ISSN 1211-8788 *Acta Musei Moraviae, Scientiae biologicae* (Brno)
90: 219–233, 2005

Palearctic species of *Microchelonus* Szépligeti, 1908 with extremely long palpi (Hymenoptera, Braconidae: Cheloninae)

VLADIMIR TOBIAS [1] & AUREL LOZAN [2]

[1] *Zoological Institute, Russian Academy of Sciences, Universitetskaya nab., 1, St.Petersburg 199034, Russia; e-mail: hymenopt@zin.ru, http://www.zin.ru/labs/insects/hymenopt/*

[2] *Institute of Entomology, Academy of Sciences of the Czech Republic, Branišovská 31 CZ–370 05 České Budějovice, Czech Republic; e-mail: lozan@entu.cas.cz, http://www.entu.cas.cz*

TOBIAS V. & LOZAN A. 2005: Palearctic species of *Microchelonus* Szépligeti, 1908 with extremely long palpi (Hymenoptera, Braconidae: Cheloninae). *Acta Musei Moraviae, Scientiae biologicae* (Brno) **90:** 219–233. – Five Palearctic species of the genus *Microchelonus* Szépligeti, 1908 with extremely long palpal and labial segments are reviewed. Redescriptions (including variability and taxonomic affinity) and an illustrated key to species are provided.

Key words. Hymenoptera, Braconidae, *Microchelonus*, morphology, taxonomy

Introduction

Elongate mouthparts among chelonine wasps occur very rare, however, several species of *Microchelonus* Szépligeti, 1908 display extremely elongate maxillary and labial palpi (as long as height of head, oftenly longer or rarely shorter) and comparatively long rostrum. Their functionality is likely to reveal feeding on flowers (TOBIAS 1993), because elongate directed ventrally mouthparts of adults work as a pomp to reach for the nectar. Totally five species are discussed and among them two species bear extrimely elongated maxilary papli (*M. hungaricus* Szépligeti, 1908; *M. palpator* Tobias, 1986), other species with rather developed labial, but not too elongated maxilary palpi [*M. vescus* (Kokuyev, 1899)]. Series permitted also to see the course of variation in *M. rostratus* (Tobias, 1966) and *M. hungaricus*.

Redescriptions, illustrations and a key to species are provided. The morphological terms are used according to BELOKOBYLSKIJ & TOBIAS (1998).

Abbreviations

AMA . . . . . apical metasomal aperture of male
LD . . . . . longitudinal diameter of eye
LO . . . . . length of eye (dorsal view)
OOL . . . . . ocular-ocellar line
POL . . . . . postocellar line
TD . . . . . transverse diameter of eye

IECB . . . . . Institute of Entomology, České Budějovice (Czech Republic)
MME . . . . . Moravian Museum, Brno (Czech Republic)
ZIN . . . . . .Zoological Institute, Saint Petersburg (Russia)

Taxonomy

Microchelonus rostratus (Tobias, 1966) (Figs 1–9)

Neochelonella rostrata Tobias, 1966: 116 (♀)
Chelonus (*Microchelonus*) *rostratus* (Tobias); 1976: 151 (♀), 156 (♂)
Microchelonus rostratus (Tobias); 1986: 323 (♀), 334 (♂); Tobias 2003: 451(♂); Lozan (2005, in press) (♂)

Material examined. 13 ♀ 6♂, Czechia: Moravia merid., Čejč, leg. H [=Hoffer], VI.1940 [“*leucopter”*] (MME, IECB, ZIN); 1♀, Czechia: Moravia merid., Čejč, leg. H [=Hoffer], V.1941 [“*leucopt”*] (MME); 1♀, Moldova: Kotovskoe, 29.VI.1960, lgt. Talitzkij (IECB); 1♀, Slovakia: Kováčov [=Kamenica nad Hronom], leg. H [=Hoffer], 7.V.1949 [“*leucopt”*] (MME); 1♂, Turkey: 3.6.2001, Gevas env. 2000m, 40km s.w. Van, leg. Deneš jun. (IECB).

Female. Body length: 3.6–4.0 mm.
Head. Roundly narrowed behind eyes, twice as broad as long, as broad as mesosoma; in frontal view 1.3–1.5 times as broad as high. Ocelli small, widely separated, POL=OOL. LO 1.7 times TD and 2.5 times the length of malar space. Temples almost as long as LO. Maxilar palpi as long as height of head. Antennae 16-segmented, a little longer than head and mesonotum combined; scape slightly broader than flagellum, 2.5–3 times as long as wide; flagellum appearing slender, 1st flagellum segment 3 times as long as broad, apical segments 2–2.5 times as long as broad (laterally slender).
Mesosoma. In dorsal view a little broader than carapace. In lateral view, 1.5 times as long as high and almost as long as length of carapace.
Wings. Radial cell in forewing great, its length along the metacarp as long as length of pterostigma or slightly longer. Second radio-medial cell comparatively big. Second radial abscissa as long as first abscissa, 4–5 times shorter than third abscissa; third abscissa crooked in the middle.
Legs. Fore and hind femora 3–3.5 times as long as broad. Hind tibiae shorter than femora and as long as tarsi. Outer spur of hind tibiae longer than inner spur, reaching half of 1st metatarsal segment.
Metasoma. Carapace oval-elongate, in dorsal view 1.6–1.8 times as long as maximum breadth, incurved apicoventrally for 0.2 of its length. Hypopygium often not visible (rarely rather visible) and not projecting beyond the rim. Ovipositor hidden or far projecting beyond posteroventral rim of carapace.
Sculpture. Head behind eye and face transversely striate. Frons with concentric sculpture. Clypeus largely not sculptured, weakly punctate and shining. Mesonotum rugose punctate. Scutum anteriorly granulate punctate, area before scutellum with coarse rugae. Scutellum largely (mainly laterally and posteriorly) with soft longitudinal sculpture, centrally punctate and more or less shining. Propodeum roughly rugose, with clear transversal carina and two more or less distinct medial longitudinal carinae, lateral tubercles well developed. Carapace with pronounced longitudinal, more or less rectilinear, undulations spanning almost its entire visible surface.
Colour. Body black. Labiomaxillary complex dark brown. Legs: all coxae black; fore femora black except apexes, hind femora black; fore tibiae brown-yellowish; all tarsi dark. Forewings infuscate with a slightly paler belt on the course of the medial vein and

infuscation below pterostigma. Pterostigma, metacarpus and costal vein brown, rest of veins brown-yellowish.
Variability. Head more or less roundly contracted behind eyes. Maxillary palpi as long as height of head or slightly longer. Sculpturing of carapace sometimes in a whirl of coarse elements. Ovipositor thin and (a) long in case of projecting hypopygium (laterally, its total length 2/3 of carapace length (Fig. 3), or (b) slighly projecting beyond posteroventral rim of carapace, rarely hidden (Fig. 2).
Male. Body length 3.7–4.0 mm. As in female, except as follows. Antennae 19–20 segmented, a little longer than head and mesosoma combined; not thin like in female, apical flagellomeres 1.5–1.7 as long as borad. Carapace oval-elongate, in dorsal aspect 1.7–1.9 times as long as its maximum breadth (see variations in Figs 5, 7). AMA small and oval, in rear view of posterior end about 0.25 (in small specimens, Fig. 8) or at most less than 0.3 (as in Fig. 6) of width of carapace.

Differential diagnosis. The species is clearly defined by its larger radial cell and longer and sligthly crooked third radial abscissa in forewing. Females bear thin antennomeres (especially at the tip) as in *M. caucasicus* (Abdinbekova) species group.

Distribution. Ponto-Caspian range. Central and southeastern Europe (Hungary, Czech Republic, Slovakia, Ukraine, Moldova, Russia in lowlands of the Volga River, Turkey, Caucasus), Turkmenistan.

Microchelonus labipalpis Tobias, 1993 (Figs 10–14)

Microchelonus labipalpis Tobias, 1993: 98 (♀♂); 2000: 495 (♀), 541 (♂).

Material examined. Paratypes 2♀, Finland: U. Helsinki, 6680:380, 25.7.1978, lgt. M. Koponen (ZIN); Paratype 1♂, Finland: PP. Muhos, 719:390, 26.6.1979, lgt. M. Koponen (IECB); Paratype 1♂, Lithuania: Zaras, Degucai, 20.VI.1972, lgt. Jakimavičus (ZIN).

Female. Body length: 3.3–3.6 mm.
Head. Roundly narrowed (a little widened) behind eyes, about twice as broad as long, a little broader than mesosoma. Ocelli small, not widely separated, OOL=1.3POL. LO 1.7 times TD and 2.5 times length of malar space. Temples 1.1–1.2 times as long as LO. Face 1.5 times as broad as high, about twice higher than clypeus. Maxilar palpi slightly shorther than height of head. Antennae 16-segmented, comparatively short, not longer than head and mesonotum combined; scape slightly broader than flagellum, 2.5 times as long as broad; 1st flagellum segment 3 times as long as broad, apical segments about twice as long as broad (laterally not slender).
Mesosoma. In dorsal view a little narrower than head and as broad as carapace. In lateral view 1.5 times as long as high and slightly shorter than carapace.
Wings. Radial cell in forewing comparatively big, its length along the metacarp slightly longer than pterostigma. Second radio-medial cell not big, 3 times smaller than radial cell. Second radial abscissa as long as first abscissa, 4.5–5 times shorter than third abscissa; third abscissa slightly crooked at the middle.
Legs. Fore and hind femora 3–3.5 times as long as broad. Hind tibiae slightly longer than

hind femora and than hind tarsi. Outer spur of hind tibiae longer than inner spur, almost reaching half of 1st metatarsal segment.
Metasoma. Carapace oval-elongate, 1.6–1.7 times as long as maximum breadth. Slightly incurved apicoventrally for 0.15 of its length. Ovipositor visible and projecting beyond posteroventral rim of carapace.
Sculpture. Head behind eye and face transversely striate. Frons with concentrical sculpture. Clypeus largely sculptured, but centrally weakly punctate and shining. Mesonotum rugose-rugulose punctate. Scutum anteriorly punctate and longitudinally striate, area before scutellum with pronounced coarse rugae. Sides of mesonotum roughly rugose-punctate with unclear transversal sculpture. Scutellum largely (mainly laterally and posteriorly) sculptured, centrally punctate and more or less shining. Propodeum roughly rugose, with clear transversal carina and two more or less distinct medial longitudinal carinae, lateral tubercles well developed. Carapace with pronounced longitudinal irregular undulations spanning its entire visible surface.
Colour. Body black. Labiomaxillary complex dark brown. Legs: all coxae black; fore femora black except apexes, hind femora black; fore tibiae brown-yellowish; all tarsi dark. Forewings infuscate with a paler belt on the course of the medial vein and infuscation below pterostigma. Pterostigma, metacarpus and costal vein bron, other veins brownish.
Male. Body length 3.6–3.7 mm, appearing more slender than in female. As in female, except as follows. Antennae 18-segmented. Carapace oval-elongate, 1.8 times as long as maximum breadth. AMA oval; posterior end in back view about 0.3 of height and 0.3 of width of carapace.

Differential diagnosis. Resembles *M. rostratus* in many features. Although sculpture and, more important, radial cell in forewing are similar in these species, their rostrum differs. Other differences are mentioned in the key.

Distribution. Kazakhstan (mountains), nothern Russia, Finland, Lithuania.

Microchelonus vescus (Kokuyev, 1899) (Figs 15–19)

Chelonus vescus Kokuyev, 1899: 43 (♂).
Chelonus minutus Szépligeti, 1896: 209, 221 (♂).
Chelonella vesca: Szépligeti, 1908: 405; Fahringer (1934): 469 (♂).
Microchelonus vescus: Tobias (1986): 327 (♀), 332 (♂); 2000: 495 (♀), 541 (♂).

Material examined. 1♀, Kazakhstan: W Akmola, Kokshetau mountain (Tersakkan river), 20.VI.1957, lgt. Tobias (ZIN); 1♂, Kazakhstan: S Akmola, 10 km N Zharkol lake, 17.VI.1957, lgt. Tobias (ZIN).

Female. Body length: 2.8 mm.
Head. Transverse, 2.2 times as broad as long, roundly narrowed behind eyes, a little broader than mesosoma. Ocelli small, not widely separated, POL=1.5OOL. LO 1.7 times TD and 2.5 times the length of malar space. Temples as long as LO. Face 1.6 times as broad as high and 1.7 times higher than clypeus. Maxilar palpi as long as height of head. Antennae (tip broken): scape 1.6 times broader than flagellum, 2.5 times as long as broad; 1st flagellum segment 2.5 times as long as broad, 2nd and 3rd 2–2.2 times as long as broad.

Mesosoma. In dorsal view a little narrower than head and as broad as carapace. In lateral view almost 1.7 times as long as high and almost as long as carapace.
Wings. Radial cell in forewing comparatively small, the same size as pterostigma, its length along the metacarp 0.7 length of pterostigma. Second radio-medial comparatively big, twice smaller than radial cell. Second radial abscissa 1.2 times as long as first abscissa, 3 times shorter than third abscissa.
Legs. Femora 3.5-times as long as broad. Outer spur of hind tibiae longer than inner spur and shorter than half of 1st metatarsal segment.
Metasoma. Carapace elongate oval with more or less rectilinear sides, 1.7 times as long as maximum breadth. Slightly incurved apicoventrally for 0.2 of its length. Ovipositor thin, projecting beyond posteroventral rim of carapace.
Sculpture. Head behind eye and face transversely striate. Frons with concentric sculpture. Clypeus largely not sculptured, centrally weakly punctate and shining. Mesonotum rugosely punctate. Scutum anteriorly punctate, area before scutellum with some longitudinal sculpture. Sides of mesonotum not roughly rugose, rather punctate with unclear transversal sculpture. Scutellum largely not sculptured, centrally smoother and shining. Propodeum rugose, without transverse carina, lateral tubercles developed. Carapace with longitudinal, almost rectilinear, undulations spanning 2/3 of its surface.
Colour. Body black. Labiomaxillary complex brown. Legs: all coxae dark, all femora brown; fore tibiae yellowish, hind tibiae brown with yellowish apexes; all tarsi yellowish. Forewings not infuscate, transparent. Pterostigma, metacarpus and costal vein brown, the remaining veins yellowish.
Male. Body length: 2.9 mm. As in female, except as follows. Carapace oval-elongate, 1.9 times as long as maximum breadth. AMA oval, in rear view of posterior end 0.3 of height and 0.5 of width of carapace.

Differential diagnosis. From the rest of the species under study, it differs by finer (not rough) sculpture, disappearing transverse carina of propodeum, wings without infuscation, pterostigma and most veins as well as legs largely with brown yellowish colouring. Male's carapace with a tinge of brown colouring. The species greatly resembles specimens of *M. contractus* (Nees) in appearance.

Distribution. Hungary, Caucasus, Kazakhstan.

***Microchelonus hungaricus* Szépligeti, 1908** (Figs 20–30)

Microchelonus hungaricus Szépligeti, 1908: 403; Fahringer (1934): 505(♀); Tobias (1986): 323(♀),334(♂); 2000:495(♀), 541(♂).
Chelonus (Microchelonus) hungaricus: Tobias (1976): 151(♀), 156(♂).
Chelonus palpalis Tobias, 1989: 418(♀), 446 (♂); 1996: 382(♂).

Material examined. 1♀, Slovakia: Kováčov [=Kamenica nad Hronom], leg. H [=Hoffer], 15.IX.1947 ["♀16"] (MME); 21♀ 3♂, Slovakia: Kamendín [=Kamenín], 17.IX.1947 ["*palpal*"] (MME, IECB, ZIN).

Female. Body length: 2.8–3.0 mm.
Head. Rounded (usually a little widened) behind eyes but not contracted, about 1.7 times as broad as long, 1.1–1.2 times broader than mesosoma; in frontal view 1.2–1.3 times as

broad as high. Ocelli small, not widely separated, POL=OOL. Temples about 1.3 times as long as LO. Face 1.2 times as broad as high, about 1.5 times higher than clypeus. Maxillary palpi much longer (about 1.3 times) than height of head. Antennae 16-segmented, a little longer than head and mesonotum combined; scape slightly broader than flagellum, 2.5–3 times as long as broad; 1st flagellum segment about 3 times as long as broad, apical segments twice as long as broad.

Mesosoma. In dorsal view a little narrower than head and carapace. In lateral view 1.7–2.0 times as long as high and almost as long as length of carapace.

Wings. Radial cell in forewing not large, its length along the metacarp shorter (0.8 times) than length of pterostigma. Second radio-medial cell comparatively large, twice smaller than radial cell. Second radial abscissa as long as first abscissa, 3 times shorter than third abscissa.

Legs. Fore and hind femora 3–3.5 times as long as broad. Hind tibiae 1.3 times longer than femora and slightly shorter than tarsi. Outer spur of hind tibiae longer than inner spur, almost reaching half of 1st metatarsal segment.

Metasoma. Carapace elongate oval, appearing slender, in dorsal view about twice as long as maximum breadth. In lateral view not incurved, rather flat, with almost parallel dorsal and ventral sides. Hypopygium often projecting downward beyond the rim of carapase, sometimes not visible. Ovipositor hidden or projecting beyond posteroventral rim of carapace.

Sculpture. Head behind eyes and face transversely striate. Frons with concentric sculpture. Clypeus largely finely punctate, slightly shining. Mesonotum rugosely punctate. Scutum anteriorly finely granulate and longitudinally striate, area before scutellum with coarse rugae. Sides of mesonotum rugosely punctate with unclear transversal sculpture. Scutellum largely (mainly laterally and posteriorly) with fine longitudinal sculpture, centrally punctate and more or less shining. Propodeum rugose, with clear transverse carina and two more or less distinct medial longitudinal carinas, lateral tubercles well developed. Carapace with clear longitudinal undulations spanning 2/3 or more of its visible surface.

Colour. Body black. Labiomaxillary complex dark brown. Legs: all coxae black; fore femora black except apexes, hind femora black; fore tibiae brown; all tarsi dark. Forewings rather infuscate with a slightly paler belt on the course of the medial vein and infuscation below pterostigma. Pterostigma, metacarpus and costal vein brown, remaining veins brownish.

Male. Body length: 2.9–3.2 mm. As in female, except as follows. Antennae 18-segmented, apical flagellomeres 1.7 times as long as broad. Carapace elongate oval, slender, in dorsal view 1.9–2.2 times as long as maximum breadth (see variations in Figs 21, 23). AMA small and oval, in rear view of posterior end almost 1/3 of width of carapace.

Variability. Head generally larger than in the remaining discussed species, widened rather than contracted or slightly contracted behind eyes; temples sometimes slightly longer than LO, rarely as long as LO. Maxillary palpi distinctly longer than height of head. Sculpture of carapace may vary from rectilinear and spanning almost its entire

surface to unrectiniear and spanning 2/3 its surface (see variations in males, Figs. 27 and 28). Ovipositor thin and (a) long in case of projecting hypopygium (laterally its total length 2/3 of carapace length, Fig. 22), or (b) slightly projecting beyond posteroventral rim of carapace (Figs 21 and 23), and (3) rarely hidden.

Differential diagnosis. Close to *M. rostratus*, differing mainly in smaller dimensions, slender body and larger head, softer sculpturing and shorter radial cell in forewing. It is also distinct from other species by thinner segments of labiomaxillary complex and shape of carapace, which is not incurved laterally and with almost parallel dorsal and ventral sides.

Distribution. Widespread Palearctic species, excepting Russian Far East[1]. Central and southern Europe (Czech Republic, Slovakia, Hungary, Romania), Caucasus, Central Asia, Mongolia.

Microchelonus palpator Tobias, 1986 (Figs 31–37)

Microchelonus palpator Tobias, 1986: 10 (♀♂); 1994: 355 (♀), 369 (♂); 2000: 495 (♀), 541 (♂).

Material examined. Holotype ♀, Russia: Primorsky kraj, Novokachalinsk, 17.VIII.1981, lgt. Lelej (ZIN); Paratype ♂, Russia: Primorsky kraj, Ussurijsk, 11.X.1979, lgt. Kupeanskaja (ZIN); 1♀)♀ 1♂, Russia: Primorsky kraj, 15 km S-E Partizanskaja, oak forest, shrubs, 26–27.VIII.2001, lgt. Belokobylskij (ZIN).

Female. Body length: 3.2–3.4 mm.

Head. Rounded narrowed behind eye, twice as broad as long, 1.1 times broader than mesonotum; in frontal view 1.4 times as broad as high. Ocelli small, POL=1.3OOL. Temple 1.1 times as long as TD. LD twice as long as TD, 2.5 times as long as malar space, almost as broad as LD. Face 1.4 times higher than clypeus. Maxillary palpi longer than height of head. Antennae with 16 segments, as long as head and mesosoma combined, flagellar segments apppearing thin, more and less depressed laterally; scape 2.5 times as long as broad, twice broader than flagellum; 1st flagellum segment 4 times as long as broad, apical segments twice as long as broad.

Mesosoma. In dorsal view as broad as carapace, in lateral view 1.2 times shorter than carapace, 1.6 times as long as high.

Wings. Radial cell of fore wing not big, its length along the metacarp 0.6 length of pterostigma. Radio-medial cell rather large, 1.2 times smaller than radial cell. Second radial abscissa 1.3 times as long as first abscissa, 3 times as long as third abscissa.

Legs. Hind femora 3 times as long as broad. Hind tibia as long as tarsus. Outer spur of hind tibia almost as long as half of first metatarsal segment. Fifth metatarsal segment as long as 3rd segment, shorter than second segment.

Metasoma. Carapace oval elongate, 1.9 times as long as maximum breadth, incurved apicoventrally for 0.1 of its length. In lateral view three times as long as high. Ovipositor projecting from the carapace rim for 0.5–1.0 length of hind basitarsus.

[1] Presumably, *M. palpator* occurs in the Far East of the Palearctic (described from the Russian Far East); the species is very close to *M. hungaricus*, and morphological differences between these two species are very slim.

Sculpture. Face longitudinally striate. Clypeus transversely striate, shining. Vertex behind eye weakly transversely striate. Mesonotum rugosely punctate, area before scutellum coarsely rugose. Propodeum rugulosely punctate, with a pair of median longitudinal carinae, with transverse carina and a pair of obtuse lateral teeth. Carapace with longitudinal unrectilinear undulations spanning its 2/3 of entire surface.
Colour. Body black. Labiomaxillary complex brown. Legs: all coxae dark, fore femora brown; fore tibiae brown-yellowish, hind tibiae dark-brown; fore tarsi borwn-yellowish (tip darker); hind tarsi dark-brown. Fore wings strongly infuscate with a slightly paler belt on the course of the medial vein and infuscation below pterostigma. Pterostigma, metacarpus and costal vein brown, remaining veins brownish.
Male. Body length: 3.2–3.4 mm. As in female, except as follows. Antennae with 18 segments, apical segments 1.5 times as long as broad. Carapace oval, about twice as long as maximum breadth. AMA elongate oval, in rear view of posterior end 0.4–0.5 of width of carapace.

Differential diagnosis. Very close to *M. hungaricus*, probably only a variety of the latter. Main differences between these the two species include narrower head behind eyes in *M. palpator* (in *M. hungaricus* head is obviously widened and appearing larger), carapace slightly incurved apicoventrally in *M. palpator* (in *M. hungaricus* it is quite flat), AMA of males greater, and forewings more infuscate.

Remarks. Females of both species, *M. hungaricus* and *M. palpator*, are practically indistinguishable. Analysis of European material of the previous species showed no difference in the appearance of females, except for the head and slightly incurved carapace in the latter species. As mentioned previously (Tobias 1993), there is also a difference in flagellar segments of antennae, but the series of *M. hungaricus* showed similar flagellomeres in both species. Presence in carapace (lateral view) of a would-be apical depression at posterior end turned out being present in most specimens in the central European material of females. There is a visible difference in AMA of males, in rear view of posterior end 0.25–0.3 of width of carapace in *M. hungaricus* versus 0.4–0.5 of width of carapace in *M. palpator*. In both sexes legs are darker and forewings appearing more infuscate in *M. palpator* than in *M. hungaricus*. Presumably, *M. palpator* is more or less associated with forest and *M. hungaricus* with arid habitats.

Distribution. Russian Far East.

Key to species

1(4) Radial cell in forewings large, 2–3 times as second radiomedial cell; its length along metacarpus as long as pterostigma or slightly longer. Body roughly sculptured, carapace with clear longitudinal undulations spanning almost its entire visible surface.

2(3) Palpi shorter than height of head, forewings infuscate. ♂AMA in rear view of posterior end 0.3 of width of carapace and 0.3 height of carapace. 3.3–3.7 mm. ..... *M. labipalpis* Tobias

3(2) Palpi longer, at least as long as high of head. Forewings slightly infuscate. ♂AMA smaller, in rear view of posterior end 0.5 of width of carapace and 0.3 height of carapace. 3.6–4.0 mm. ..... *M. rostratus* (Tobias)

4(1) Radial cell in forewings comparatively large, 1.5–2 times as second radiomedial cell, its length along metacarpus shorter than pterostigma. Carapace with longitudinal undulations spanning at most 2/3 of visible surface.

5(6) Wings almost transparent, not infuscate. Metasoma in lateral view 1.7 times as long as high and almost as long as carapace. Labial palpi slightly shorter than maxilar palpi. Mouthparts, legs (tips), pterostigma and most veins and often carapace (in males) with brown yellowish colouring. ♂AMA rather big, in rear view of posterior end 0.5 of width of carapace and 0.3 height of carapace. 2.7–2.8 mm. ..... *M. vescus* (Kokuyev)

6(5) Wings infuscate. Metasoma in lateral view 1.7–2.0 times as long as high, slightly shorter or as long as carapace. Labial palpi much shorter than maxillary palpi. Pterostigma and most veins as well as legs darker.

7(8) Head larger and widened behind eyes. Metasoma in dorsal view 2–2.2 times as long as maximum breadth; carapace not incurved apicoventrally. Ovipositor hidden or far projecting beyond posteroventral rim of carapace. ♂AMA small and oval, in rear view of posterior end 0.25–0.3 of width of carapace. 2.8–3.4 mm. ..... *M. hungaricus* Szépligeti

8(7) Head smaller and not widened behind eyes. Metasoma in dorsal view 1.7–2.0 times as long as maximum breadth, carapace incurved apicoventrally for its 0.1 length. ♂AMA oval, in rear view of posterior end 0.4–0.5 of width of carapace. Forewings more infuscate. 3.2–3.4 mm. .... *M. palpator* Tobias

Acknowledgements

We offer our sincere thanks to the Moravian Museum in Brno (Czech Republic) for providing us material from Šnoflák's collection; the Institute of Entomology for facilities (Grant 1SQ50007005 of the Academy of Science of the Czech Republic; personally A. Bezděk for technical assistance), and the Russian Foundation of Fundamental Investigation (Grant NR 01–04–49655) for co-supporting this work.

References

Belokobylskij S. & Tobias V. I. 1998: Family Braconidae. In: Key of the Insect of Russian Far East (Neuropteroidea, Mecoptera, Hymenoptera). Dal'nauka, Vladivostok, **3(4):** 8–40 (in Russian).

Fahringer J. 1934: Opuscula braconologica III. Wien, Bogen **21–38**: 321–594.

Kokuyev N. 1899: Sur quelques noms préoccupés de braconides. *Annales de la Société Entomologique de Belgique* **43:** 62 (in French).

Lozan A. 2005: Chelonine wasps (Hymenoptera: Braconidae, Cheloninae) from uplands of Turkey. *Entomologist's Monthly Magazine* (in press).

Szépligeti G. 1896: Beiträge zur Kenntnis der Ungarischen Braconiden. *Termes. Füzet. Kiadja a Magyar nemzeti Mus*. **19:** 165–186, 228–242, 285–321, 359–386 (in German).

Szépligeti G. 1900: Neue Braconidaen aus Ungarn. *Termeszetr. Füz.* **23:** 213–219 (in German).

Tobias V. I. 1966: New species of braconids (Hymenoptera, Braconidae) from Turkmenia and adjacent territories. *Tr. Zool. Inst. Acad. Sc. USSR*. **37:** 111–131 (in Russian).

Tobias V. I. 1976: Braconids of Caucasus. Leningrad, Nauka, 287 pp. (in Russian).

Tobias V. I. 1986: Family Braconidae, subfamily Cheloninae. *Key to Insects of European part of USSR* **3(5):** 293–335 (in Russian).

Tobias V. I. 1986a: New species of subfam. Cheloninae (Hym., Braconidae) from the far East of the USSR. *Proceedings of the Zoological Institute.* **159**: 3–17 (in Russian).

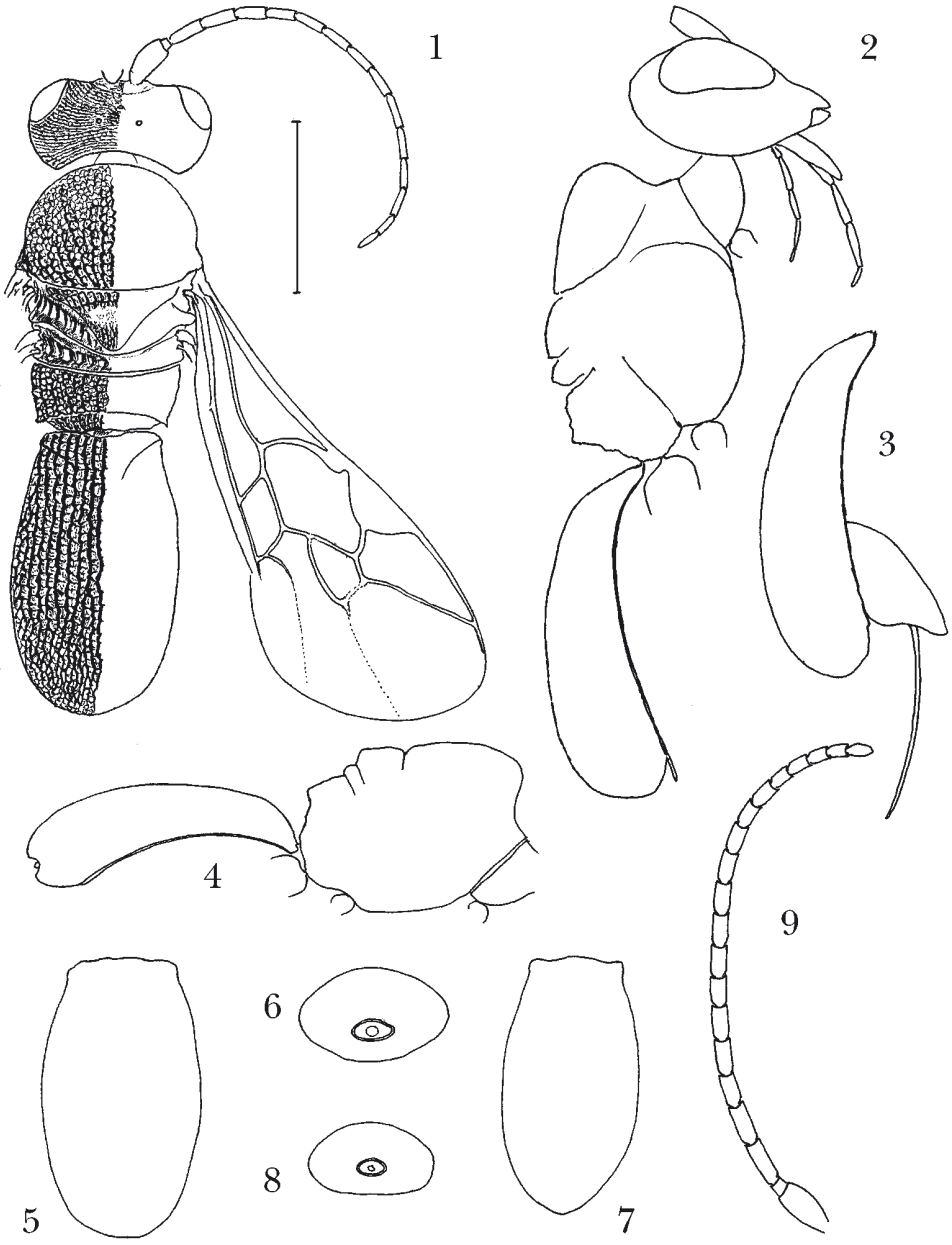
Tobias V. I. 1989: Braconid wasps of the genus Microchelonus (Nym., Braconidae) of Mongolia. *Insects of Mongolia.* **10**: 413–505 (in Russian).

Tobias V. I. 1993: Braconid wasps of the genus Microchelonus (Hymenoptera, Braconidae) with strongly lengthened palpi. *Zoologicheskji Zhurnal* **72**(7): 95–103 (in Russian).

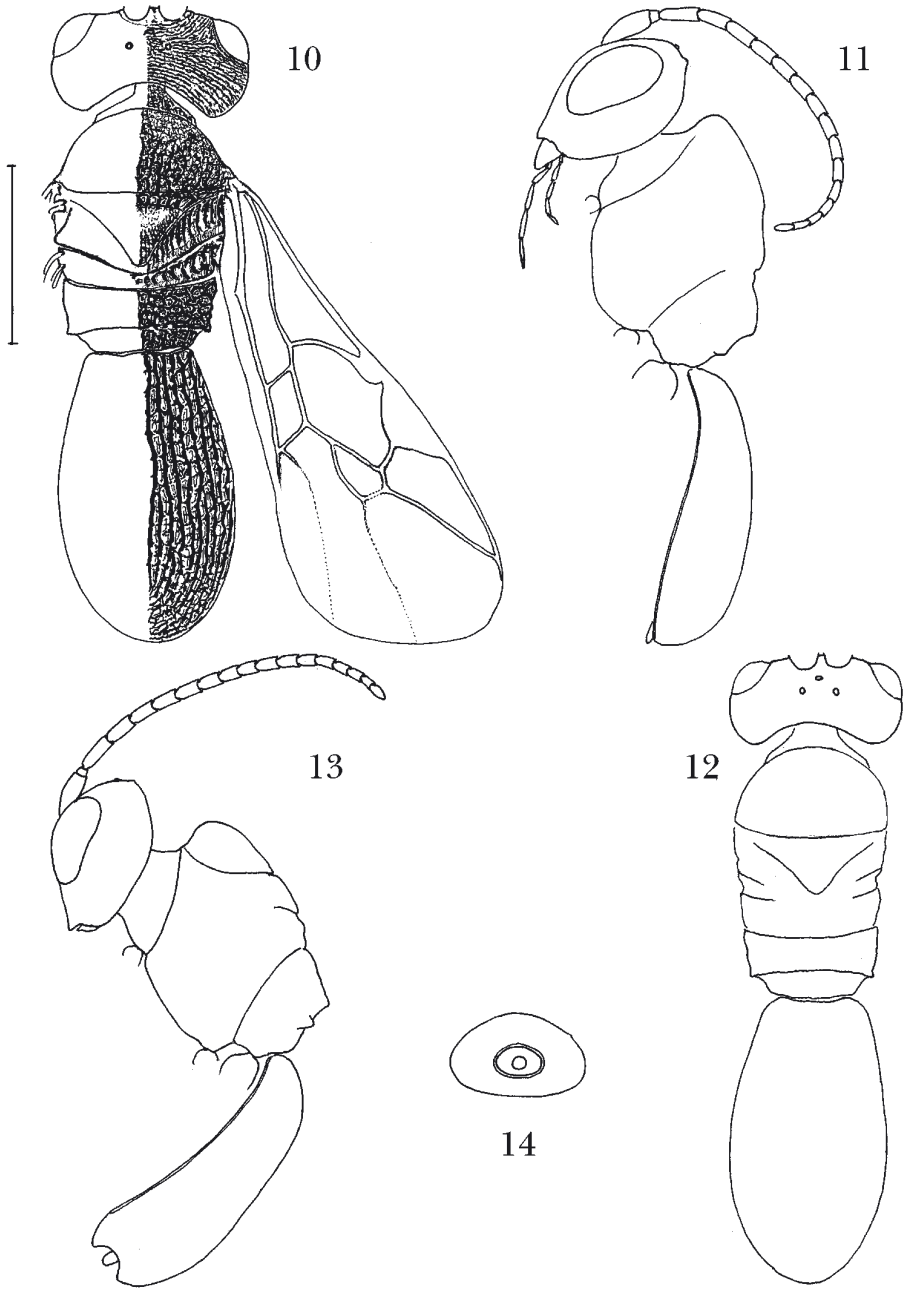
Tobias V. I. 1994: Far-eastern braconids of the genus Microchelonus Szépl. (Nym., Braconidae). Dark-coloured species with elongate abdomen. *Entomologicheskoe Obozrenie* **73** (2): 352–370 (in Russian).

Tobias V. I. 1996: A key to Mongolian species of braconid wasps of the genus *Microchelonus* Szépl. (Nym., Braconidae) based on male characters with description of new species. *Entomologicheskoe Obozrenie* **75(2):** 380–407 (in Russian).

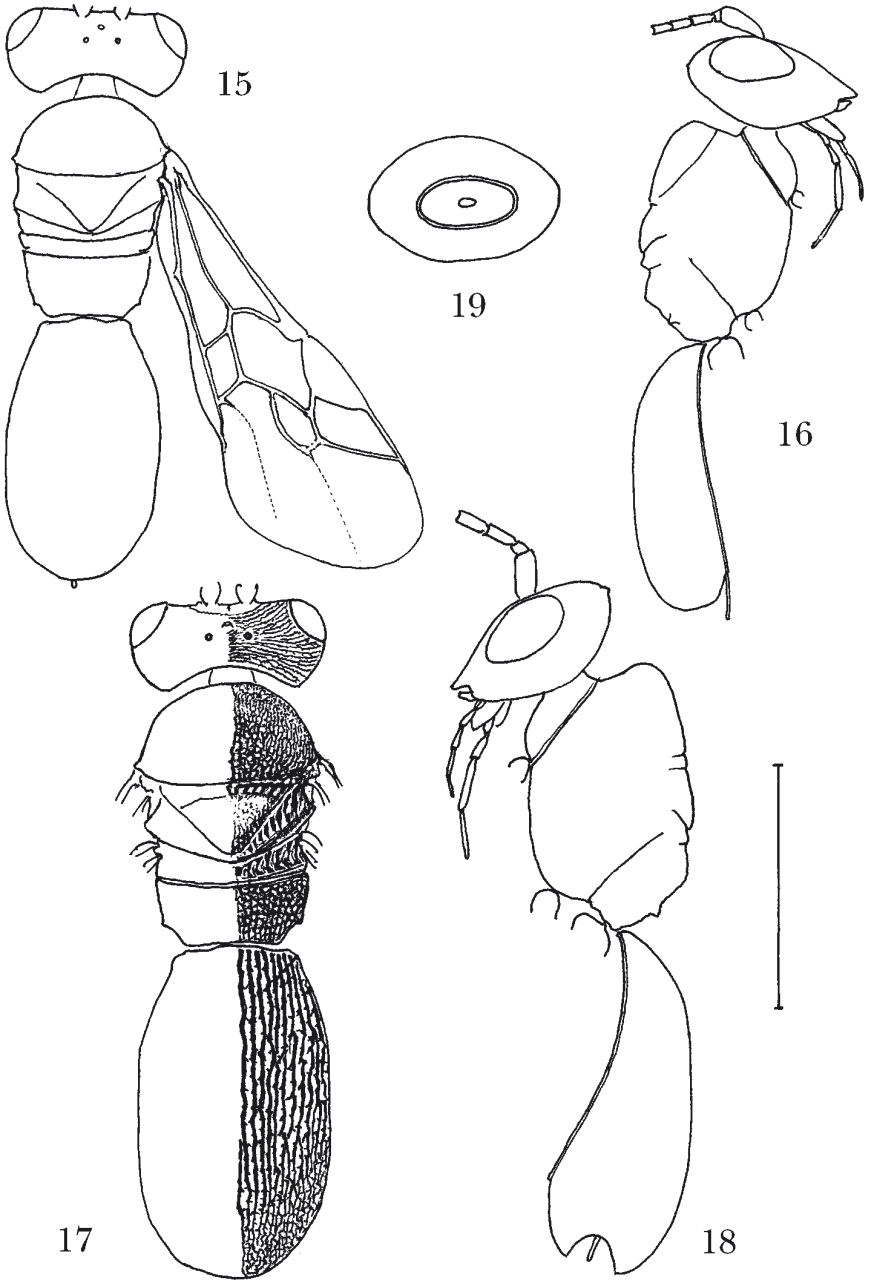
Tobias V. I. 2000: Family Braconidae, subfamily Cheloninae. In: Key of the Insect of Russian Far East (Neuropteroidea, Mecoptera, Hymenoptera). Dal'nauka, Vladivostok, **4(4):** 426–572 (in Russian).



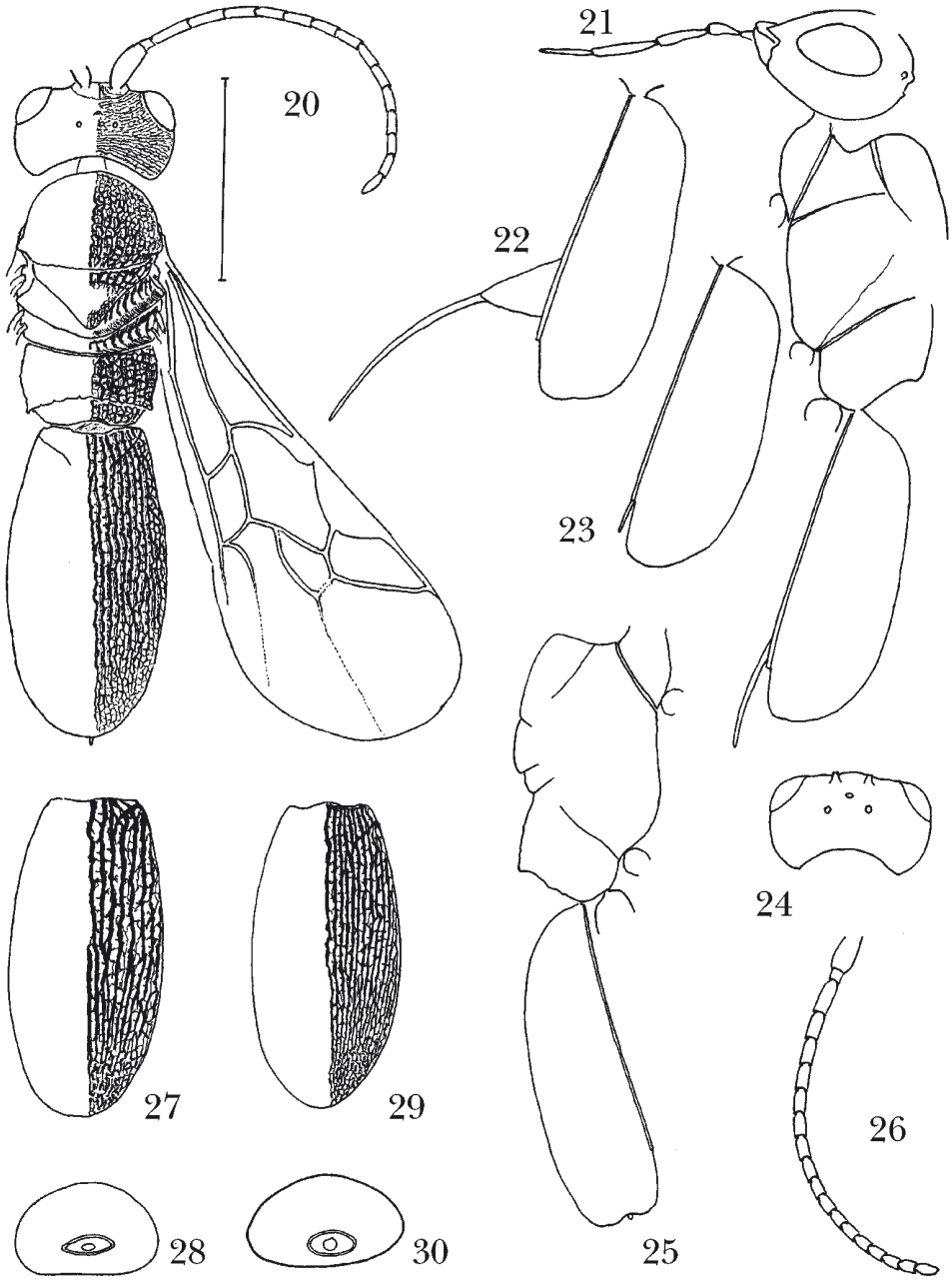
Figs 1–9. *Microchelonus rostratus* (Tobias). Female: 1, body (general dorsal aspect with sculpture); 2, body (lateral aspect); 3, carapace (laterally) with projecting hypopygium and ovipositor. Male: 4, mesonotum and carapace (lateral aspect); 5, carapace; 6, posterior end with AMA; 7, carapace (variety); 8, posterior end (variety); 9, antenna.



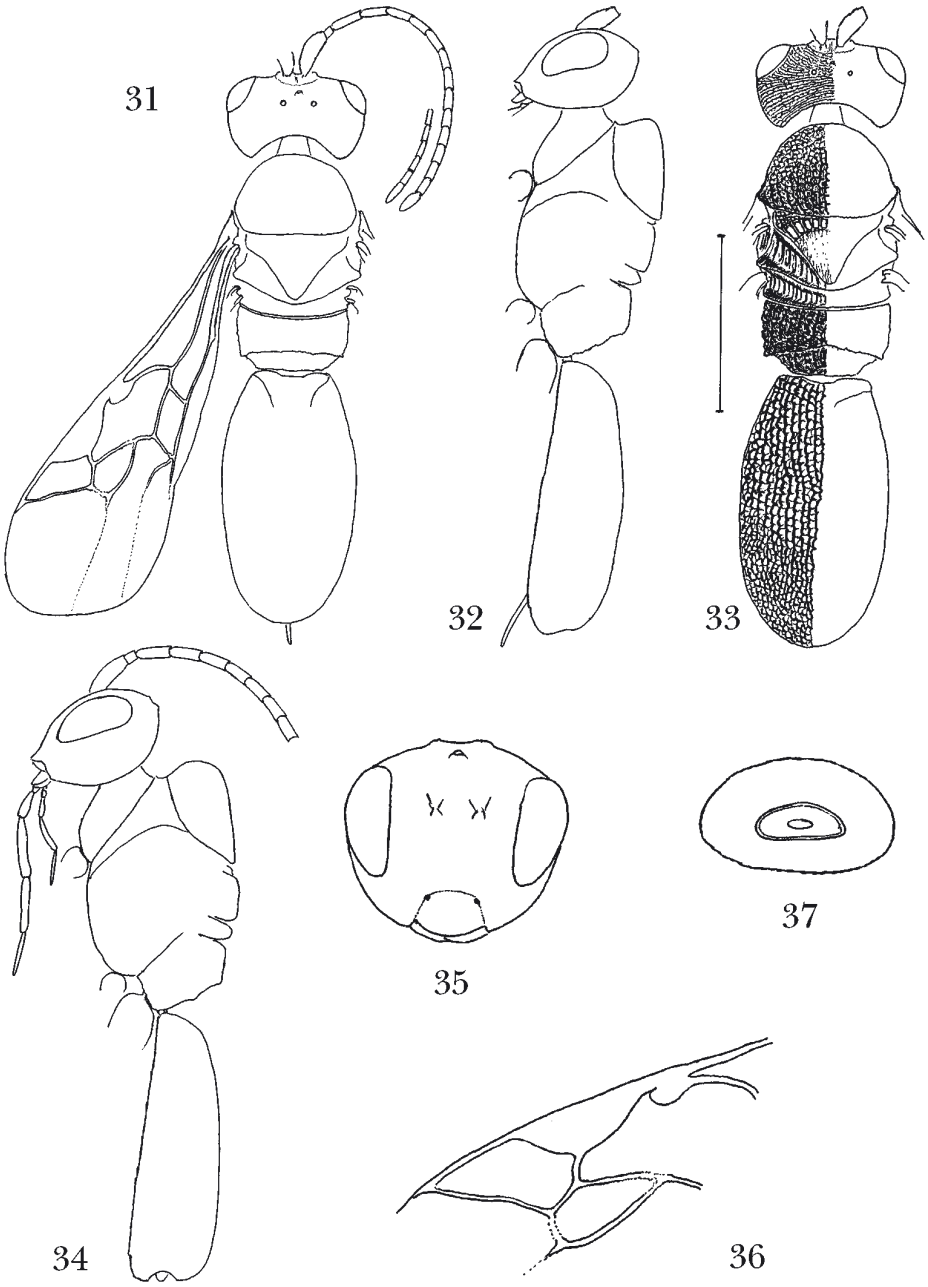
Figs 10–14. *Microchelonus labipalpis* Tobias. Female: 10, body (general dorsal aspect with sculpture); 11, body (lateral aspect). Male: 12, body (dorsal aspect); 13, body (lateral aspect); 14, posterior end with AMA.



Figs 15–19. *Microchelonus vescus* (Kokuyev). Female: 15, body (general dorsal aspect); 16, body (lateral aspect). Male: 17, body (dorsal aspect with sculpture); 18, body (lateral aspect); 19, posterior end.



Figs 20–30. *Microchelonus hungaricus* Szépligeti. Female: 20, body (general dorsal aspect with sculpture); 21, body (lateral aspect); 22, 23, carapace (varieties). Male: 24, head (dorsal); 25, body (laterally); 26, antenna; 27, 29, carapace (varieties); 28, 30, posterior end (varieties).



Figs 31–37. *Microchelonus palpator* Tobias. Female: 31, body (general dorsal aspect); 32, body (lateral aspect). Male: 33, body (dorsal aspect with sculpture); 34, body (lateral aspect); 35, head (frontally); 36, part ot forewing; 37, posterior end.