygophore (sternite 9). The latter medially with quite a long and apically slightly rounded process (= apophysis), which is not covered by parameres (Fig. 12) at their level; parameres simple, slender, elongate, strongly curved apically; surface of pygophore clothed with short, numerous, and delicate hairs, ventrally also with longer and stronger setae (Fig. 13).

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