

**Five new *Microchelonus* species from the Neotropical Region
(Hymenoptera, Braconidae: Cheloniinae)**

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Abstract – A short review of the nine *Microchelonus* species described from the Neotropical Region up to 1998. Descriptions of five new species in the genus *Microchelonus* from Argentina (four species) and Costa Rica (one species) are presented. The new species are compared to their nearest allies. Three known *Microchelonus* species are redescribed (*M. brasiliensis* BRUES, *M. peruensis* SHENEFELT, *M. townsendi* VIERECK). A checklist of the fourteen *Microchelonus* species distributed in the Neotropical Region is presented. With 86 original figures.

INTRODUCTION

The first Neotropical species of *Microchelonus* was described from Texas (U.S.A.), i.e. from the Nearctic Region, under the name *Chelonus cautus* by E. T. CRESSON in 1873, however, later the species was reported from Mexico and Central America too, i.e. from the Neotropical Region. Originally the description of *M. blackburni* was based on the specimen taken in Hawaii (Pacific Region) by CAMERON in 1881 (under the name *Chelonus carinatus*) which had been introduced between 1937–1944 into Mexico and Texas (MCGOUGH & NOBLE 1955). In the twentieth century seven *Microchelonus* species were described by BRUES (1912), MARSH (1979) SZÉPLIGETI (1904) and VIERECK (1912, 1913). Considering the synonymization of the two names (*M. sobrinus* and *M. szepligetii*) currently nine *Microchelonus* species from the Neotropical Region are known.

In the present paper five new *Microchelonus* species are added to the species indicated above, four originate from Argentina (*M. angustus* sp. n., *M. bolsoni* sp. n., *M. constrictus* sp. n., *M. topali* sp. n.) and one from Costa Rica (*M. subplanus*). Subsequently a checklist is presented enumerating the fourteen *Microchelonus* species registered in the Neotropical Region so far:

- angustus* sp. n. – Argentina
blackburni (CAMERON, 1886) (*Chelonus*) – Mexico (introduced)
 = *carinatus* (CAMERON, 1881) nec PROVANCHER, 1881
bolsoni sp. n. – Argentina
brasiliensis (BRUES, 1912) (*Chelonus*) – Brazil, Paraguay
 = *szepligetii* (VIERECK, 1913) **syn. n.**
buscki (VIERECK, 1912) (*Chelonus* [*Chelonella*]) – Trinidad
 (= *carinatus* CAMERON, 1881 [*Chelonus*]) = *blackburni* (CAMERON, 1886)
constrictus sp. n. – Argentina
johni MARSH, 1979 (*Chelonus* [*Microchelonus*]) – Colombia
kelliae MARSH, 1979 (*Chelonus* [*Microchelonus*]) – Costa Rica
peruensis SHENEFELT, 1973 – Brazil, Peru
 = *sobrinus* (SZÉPLIGETI, 1904) nec HALDEMAN, 1849
 = *szepligetii* (VIERECK, 1912) nec DALLA TORRE, 1898
ruficollis (VIERECK, 1912) (*Chelonus*) – Brazil
 (= *sobrinus* SZÉPLIGETI, 1904 [*Chelonus*]) = *peruensis* SHENEFELT, 1973
subplanus sp. n. – Costa Rica
 (= *szepligetii* VIERECK, 1913 [*Chelonus* (*Chelonella*)] = *brasiliensis* (BRUES, 1912)
topali sp. n. – Argentina
townsendi (VIERECK, 1912) (*Chelonus* [*Chelonella*]) – Peru

Besides the descriptions of the five new species (*M. angustus* sp. n., *M. bolsoni* sp. n., *M. constrictus* sp. n., *M. subplanus* sp. n., *M. topali* sp. n.) redescriptions of three known species (*M. brasiliensis*, *M. peruensis*, *M. townsendi*) are also given.

Up to the present exclusively the male forms of the *Microchelonus* species were characterized as having a foramen on the posterior end of their carapace. The size and shape of the foramen is highly variable from a small round or elliptic hole to a large slit-like aperture. In the case of the female forms of the two new *Microchelonus* species (*M. subplanus*, *M. townsendi*) I have surprisingly observed a very small hole on the posterior end of their carapace (cf. Figs 57 and 86). This is the first observation of the foramen on female carapace (in both species the number of the antennomeres is 16 – a generic feature of the female *Microchelonus* species). Certainly, and likewise to the male forms, the female's carapace foramen is the opening of the pheromon glands which, by their odour, supposedly attract the males in finding the females.

*

Abbreviations applied in the descriptions. – Fore wing: *r* = first section of the radial vein, *1-R1* = first section of the metacarpal vein, *3-SR* and *4-SR* = second and third sections of the radial vein. – The features “lateral pair of lobes of scutellum” (see arrows in Fig. 51) and “caudal margin of propodeum” are applied in the sense by MCCOMB (1968: 6 and 8, key couplets 17 and 37, respectively).

SYSTEMATIC PART

***Microchelonus angustus* sp. n. ♀**
(Figs 1–8)

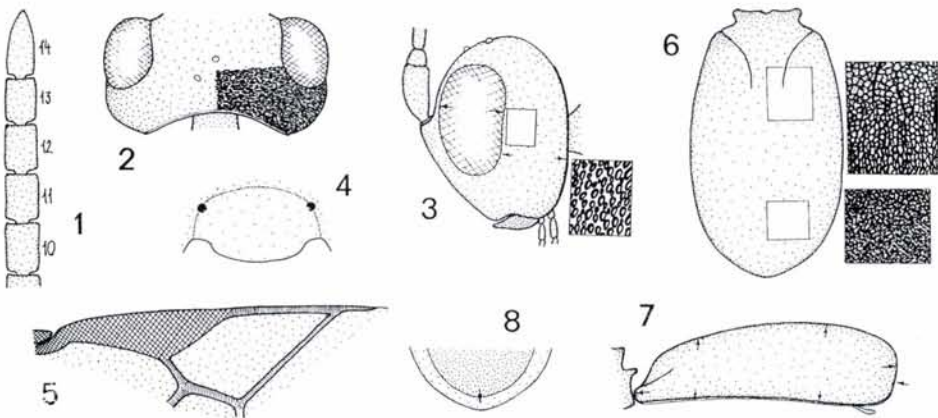
Material examined (2 ♀♀) – Female **holotype** and one female **paratype**: Argentina, Tucuman, 1905, leg. E. VEZÉNYI. – Holotype and one female paratype are deposited in the Hungarian Natural History Museum, Budapest; Hym. Typ. Nos 7842 (holotype) and 7843 (paratype).

Etymology – The species name *angustus* refers to the narrow pterostigma of the fore wing.

Description of the female holotype – Body 3.1 mm long. Antenna as long as head, mesosoma and half of carapace combined, with 16 antennomeres. First flagellomere 2.8 times as long as broad apically, further flagellomeres progressively shortening so that flagellomeres 11–13 1.5 times to 1.4 times as long as broad (Fig. 1). – Head in dorsal view (Fig. 2) twice as broad as long, eye 1.7 times as long as temple, latter strongly rounded, occiput excavated. Eye in lateral view 1.7 times as high as wide, beyond eye temple feebly broadening ventrally and below as wide as eye (Fig. 3, see arrows). Clypeus 1.75 times as wide as high, its lower margin convex (Fig. 4). Face distinctly twice as wide as high. Malar space 1.6 times as long as basal width of mandible. Head rugose, vertex transversely rugo-punctate (Fig. 2). Temple strongly punctate, punctures elliptic (Fig. 3).

Mesosoma in lateral view 1.5 times as long as high, rugulose, mesonotum rather rugose. Lateral pair of lobes at base of scutellum small and less distinct. Scutellum punctate, subshiny. Caudal margin of propodeum defined by a less distinct and rather weak transverse ridge; lateral pair of projections larger than median pair of projections. – Hind femur 3.5 times as long as broad medially.

Fore wing as long as antenna or head, mesosoma and half carapace. Pterostigma (Fig. 5) narrow, 3.6 times as long as wide and issuing *r* clearly distally from its middle, *r* shorter than width of pterostigma, 3-*SR* longer than *r*, 4-*SR* straight; marginal cell along 1-*R*1 one-fourth shorter than length of pterostigma.



Figs 1–8. *Microchelonus angustus* sp. n.: 1 = flagellomeres 10–14, 2 = head in dorsal view with indication of its sculpture, 3 = head in lateral view with indication of the sculpture of temple, 4 = clypeus, 5 = distal part of right fore wing, 6 = carapace in dorsal view with indication of its sculpture, 7 = carapace in lateral view, 8 = apico-ventral end of carapace

Carapace somewhat shorter than head and mesosoma combined; in dorsal view (Fig. 6) somewhat belly, 1.7 times as long as broad medially, apically faintly pointed; in lateral view 2.8 times as long as high behind and 1.3 times as high behind as basally (Fig. 7, see arrows within carapace); apico-laterally rather truncate (Fig. 7, see arrow outside carapace); apico-ventrally just incurved (Fig. 8, see arrow). Carapace antero-posteriorly alutaceous rugose to densely rugulose (Fig. 6). Ovipositor sheath short, concealed.

Body black. Scape + pedicel reddish yellow, flagellomeres 1–2 darkening reddish yellow, rest of flagellum blackish. Palpi pale. Tegula reddish yellow. Legs reddish yellow, hind coxa brown, distal half of hind tibia brownish fumous. Wings evenly subfumous, pterostigma brown, veins opaque brown.

Description of the female paratype – Similar to the female holotype. Body 3.2 mm long. Carapace anteriorly rugose with longitudinal elements.

Male and host unknown.

Distribution – Argentina.

Remarks – The new species, *Microchelonus angustus* sp. n., is nearest to *M. constrictus* sp. n. considering their reddish yellow legs and tegula, however, the two species are clearly separated by the features keyed:

1 (2) Pterostigma narrow (Fig. 5), 3.6 times as long as wide and issuing *r* distally from its middle. Flagellomeres 11–13 1.4 to 1.5 times as long as broad (Fig. 1). Temple in dorsal view rounded (Fig. 2). Carapace in dorsal view rather belly, 1.7 times as long as broad medially (Fig. 6). Scutellum with punctures. ♀: 3.1–3.2 mm

***M. angustus* sp. n.**

2 (1) Pterostigma wide (Fig. 29), 2.6 times as long as wide and issuing *r* from its middle. Flagellomeres 11–13 cubic (Fig. 27). Temple in dorsal view strongly rounded (Fig. 28). Carapace in dorsal view rather elongate, 1.8 times as long as broad medially (Fig. 30). Scutellum smooth. ♀: 3–3.3 mm

***M. constrictus* sp. n.**

With the help of the key to the *Microchelonus* species of the Nearctic Region (MCCOMB 1968: 4–14) the new species runs to *M. bucculentus* (MCCOMB, 1968) (USA: South Dakota, Utah, Michigan). The two species are differentiated by the features keyed:

1 (2) Antenna conspicuously filiform, i.e. flagellomeres less broad than diameter of median ocellus, every flagellomere at least twice as long as broad. Temple in dorsal view bulging, i.e. head between temples broader than eyes. Carapace nearly parallel-sided, 0.45 times as broad as long; its basal pair of keels long, extending beyond middle of carapace. Legs blackish, wings dark fumous. ♀♂: 4 mm

***M. bucculentus* (MCCOMB)**

2 (1) Antenna less filiform, i.e. flagellomeres broader than diameter of median ocellus, flagellomeres 11–13 1.5 to 1.4 times as long as broad. Temple in dorsal view rounded, i.e. head between temples not broader than between eyes (Fig. 2). Carapace somewhat belly (Fig. 6), 0.58 times as broad as long; its basal pair of keels less long, restricted to basal third of carapace. Legs reddish yellow, wings fumous. ♀: 3.1–3.2 mm

***M. angustus* sp. n.**

***Microchelonus bolsoni* sp. n. ♀**

(Figs 9–16)

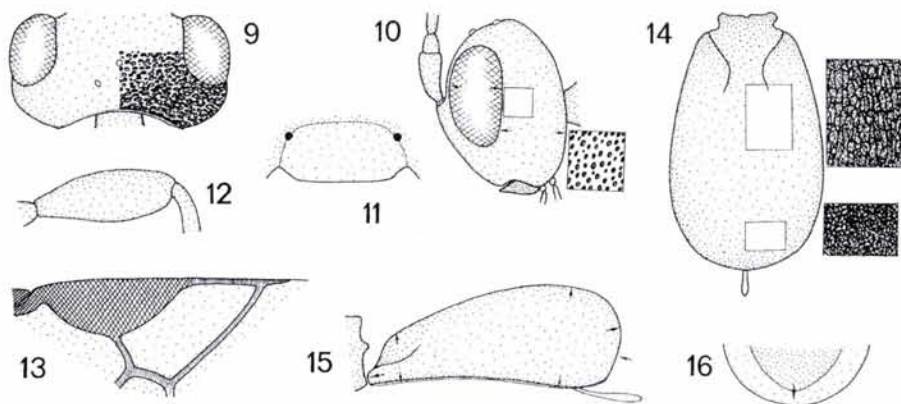
Material examined (1 ♀) – Female **holotype**: Argentina: prov. Rio Negro, El Bolsón, forehill of Mt. Piltriquitron, 360 m, beaten from blossoming *Fabiana imbricata* bushes, 4 November 1961, leg. TOPÁL (No. 695). – Holotype is deposited in the Hungarian Natural History Museum (Department of Zoology) Budapest, Hym. Typ. No. 7844.

Etymology – The new species received its name after its type locality.

Description of the female holotype – Body 2.8 mm long. Antenna as long as head and mesosoma combined and with 16 antennomeres. First flagellomere 3.3 times as long as broad apically, further flagellomeres progressively shortening so that flagellomeres 11–13 subcubic, i.e. 1.2 times as long as broad. – Head in dorsal view (Fig. 9) transverse, twice as broad as long, eye distinctly, i.e. 1.7 times as long as temple, temple strongly rounded, occiput excavated. Eye in lateral view 1.9 times as high as wide, temple beyond eye faintly broadening ventrally and somewhat wider than eye (Fig. 10, see arrows). Clypeus 2.3 times as wide as high, its lower margin truncate (Fig. 11). Face twice as wide as high. Malar space 1.8 times as long as basal width of mandible. Face with fine and dense punctation, interspaces smaller than punctures and subshiny; clypeus very finely and dispersely subpunctate, interspaces greater than punctures, polished. Vertex with dense and more or less confluent punctation (Fig. 9). Temple punctate, interspaces more or less greater than punctures and polished (Fig. 10).

Mesosoma in lateral view 1.35 times as long as high, rugose to roughly rugose, scutellum polished and with a few subpunctures. Lateral pair of lobes at base of scutellum absent. Caudal margin of propodeum almost not defined by transverse ridge, two pairs of projections weak. – Hind femur relatively thick, 2.8 times as long as broad medially (Fig. 12).

Fore wing as long as head, mesosoma and one-third of carapace combined. Pterostigma (Fig. 13) 2.5 times as long as wide, issuing *r* from its middle, *r* half as long as width of pterostigma, *r* and 3–SR not entirely straight; marginal cell along *l-R1* half, i.e. 0.5 times as long as length of pterostigma.



Figs 9–16. *Microchelonus bolsoni* sp. n.: 9 = head in dorsal view with indication of its sculature, 10 = head in lateral view with indication of the sculature of temple, 11 = clypeus, 12 = hind femur, 13 = distal part of right fore wing, 14 = carapace in dorsal view with indication of its sculature, 15 = carapace in lateral view, 16 = apico-ventral end of carapace

Carapace somewhat shorter than head and mesosoma combined, in dorsal view (Fig. 14) somewhat belly and 1.6 times as long as broad medially; in lateral view 2.5 times as long as high behind and 1.7 times as high behind as basally (Fig. 15, see arrows within carapace). Carapace apico-laterally rounded (Fig. 15, see arrow outside carapace), apico-ventrally somewhat incurved (Fig. 16, see arrow). Carapace alutaceous rugulose (Fig. 14). Ovipositor sheath less short, about as long as hind tarsomeres 1–3.

Body black. Scape brownish black, apically and basally faintly rusty; flagellum blackish. Palpi blackish. Tegula brownish black. Legs dark brown to brown, coxae and hind femur blackish brown. Wings hyaline, pterostigma brown and veins light brown to yellowish.

Male and host unknown.

Distribution – Argentina.

Remarks – The new species, *Microchelonus bolsoni*, is nearest to *M. topali* sp. n. considering their body size, short marginal cell of fore wing, punctate and shiny temple, weak transverse caudal ridge of propodeum and dark colour of body + legs. The two species are distinguished by the following features keyed below:

- 1 (2) Temple in dorsal view more rounded and eye distinctly, i.e. 1.6 times as long as temple (Fig. 9). Pterostigma issuing *r* from its middle, marginal cell along *l-Rl* 0.5 times as long as length of pterostigma (Fig. 13). Hind femur 2.8 times as long as broad medially (Fig. 12). Carapace alutaceous rugulose (Fig. 14), in lateral view belly, 2.5 times as long as high posteriorly (Fig. 15, see arrows within carapace). ♀: 2.8 mm ***M. bolsoni*** sp. n.
- 2 (1) Temple in dorsal view less rounded and eye less distinctly, i.e. 1.2 times as long as temple (Fig. 65). Pterostigma issuing *r* distally from its middle, marginal cell along *l-Rl* 0.6 times as long as length of pterostigma (Fig. 69). Hind femur 3.3 times as long as broad medially (Fig. 68). Carapace rugose (Fig. 70), in lateral view less belly, 2.9 times as long as high posteriorly (Fig. 71, see arrows within carapace). ♀: 2.8–2.9 mm ***M. topali*** sp. n.

The new species, surprisingly, is similar to the European species *M. brevis* TOBIAS, 1976, their specific distinction is restricted to a few features only:

- 1 (2) Eye in dorsal view 1.6 times as long as temple, latter strongly rounded; vertex densely punctate (Fig. 9), temple punctate, interspaces polished (Fig. 10). Scutellum polished with a few punctures. Carapace rugose (Fig. 14). Caudal margin of propodeum not defined by transverse ridge. Wings hyaline. ♀: 2.8 mm ***M. bolsoni*** sp. n.
- 2 (1) Eye in dorsal view just longer than temple, latter rounded; vertex and temple densely uneven-subrugulose. Scutellum rugulose-uneven. Carapace alutaceous-rugulose. Caudal margin of propodeum defined by a transverse ridge. Wings subhyaline. ♀: 2.8–3 mm ***M. brevis*** TOBIAS

***Microchelonus brasiliensis* (BRUES), ♀ new**
(Figs 17–25)

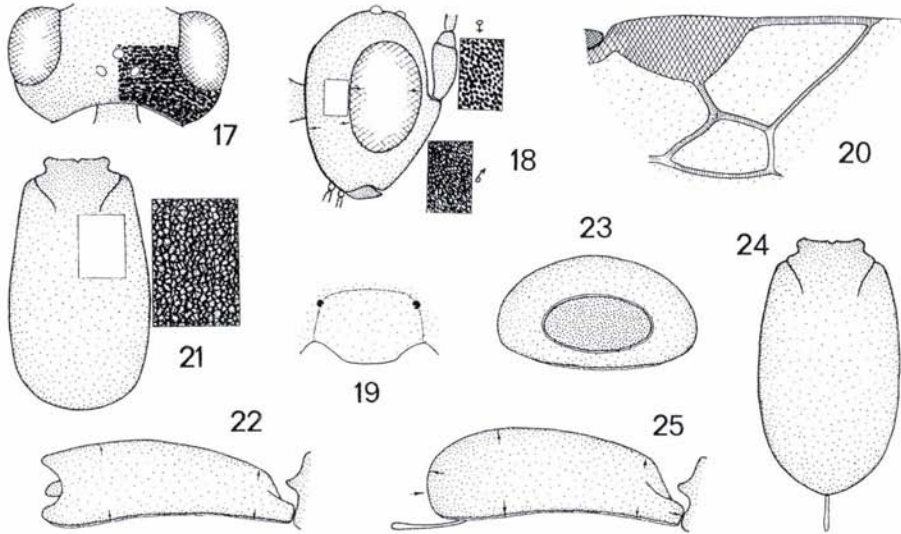
Chelonus brasiliensis BRUES, 1912: Ann. ent. Soc. Amer. 5: 206 “♀” = ♂, type locality: “Natal, Brazil”, holotype (=“Type”) in Museum of Comparative Zoology, Harvard University, Cambridge (USA); examined.

Microchelonus brasiliensis (BRUES): SHENEFELT 1973: 878 (comb. n., literature up to 1912).

Chelonus (Chelonella) szeptigetii Viereck, 1913: Proc. U. S. Natn. Mus. 46: 360 ♀, type locality: “Pernambuco, Brazil”, female holotype in National Museum of Natural History, Washington; one female paratype (locality: San Bernardino, Paraguay) in Museum für Naturkunde, Berlin; examined, **syn. n.**

Material examined (5 ♀♀ + 4 ♂♂) – Male **holotype**: Natal, Brazil, leg. W. M. MANN (Type No. 29929). – Five females + two males: Brazil, Pernambuco, 25 June 1930 (3 ♀♀ + 1 ♂) and 1 July 1930 (1 ♀ + 1 ♂), leg. E. HORVÁTH. – 1 male: Brazil, São Paulo, Bury, 1928, leg. J. GYÖRGY.

Redescription of the male holotype – Body 3 mm long. Antenna about as long as fore wing and with 19 antennomeres. Scape long, 2.3 times as long as broad medially, first flagellomere twice as long as broad apically, further flagellomeres progressively shortening so that flagellomeres 16–18 subcubic, i.e. slightly longer than broad. – Head in dorsal view (Fig. 17) transverse, twice as broad as long, eye 2.3 times as long as temple, latter constricted, occiput excavated. Eye in lateral view 1.5 times as long as wide and nearly twice as wide as temple, latter evenly broad beyond eye



Figs 17–25. *Microchelonus brasiliensis* (BRUES): 17 = head in dorsal view with indication of its sculpture, 18 = head in lateral view with indication of the sculpture of female and male temple, 19 = clypeus, 20 = distal part of right fore wing, 21 = male carapace in dorsal view with indication of its sculpture, 22 = male carapace in lateral view, 23 = apical end of male carapace in frontal view, 24 = female carapace in dorsal view, 25 = female carapace in lateral view

(Fig. 18, see arrows). Clypeus 1.5 times as wide as high, its lower margin medially truncate (Fig. 19). Face twice as wide as high. Malar space 1.3 times as long as basal width of mandible. Face transversely rugulose and dull; clypeus subrugulose and dull; frons and vertex transversely and just not confluent punctate, subshiny; occiput transversely puncto-rugulose (similar to face) and subshiny (Fig. 17); temple more or less confluent punctate, interspaces glittering (Fig. 18).

Mesosoma in lateral view slightly longer than high, rugose, roughly rugose to scabrous, scutellum medially uneven. Lateral pair of lobes at base of scutellum absent. Caudal margin of propodeum defined by transverse ridge, two pairs of projections weak, outer pair somewhat stronger (Fig. 22). – Hind femur three times as long as broad medially.

Fore wing about as long as antenna or as long as head, mesosoma and half of carapace combined. Pterostigma (Fig. 20) 2.1 times as long as wide and issuing r distally from its middle. Marginal cell of fore wing along $1-R1$ 0.8 times as long as pterostigma; $3-SR$ almost twice as long as r , $4-SR$ faintly S-form (or just not straight).

Carapace somewhat shorter than head and mesosoma combined, posteriorly faintly broadening oval, in dorsal view 1.7 times as long as broad posteriorly (Fig. 21); in lateral view 3.1 times as long as high behind, 1.6 times as high behind as basally (Fig. 22, see arrows). Carapace anteriorly rugose (Fig. 21), posteriorly rugulose, dull; basal pair of keels extending to anterior fifth of carapace. Apical foramen of carapace elliptic, twice as wide as high, extending about half end of carapace (Fig. 23).

Body black. Scape + pedicel yellow, flagellum blackish brown, below and distally with weakening yellowish tint. Palpi pale yellow. Tegula yellow. Colour of legs similar to those of *M. topali*, light colour yellow. Wings hyaline, pterostigma brown, basally with a small yellow macula, veins brownish yellow.

Description of male specimens (3 ♂♂) – Similar to the male holotype. Body 2.7–2.8 mm long. Antenna with 20 antennomeres, those of 17–19 1.3–1.2 times as long as broad. Scutellum medially either uneven (1 ♂) or smooth (2 ♂♂). Apical foramen of carapace 2–2.2 times as wide as high. Scape reddish yellow, flagellum entirely blackish brown. Tegula brown. Pterostigma entirely brown.

Description of female specimens (5 ♀♀) – Similar to the male. Body 2.7–2.8 mm long. Antenna somewhat longer than fore wing and with 16 antennomeres. First flagellomere 2.5 times as long as broad apically, further flagellomeres progressively less shortening so that flagellomeres 13–15 cubic. Scutellum smooth and shiny. Carapace apico-laterally rounded (Fig. 25, see arrow outside carapace), in lateral view 2.8 times as long as high behind and 1.4 times as high behind as basally (Fig. 25, see arrows within carapace). Ovipositor sheath in lateral view about as long as hind tarsomeres 1–2 combined. Palpi pale yellow, tegula brown.

Host unknown.

Distribution. – Brazil.

Microchelonus brasiliensis (BRUES) stands nearest to *M. topali* sp. n. (Argentina), the two species are distinguished by the features keyed:

- 1 (2) Flagellomeres 8–13 1.5 times as long as broad. Head in dorsal view less transverse, 1.8 times (♀) and 1.9 times (♂) as broad as long, eye only somewhat longer than temple and latter rounded (Fig. 65). Marginal cell of fore wing along $1-R1$ 0.6 times as long as pterostigma (Fig. 69). Carapace in dorsal view broadest medially (Fig. 70). Apical foramen of male carapace small, i.e. restricted to ventral part of hind end of carapace (Fig. 74). Tegula black. ♀♂: 2.8–2.9 mm **M. topali** sp. n.

- 2 (1) Flagellomeres 10–13 cubic. Head in dorsal view transverse, twice as broad as long, eye twice as long as temple and latter strongly rounded or constricted (Fig. 17). Marginal cell of fore wing along *l-Rl* 0.8 times as long as pterostigma (Fig. 20). Carapace in dorsal view broadest somewhat posteriorly (♂: Figs 21) or medially (♀: Fig. 24). Apical foramen of male carapace large, i.e. extending to about half hind end of carapace (Fig. 23). Tegula yellow or brown. ♀♂: 2.7–2.8 mm

M. brasiliensis (BRUES)

Microchelonus brasiliensis resembles somewhat *M. johni* (MARSH, 1979) (Colombia), however, they are clearly separated from each other by the features as follows:

- 1 (2) Temple striate, dull. Carapace strongly rugose and areolate particularly at base. Veins *r* and 3-*SR* of fore wing about equal in length (Fig. 7 in MARSH 1979: 13). Two pairs of tubercles of propodeum strong. ♀♂: 3 mm *M. johni* (MARSH)
- 2 (1) Temple more or less confluent punctate, interspaces glittering (Fig. 18). Carapace rugose (Fig. 21) to rugulose. Veins *r* and 3-*SR* of fore wing unequal in length, i.e. 3-*SR* almost twice as long as *r* (Fig. 20). Two pairs of tubercles of propodeum weak. ♀♂: 2.7–2.8 mm *M. brasiliensis* (BRUES)

***Microchelonus constrictus* sp. n. ♀**
(Figs 26–31)

Material examined (4 ♀♀) – Female **holotype** + two female **paratypes**: Argentina, Buenos Aires, Ramos Mejía, beaten from blossoming Solanacea and other plants on weedy ground, 9 December 1961, leg. TOPÁL (No. 766). – One female paratype: same locality as No. 766, 5 December 1961, leg. TOPÁL (No. 756). – Holotype and three paratypes are deposited in the Hungarian Natural History Museum (Department of Zoology, Budapest, Hym Typ. Nos 7845 (holotype) and 7846–7848 (paratypes)).

Etymology – The species name “constrictus” refers to the strongly rounded temple.

Description of the female holotype – Body 3 mm long. Antenna as long as head and mesosoma combined and with 16 antennomeres. Scape twice as long as broad apically (Fig. 26). First flagellomere 2.4 times as long as broad apically, further flagellomeres progressively shortening so that flagellomeres 10–13 cubic (Fig. 27). – Head in dorsal view twice as broad as long, eye one-third longer than temple, latter strongly rounded (Fig. 28), occiput deeply excavated. Eye in lateral view twice as high as wide, temple ventrally broadening, beyond eye ventrally as wide as eye (cf. Fig. 3, see arrows). Clypeus 2.2 times as wide as high, its lower margin convex. Malar space 1.5 times as long as basal width of mandible. Head rugose, temple areolate-rugose.

Mesosoma in lateral view 1.7 times as long as high, roughly rugose. Lateral pair of lobes at base of scutellum small, less distinct. Scutellum smooth and shiny. Caudal margin of propodeum defined by distinct transverse ridge, two pairs of projections weak. – Hind femur 3.1 times as long as broad medially.

Fore wing as long as head, mesosoma and half of carapace combined. Pterostigma (Fig. 29) 2.5 times as long as wide and issuing *r* from its middle, *r* clearly more than half as long as width of

pterostigma; 3-SR longer than *r*, 4-SR faintly S-like (Fig. 29), marginal cell along *l-Rl* one-fourth shorter than length of pterostigma.

Carapace about as long as head and mesosoma combined; in dorsal view (Fig. 30) 1.8 times as long as broad medially; in lateral view three times as long as high behind and 1.35 times as high behind as basally (Fig. 31, see arrows within carapace). Carapace apico-laterally rounded (Fig. 31, see arrow outside carapace), apico ventrally not incurved. Carapace rugose (Fig. 30). Ovipositor sheath short, concealed.

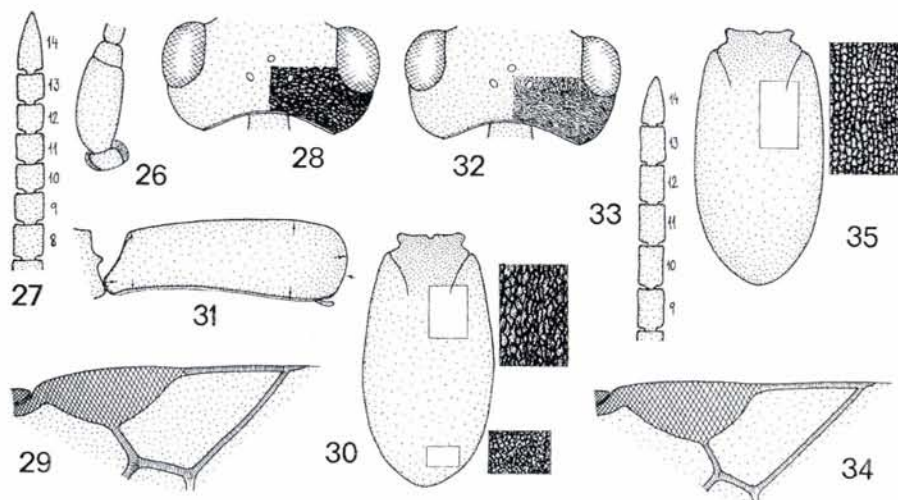
Body black. Scape, pedicel and first flagellomere reddish yellow, flagellomeres 2-4 darkening reddish yellow, rest of flagellum blackish. Palpi brownish yellow. Tegula reddish yellow. Legs reddish yellow, coxae 1-2 with faint brownish tint, coxa 3 black to blackish. Wings proximally hyaline, distally subfumes, pterostigma and veins brown.

Description of the female paratypes (3 ♀♀). - Similar to the female holotype. Body 3-3.3 mm long (3: 1 ♀, 3.1: 1 ♀, 3.3: 1 ♀). Scape, pedicel and first flagellomere with brownish tint (1 ♀). Palpi brownish or reddish yellow. Scutellum at most with a few subpunctures (1 ♀). Pterostigma 2.3 times as long as wide and issuing *r* somewhat proximally from its middle (1 ♀).

Male and host unknown.

Distribution - Argentina.

With the help of MCCOMB's key (1968: 4-14) to the *Microchelonus* species of the Nearctic Region the new species, *M. constrictus* sp. n., runs to *M. paululus* (MCCOMB, 1968) (USA: Florida) on one hand and, but, on the basis of the holotype, it is very near to *M. townsendi* (VIERECK, 1912) (Peru), on the other. The three species are distinguished below:



Figs 26-35. 26-31. *Microchelonus constrictus* sp. n.: 26 = scape, 27 = flagellomeres 8-14, 28 = head in dorsal view with indication of its sculpture, 29 = distal part of right fore wing, 30 = carapace in dorsal view with indication of its sculpture, 31 = carapace in lateral view. - 32-35. *Microchelonus paululus* (MCCOMB): 32 = head in dorsal view with indication of its sculpture, 33 = flagellomeres 9-14, 34 = distal part of right fore wing, 35 = carapace in dorsal view with indication of its sculpture

1 (2) Eye in dorsal view somewhat longer than temple and latter somewhat less strongly rounded, vertex rugulo-substrate (Fig. 32). Flagellomeres 10–13 1.5–1.4 times as long as broad (Fig. 33). Pterostigma issuing *r* distally from its middle, *r* half as long as width of pterostigma (Fig. 34). Scutellum uneven to subrugulose, dull. Carapace less rounded apically, longitudinally rugose (Fig. 35). Tegula brown. Apical foramen of male carapace large, filling entire apex. ♀♂: 2.2–2.3 mm

M. paululus (MCCOMB)

2 (1) Eye in dorsal view one-third longer than temple (Figs 28, 79). At least penultimate two flagellomeres cubic (Fig. 27) or subcubic (Fig. 78). Pterostigma issuing *r* from its middle (Fig. 29) or just distally from its middle (Fig. 82). Scutellum smooth, shiny and with more or less punctures.

3 (4) Frons and vertex rugose, frons above without carinula (Fig. 28). Scape less long, twice as long as broad apically (Fig. 26); flagellomeres 10–13 cubic (Fig. 27). Temple in dorsal view strongly rounded (Fig. 28). Carapace in dorsal view somewhat more broadening, 1.8 times as long as broad, rugose (Fig. 30). Vein *r* clearly more than half as long as width of pterostigma, *3-SR* longer than *r* (Fig. 29). Female carapace apically without foramen. ♀: 3 mm

M. constrictus sp. n.

4 (3) Sides of frons arcuate striate and with an also arcuate carinula, vertex transversely rugulo-striate (Fig. 79). Scape long and somewhat belly, 2.1 times as long as broad apically (Fig. 77). Flagellomeres 11–13 subcubic (Fig. 78) and cubic, flagellomeres 9–10 1.6–1.5 times as long as broad (Fig. 78). Temple in dorsal view constricted (Fig. 79). Carapace in dorsal view somewhat less broadening, twice as long as broad, strio-rugose (Fig. 83). Vein *r* as long as half width of pterostigma and nearly as long as *3-SR* (Fig. 82). Female carapace apically with a very small foramen (Fig. 86). ♀: 3 mm

M. townsendi (VIERECK)

The new species is similar to *M. angustus* sp. n., their distinction see at that species, p. 180.

Microchelonus peruensis (SHENEFELT) **comb. n.** ♂
(Figs 36–43)

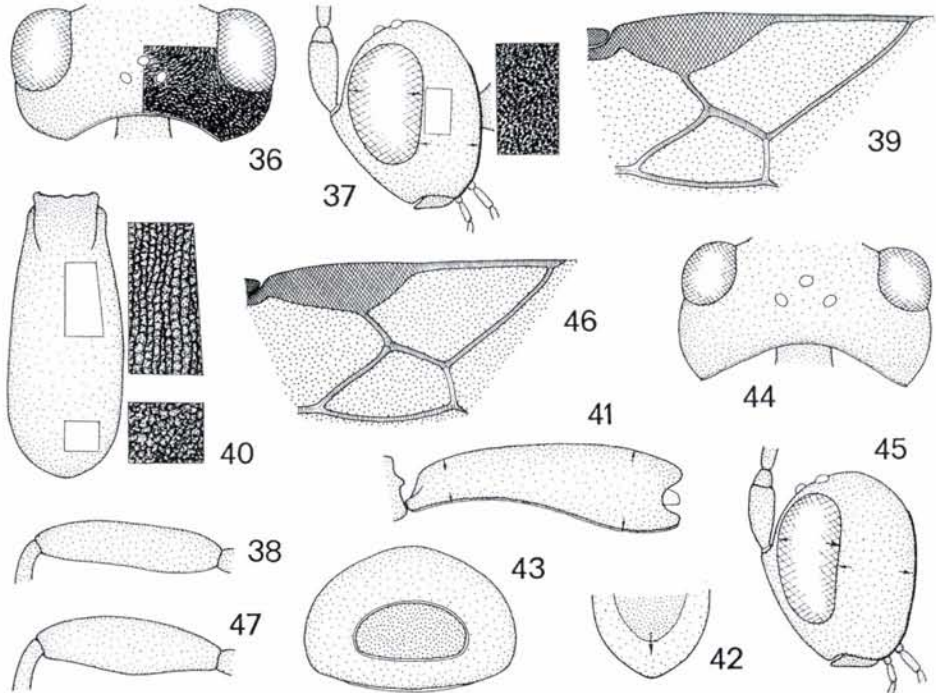
Chelonus sobrinus SZÉPLIGETI, 1904 (nec HALDEMAN, 1849): Anns Mus. natn. hung. 2: 194 ♂, type locality: "Peru: Mercapata", male holotype (present designation) in Hungarian Natural History Museum (Department of Zoology), Budapest; examined.

Chelonus szepligetii VIERECK, 1912 (new name for *Ch. sobrinus* SZÉPLIGETI nec DALLA TORRE, 1898): Proc. U. S. Natn. Mus. 42: 620.

Chelonus peruensis SHENEFELT, 1973 (new name for *Ch. sobrinus* SZÉPLIGETI and *Ch. szepligetii* VIERECK): Hym. Cat. (n. ed.) 10, Brac. 6 Cheloninae, p. 862.

Material examined (1 ♂) – Male holotype: Peru, Mercapata. Further specimen of this species unknown. The holotype specimen is somewhat damaged: 1) Antennae broken, right antenna with three flagellomeres and left antenna with one flagellomere. 2) Right fore leg, except coxa, missing, tarsus of left middle leg missing; femur + tibia + tarsus of right hind leg and fifth tarsomere of left tarsus missing. 3) Left pair of wings somewhat torn. – Micropin (on the polyporus stage) with dense and fine copper vitriol crystals below and above the chelonine wasp.

Redescription of the male holotype – Body 4.1 mm long. First flagellomere 2.5 times as long as broad. Head in dorsal view (Fig. 36) transverse, twice as broad as long, eye almost twice as long as temple, latter strongly rounded, occiput deeply excavated. Eye in lateral view somewhat reniform, 1.6 times as high as wide and somewhat wider than temple, latter broadening ventrally beyond eye (Fig. 37, see arrows). Clypeus 1.6 times as wide as high, its lower margin medially truncate. Face distinctly twice as wide as high. Malar space 1.2 times as long as basal width of mandible. Face densely rugose, clypeus dorso-ventrally punctate to confluent punctate, vertex transversely rugo-striate (Fig. 36), temple with dense punctation, interspaces rugulose.



Figs 36–47. 36–43. *Microchelonus peruensis* SHENEFELT: 36 = head in dorsal view with indication of its sculpture, 37 = head in lateral view with indication of the sculpture of temple, 38 = hind femur, 39 = distal part of right fore wing, 40 = carapace in dorsal view with indication of its sculpture, 41 = carapace in lateral view, 42 = apical end of male carapace in ventral view, 43 = apical end of male carapace in frontal view. – 44–47. *Microchelonus carinatus* (PROVANCHER): 44 = head in dorsal view, 45 = head in lateral view, 46 = distal part of right fore wing, 47 = hind femur

Mesosoma in lateral view 1.7 times as long as high, areolate-rugose, mesonotum rugose, laterally rugulose, notaulix distinct and with crenulae. Scutellum invisible owing to the micropin. Caudal margin of propodeum defined by transverse ridge, two pairs of projections small. – Hind femur 4.1 times as long as broad medially (Fig. 38).

Fore wing almost as long as body. Pterostigma (Fig. 39) less wide, 2.6 times as long as wide, issuing *r* proximally from its middle, *r* just longer than half width of pterostigma and just shorter than 3-*SR*, 4-*SR* straight. Marginal cell along 1-*R*1 almost as long as length of pterostigma.

Carapace elongate, as long as head and mesosoma combined, in dorsal view 2.4 times as long as broad posteriorly, hardly broadening posteriorly and rounded apically (Fig. 40); in lateral view 3.1 times as long as high behind, 1.8 times as high behind as basally (Fig. 41, see arrows); in ventral view somewhat incurved apically (Fig. 42, see arrow). Anterior two-thirds of carapace strio-rugose (Fig. 40), posteriorly rugose. Apical foramen rather semicircular, 2.1 times as wide as high (Fig. 43).

Body black. Scape reddish yellow, pedicel brownish, flagellum blackish. Palpi and tegula brown. Dark colour of legs 1-2 brown, leg 3 blackish; reddish yellow: coxae, femora 1-2 basally and apically, tibiae 1-2 (outer-distal part of tibia 2 brownish); basal third of hind tibia yellowish; tarsi brownish. Proximal half of fore wing hyaline, its distal half subfumous; hind wing hyaline.

Female and host unknown.

Distribution – Peru.

Up to this time no *Microchelonus* species has been known in the Neotropical Region with elongate carapace coupled with body length over 4 mm.

From among the Nearctic species of *Microchelonus* and with the help of MCCOMB's key (1968) *M. peruensis* (SHENEFELT) is nearest to *M. carinatus* (PROVANCHER, 1881) (Canada, USA) considering their elongate carapace (0.4 times as broad as long), their specific differences are summarized as follows:

- 1 (2) Temple in dorsal view slightly bulged (Fig. 44). Eye in lateral view twice as high as wide, temple slightly wider than eye (Fig. 45, see arrows). Pterostigma narrow (Fig. 46), 3.1-3.2 times as long as wide and issuing *r* distally from its middle. Hind femur 3.3 times as long as broad medially (Fig. 47). Apical foramen of carapace at least three times as wide as high. Femora reddish yellow or testaceous. Wings fumous. ♂: 4.7-6 mm
M. carinatus (PROVANCHER)
- 2 (1) Temple in dorsal view strongly rounded (Fig. 36). Eye in lateral view somewhat reniform, 1.6 times as high as wide and somewhat wider than temple (Fig. 37, see arrows). Pterostigma less narrow (Fig. 39), 2.6 times as long as wide and issuing *r* proximally from its middle. Hind femur 4.1 times as long as broad proximally (Fig. 38). Apical foramen of carapace 2.3 times as wide as high. Femora brown, only basally and apically reddish yellow. Wings hyaline, fore wing distally subfumous. ♂: 4.1 mm
M. peruensis (SHENEFELT)

Microchelonus subplanus sp. n. ♀♂
(Figs 48–61)

Material examined (1 ♀ + 2 ♂♂) – Female **holotype**: Costa Rica, Surrubes. – Two male **paratypes**: Honduras, Yoro, Palo de Comba, 15°11'N–87°39'W, 5 August 1995 (1 ♂) and 12 September 1995 (1 ♂), leg. R. CAVE. – Holotype and one paratype are deposited in the Hungarian Natural History Museum (Department of Zoology), Budapest, Hym. Typ. Nos 7849 (holotype) and 7850 (paratype). One paratype is deposited in the Zoological Museum, Lund.

Etymology – The species name “subplanus” refers to the apically somewhat flattened (or truncate) carapace.

Description of the female holotype – Body 3.3 mm long. Antenna as long as head, mesosoma and two-thirds of carapace combined. First flagellomere 3.3 times as long as broad apically, further flagellomeres progressively shortening and attenuating so that penultimate flagellomere twice as long as broad (Fig. 48). – Head in dorsal view (cf. Fig. 2) twice as broad as long, eye 1.7 times as long as temple, latter rounded, occiput excavated. Eye in lateral view 2.3 times as high as wide, beyond eye temple distinctly broadening ventrally and somewhat wider than eye (Fig. 49, see arrows). Clypeus 1.7 times as wide as high, its lower margin medially truncate (Fig. 50). Face twice as wide as high. Malar space 1.5 times as long as basal width of mandible. Face transversely striate-rugose, clypeus densely and finely punctate, subshiny, vertex + occiput transversely aciculate, temple densely punctate and subshiny (Fig. 49).

Mesosoma in lateral view 1.4 times as long as high, areolate-rugose. Lateral pair of lobes at base of scutellum small, pointed (Fig. 51, see arrows). Scutellum roughly rugose (Fig. 51). Caudal margin of propodeum defined by a less strong transverse ridge, both pairs of projections (or tubercles) also less strong. – Hind femur 3.1 times as long as broad medially (Fig. 52).

Fore wing about as long as antenna or as long as head, mesosoma and two-thirds of carapace combined. Pterostigma (Fig. 53) 2.5 times as long as wide, issuing *r* just distally from its middle, *r* shorter than half width of pterostigma, 3–*SR* 1.6 times as long as *r*. Marginal cell along 1–*R1* almost as long as pterostigma; 4–*SR* straight.

Carapace shorter than head and mesosoma combined, in dorsal view (Fig. 54) 1.85 times as long as broad behind, broadest at its hind fourth; in lateral view 2.7 times as long as high behind and 1.7 times as high behind as basally (Fig. 55, see arrows within carapace), apically somewhat rounded (Fig. 55, see arrow outside carapace); apico-ventrally somewhat incurved (Fig. 56). Carapace anteriorly rugose with longitudinal striate elements (Fig. 54), posteriorly rugose to rugulose. Ovipositor sheath short and concealed. Apical end of carapace with a very small elliptic foramen (Fig. 57).

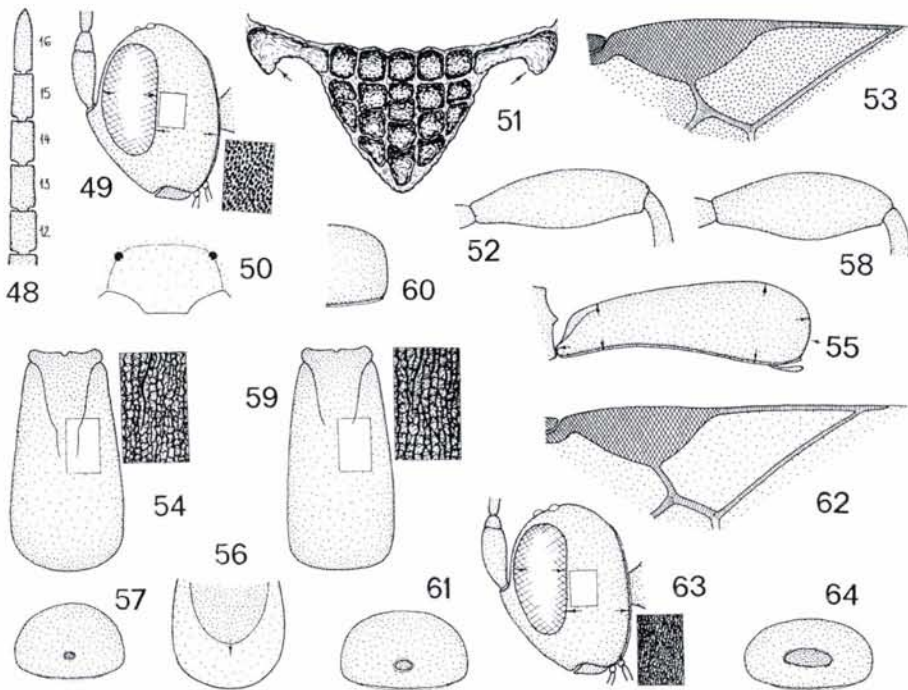
Body black. Scape reddish yellow, pedicel brownish, flagellum blackish, flagellomeres 1–5 with progressively weakening reddish yellow tint. Palpi pale brownish. Tegula blackish brown. Coxae and femora brownish black, trochanters brownish yellow, fore tibia reddish yellow, tibiae 2–3 dark brown, tarsi brownish fumous. Wings hyaline, fore wing around pterostigma widely subfumeous, pterostigma dark brown, veins brown.

Description of the male paratypes (2 ♂♂) – Similar to the female holotype. Body 3.3 mm long. Antenna nearly as long as body and with 22 antennomeres. First flagellomere three times and penultimate flagellomere 1.6 times as long as broad apically. Hind femur 2.8–2.9 times as long as broad medially (Fig. 58). Carapace in dorsal view 2–2.2 times as long as broad behind and less broadening posteriorly, its sculpture somewhat stronger (Fig. 59); in lateral view rather truncate apically (Fig. 60). Apical foramen of carapace small and elliptic, somewhat larger than that of female (Fig. 61).

From among the Neotropical species of the genus *Microchelonus* the new species seems to be nearest, on the basis of its description, to *M. johni* (MARSH, 1979) (Colombia), the two species are distinguished by the features keyed:

- 1 (2) Antennomeres 10–15 as long as broad (i.e. cubic). Caudal margin of propodeum defined by a strong transverse ridge, both pairs of projections strong. Carapace strongly rugose and areolate, particularly at base. Veins *r* and 3–*SR* about equal in length (Fig. 7 in MARSH 1979: 13). Apical foramen of male carapace large, 1.5 times (in Fig. 9 MARSH 1979: 15 twice) as wide as high. ♀♂: 3 mm

M. johni (MARSH)



Figs 48–64. 48–61. *Microchelonus subplanus* sp. n.: 48 = antennomeres 12–16, 49 = head in lateral view with indication of the sculpture of temple, 50 = clypeus, 51 = scutellum with lateral pair of lobes (see arrows), 52 = hind femur of female, 53 = distal part of right fore wing, 54 = female carapace in dorsal view with indication of its sculpture, 55 = female carapace in lateral view, 56 = posterior end of female carapace in ventral view, 57 = apical end of female carapace in frontal view, 58 = hind femur of male, 59 = male carapace in dorsal view with indication of its sculpture, 60 = posterior end of male carapace in lateral view, 61 = apical end of male carapace in frontal view. – 62–64. *Microchelonus pectiniphorae* (CUSHMAN): 62 = distal part of right fore wing, 63 = head in lateral view with indication of the sculpture of temple, 64 = apical end of male carapace in frontal view

- 2 (1) Antennomeres 10 1.5 times as long as broad, antennomeres 11–14 progressively attenuating so that antennomere 15 (or penultimate flagellomere) twice as long as broad apically (Fig. 48). Caudal margin of propodeum defined by a less strong transverse ridge, both pairs of projections less strong. Carapace rugose with longitudinal striate elements (Fig. 54), posteriorly rugose to rugulose. Vein 3–SR 1.4–1.6 times as long as *r* (Fig. 53). Apical foramen of male carapace very small, 2.4 times as wide as high (Fig. 61). ♀♂: 3.3 mm **M. subplanus** sp. n.

With the help of the key to the *Microchelonus* species of the Nearctic Region presented by MCCOMB (1968) the new species runs to *M. pectiniphorae* (CUSHMAN, 1931) (Oriental Region: China, Japan, Korea, Far East Territory of Russia, Taiwan; Nearctic Region: ?Mexico, ?USA introduced and ?established), the two species are separated by only a few and hardly recognizable features:

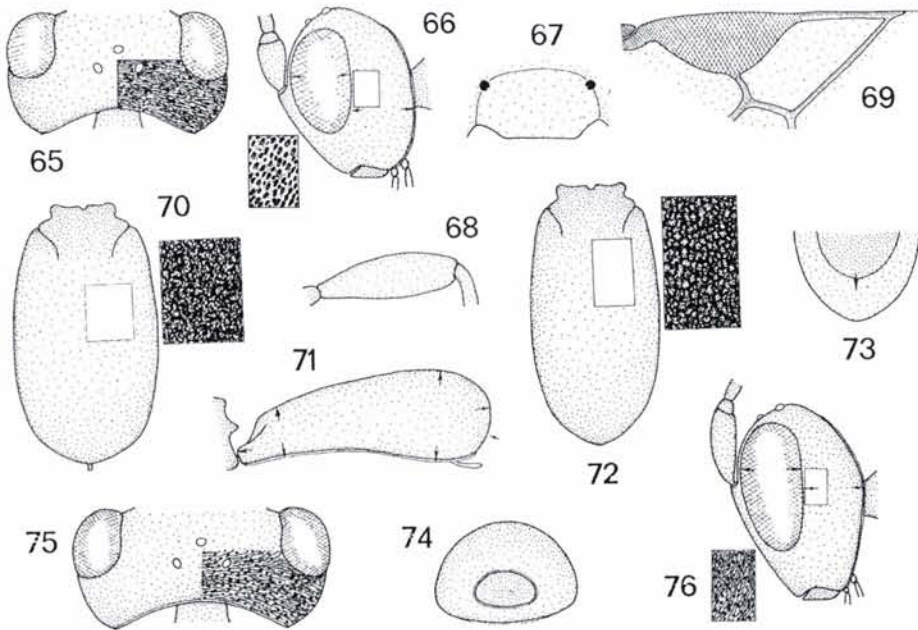
- 1 (2) Pterostigma issuing *r* distally from its middle, 3–SR 1.2–1.3 times as long as *r* (Fig. 62). Scutellum medially finely punctate, interspaces shiny or uneven, subshiny. Temple aciculate (Fig. 63). Nearly basal half of carapace lemon yellow. Male carapace apically with a slit-like foramen, 2.4–3(–4) times as wide as high (Fig. 64). ♀♂: 3–3.6 mm *M. pectiniphorae* (CUSHMAN)
- 2 (1) Pterostigma issuing *r* from its middle, 3–SR 1.4–1.6 times as long as *r* (Fig. 53). Scutellum roughly rugose (Fig. 51). Temple densely punctate, interspaces polished (Fig. 49). Carapace entirely black. Male carapace apically with a very small foramen (Fig. 61). ♀♂: 3.3 mm **M. subplanus** sp. n.

Microchelonus topali sp. n. ♀♂
(Figs 65–74)

Material examined (4 ♀♀ + 15 ♂♂) – Female **holotype** + six male **paratypes**: Argentina, prov. Río Negro, El Bolsón, Mt. Piltriquitron, 700 m, beaten from *Lomatia obliqua* bushes near creek, 1 April 1961, leg. TOPÁL (No. 370). – One female + one male **paratypes**: same locality as No. 370, 370 m, beaten from wild rose and *Aristotelia* bushes on shrubby slope, 13 March 1961, leg. TOPÁL (No. 318). – Two female **paratypes**: Argentina, prov. Río Negro, El Bolsón, Pampa Azcona, 350 m, beaten from various trees, mainly from *Myrceugenia exsupta* after blossoming along Arroyo Negro, 27 March 1961, leg. TOPÁL (No. 357). – Two male **paratypes**: Argentina, prov. Río Negro, El Bolsón, Mt. Piltriquitron SW slope, 520 m, beaten from *Libocedrus*, *Lomatia*, *Aristotelia* trees and bushes after dusk, 20 March 1961, leg. TOPÁL (No. 339). – Three male **paratypes**: same locality as No. 370, 700 m, beaten from various bushes except for *Lomatia* near creek, 1 April 1961, leg. TOPÁL (No. 369). – Two male **paratypes**: same locality as No. 37, 680 m, beaten from *Colletia*, *Fabiana imbricata*, *Aristotelia maqui*, *Maytenus boaria*, *Berberia buxifolia*, *Baccharis magellanica* and *Lomatia obliqua*, 22 April 1961, leg. TOPÁL (No. 410). – One male **paratype**: Argentina, prov. Chubut, El Puelo, 15 km S of El Bolsón, 300 m, beaten from *Nothofagus dombeyi*, wild rose bushes and trees near river Río Azul, 10 November 1961, leg. TOPÁL (No. 715). – Female holotype and 18 paratypes (3 ♀♀ + 15 ♂♂) are deposited in the Hungarian Natural History Museum (Department of Zoology), Budapest, Hym. Typ. Nos 7851 (holotype) and 7852–7869 (paratypes).

Etymology – The new species is dedicated to my good colleague Dr. GYÖRGY TOPÁL, mammalogist in the Hungarian Natural History Museum, who collected the series of the new species during his zoological collecting trip to Argentina in 1961 (TOPÁL 1963).

Description of the female holotype – Body 2.8 mm long. Antenna somewhat longer than head and mesosoma combined and with 16 antennomeres. First flagellomere distinctly three times as long as broad apically, further flagellomeres progressively shortening so that penultimate flagellomere 1.4 times as long as broad. – Head in dorsal view (Fig. 65) transverse, 1.8 times as broad as long, eye somewhat longer than temple, latter rounded, occiput excavated. Eye in lateral view twice as high as wide, temple ventrally somewhat broadening, beyond eye somewhat broader than greatest width of eye (Fig. 66, see arrows). Clypeus just less than twice as wide as high, its lower margin truncate (Fig. 67). Face more than twice as wide as high and with silvery hairs. Malar space almost 1.5 times as long as basal width of mandible. Face with fine, arched and dense rugulo-striation, dull; clypeus finely punctate, laterally rather with confluent punctation, shiny; vertex subshiny with transverse and fine striation, occiput shiny with loose transverse and fine striation; temple punctate, interspaces polished (Fig. 66).



Figs 65–76. 65–74. *Microchelonus topali* sp. n.: 65 = head in dorsal view with indication of its sculpture, 66 = head in lateral view with indication of the sculpture of temple, 67 = clypeus, 68 = hind femur, 69 = distal part of right fore wing, 70 = female carapace in dorsal view with indication of its sculpture, 71 = female carapace in lateral view, 72 = male carapace in dorsal view with indication of its sculpture, 73 = apical end of male carapace in ventral view, 74 = apical end of male carapace in frontal view. – 75–76. *Microchelonus masoni* (MCCOMB): 75 = head in dorsal view with indication of its sculpture, 76 = head in lateral view with indication of the sculpture of temple

Mesosoma in lateral view 1.4 times as long as high, rugose to roughly rugose; mesonotum anteriorly with small polished fields, scutellum strongly punctate. Lateral pair of lobes at base of scutellum absent. Caudal margin of propodeum defined by weak transverse ridge, two pairs of projections weak, outer pair somewhat stronger. – Hind femur 3.3 times as long as broad medially (Fig. 68).

Fore wing about one-fourth shorter than body. Pterostigma (Fig. 69) 2.3 times as long as wide and issuing *r* distally from its middle. Marginal cell of fore wing along *1-R1* 0.6 times as long as pterostigma, *3-SR* twice as long as *r*, *4-SR* straight.

Carapace somewhat shorter than head and mesosoma combined, oval and 1.7 times as long as broad medially (Fig. 70); in lateral view 2.9 times as long as high behind and 1.3 times as high behind as basally (Fig. 71, see arrows within carapace). Carapace apico-laterally rounded (Fig. 71, see arrow outside carapace), carapace apico-ventrally somewhat incurved (cf. Fig. 16). Carapace rugose, basally with striate-longitudinal elements, dull. Ovipositor sheath short, concealed.

Body black, antenna brownish black. Palpi blackish. Tegula black, subtegula brown. Legs blackish, femora 1–2 apically and tibiae 1–2 entirely brownish yellow, basal two-thirds of hind tibia brownish yellow, apically brown, tarsi brownish. Wings hyaline, pterostigma brown, veins yellowish brown.

Description of the female paratypes (3 ♀♀) – Similar to female holotype. Body 2.8–2.9 mm long. Penultimate flagellomere 1.4 times (1 ♀) and 1.2 times (1 ♀) as long as broad to cubic (1 ♀). Temple with weak striate elements near eye.

Description of the male paratypes (15 ♂♂) – Similar to the females. Body 2.8–2.9 mm long. Antenna with 19–21, usually 20, antennomeres (19: 3, 20:11, 21: 1). Face with silvery pubescence. Temple near temporal carina with more or less striate elements. Carapace in dorsal view less broad, twice as long as broad medially, apically somewhat pointed (Fig. 72); ventrally incurved (Fig. 73, see arrow). Apical foramen of carapace oval and 1.7–1.9 times as wide as high (Fig. 74). Scape (except brownish dorsal macula) and pedicel entirely reddish yellow, flagellomeres 1–2(–3) ventrally reddish yellow or brownish yellow. Palpi brown to brownish.

Host unknown.

Distribution – Argentina.

The new species, *Microchelonus topali* sp. n., stands nearest to *M. masoni* (McCOMB, 1968) (USA: California) and to *M. johni* (MARSH, 1979) (Colombia), the three species are distinguished by the features keyed:

- 1 (2) Flagellomeres 8–13 cubic, i.e. as broad as long. Caudal ridge of propodeum defined by a strong transverse ridge, median and lateral pairs of projections strong. Light colour of legs honey yellow. ♀♂: 3 mm *M. johni* (MARSH)
- 2 (1) Flagellomeres 8–13 not cubic, i.e. at least 1.5 times as long as broad. Caudal ridge of propodeum defined by a weak transverse ridge, both pairs of projections less strong. Light colour of legs brownish or reddish yellow.
- 3 (4) Head in dorsal view (Fig. 65) relatively less transverse, 1.8 times (♀) and 1.9 times (♂) as broad as long, temple rounded. Temple in lateral view somewhat broadening ventrally, beyond eye somewhat wider than greatest width of eye (Fig. 66, see arrows); temple punctate, interspaces shiny (Fig. 66). Hind femur black. ♀♂: 2.8–2.9 mm ***M. topali* sp. n.**

- 4 (3) Head in dorsal view (Fig. 75) transverse, 2.1–2.2 times ($\text{♀}\text{♂}$) as broad as long, temple receded. Temple in lateral view not broadening ventrally, beyond eye at most as wide as greatest width of eye (Fig. 76, see arrows), temple finely and densely strio-rugulose with disperse punctures (Fig. 76), vertex with transverse and fine striation, interstriation with very fine and rather disperse punctures (Fig. 75). Hind femur dark brown to blackish, basally and apically reddish yellow. $\text{♀}\text{♂}$: 2.8–3 mm
M. masoni (MCCOMB)

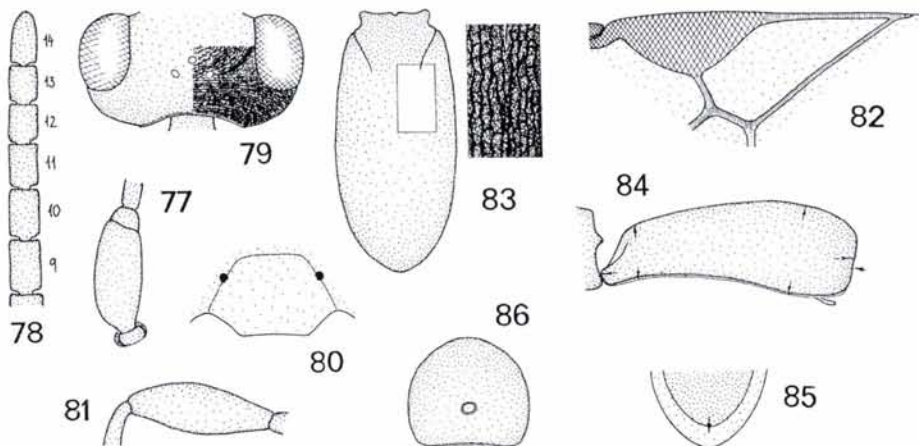
The new species is also near to *M. bolsoni* sp. n., their distinction is presented at that species, p. 182.

Microchelonus townsendi (VIERECK) ♀
(Figs 77–86)

Chelonus (*Chelonella*) *townsendi* VIERECK, 1912: Proc. U. S. Natn. Mus. 42: 612 ♀ (syntype series: one female), type locality: Department of Piura, Peru, holotype (present designation) in National Museum of Natural History, Washington; examined.

Microchelonus townsendi (VIERECK): SHENEFELT 1973: 906 (comb. n. and literature up to 1913).

Material examined (1 ♀) – Designation of the female holotype (first label:) “Dept Piura”, Peru – (second label:) “C H T Tow’d coll” (= C.H.T. Townsend Collection) – (third label:) 79539 – (fourth red label:) “Type No. 14714 U.S.N.M.” – (fifth label with Viereck’s handwriting: “Chelonus townsendi Vier. Type ♀ ” – sixth label is my holotype card.



Figs 77–86. *Microchelonus townsendi* (VIERECK): 77 = scape, 78 = flagellomeres 9–14, 79 = head in dorsal view with indication of its sculpture, 80 = clypeus, 81 = hind femur, 82 = distal part of right fore wing, 83 = female carapace in dorsal view with indication of its sculpture, 84 = female carapace in lateral view, 85 = apical end of female carapace in ventral view, 86 = apical end of female carapace in frontal view

Redescription of the female holotype – Body 3 mm long. Antenna about as long as head and mesosoma combined and with 16 antennomeres. Scape 2.1 times as long as broad (Fig. 77); first flagellomere three times as long as broad, further flagellomeres progressively shortening and attenuating so that tenth flagellomere 1.6 times, eleventh flagellomere 1.4 times as long as broad, twelfth and thirteenth flagellomere subcubic (Fig. 78). – Head in dorsal view (Fig. 79) twice as broad as long, eye one-third longer than temple, latter constricted, occiput excavated (Fig. 79). Eye in lateral view 1.6 times as high as wide, temple beyond eye broadening ventrally and eye one-fourth wider than temple. Clypeus 1.75 times as wide as high, its lower margin medially just concave (Fig. 80). Face 1.5 times as wide as high. Malar space twice as long as basal width of mandible. Face arcuate rugo-striolate, sides of frons arcuate striate and with an arcuate carinula, vertex transversely rugulo-striate (Fig. 79).

Mesosoma in lateral view 1.6 times as long as high. Mesonotum with more or less confluent punctation, notaulix distinct and crenulate, hind-median field of mesonotum areolate-rugose. Scutellum punctulate, interspaces polished. Mesopleuron areolate. Propodeum anteriorly roughly rugose, its declivous posterior part strongly punctate-subpunctate; caudal margin of propodeum defined by a transverse ridge, two pairs of projections weak. – Hind femur 2.9 times as long as broad medially (Fig. 81).

Fore wing as long as head, mesosoma and half of carapace combined. Pterostigma (Fig. 82) 2.5 times as long as wide and issuing *r* just distally from its middle, *r* half as long as width of pterostigma and nearly as long as *3-SR*, *4-SR* straight; marginal cell along *1-R1* almost as long as length of pterostigma.

Carapace somewhat shorter than head and mesosoma combined; in dorsal view (Fig. 83) twice as long as broad medially and somewhat pointed apically; in lateral view 2.8 times as long as high behind and 1.6 times as high behind as basally (Fig. 84, see arrows within carapace). Carapace apico-laterally truncate (Fig. 84, see arrow outside carapace), apico-ventrally just incurved (Fig. 85, see arrow). Carapace strio-rugose (Fig. 83), apically rugose; apically with a very small elliptic foramen (Fig. 86).

Colour of body as in the original description. Body black. Scape, pedicel and first flagellomere reddish yellow, flagellum progressively darkening. Palpi pale. Tegula reddish yellow as are legs, hind coxa brown, middle and hind femora + tibiae with brownish tint. Wings subhyaline, pterostigma brown, veins proximo-distally yellow to brownish.

Microchelonus townsendi (VIERECK) is nearest to *M. paululus* (MCCOMB) and *M. constrictus* sp. n., the distinction of the three species is presented at *M. constrictus* sp. n., p. 187.

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