

## First survey of the *Sacirema* QUICKE species (Hymenoptera: Braconidae: Braconinae)

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ABSTRACT. A short historical review of the genus *Sacirema* QUICKE, 1995 and the three species assigned to this genus. Description of *S. concava* sp. n. and redescriptions of *S. infelix* (DALLA TORRE, 1898) (= *Bracon thoracicus* BRULLÉ, 1846) and *S. lachrymosus* (CAMERON, 1887) are presented. A key was compiled for the three *Sacirema* species distributed in Central America.

Key words: entomology, taxonomy, Hymenoptera, Braconidae, *Sacirema*, new species, redescriptions, identification key.

### INTRODUCTION

The braconine genus *Sacirema* was described by QUICKE in 1995 based on the species *Iphiaulax lachrymosus* CAMERON, 1887; consequently CAMERON's species received a new taxonomic status as *Sacirema lachrymosa* (CAMERON, 1887). The new genus was differentiated by QUICKE (1995, 1997) from the genera *Cyclaulacidea* QUICKE et DELOBEL, 1995 and *Gracilibracon* QUICKE, 1995 by several features as the facial sculpture, the raised or not raised notum of the first tergite, the form and depth of the suture between mesonotal tergites 2–3. The genus *Sacirema* is also near to *Cyclaulax* CAMERON, 1911, the two genera are distinguished by the relative length of tergites 2–3, by the absence or presence of the antero-median field of the second tergite, by the apical form of the scape and by the laterally flattened (compressed) or not flattened fore basitarsus (QUICKE 1989, 1997).

In SHENEFELT's braconid catalogue (SHENEFELT 1978) the two *Sacirema* species are ranged in the genera *Bracon* (*B. infelix*) and *Iphiaulax* (*I. lachrymosus*). As a result of the present study three species are now assigned to the genus *Sacirema*: *S. concava*

n. sp., *S. infelix* (DALLA TORRE, 1898) and *S. lachrymosa* (CAMERON, 1887). They are distributed in Central America or in the northern part of the Neotropical Region. It is anticipated that the number of *Sacirema* species will increase considerably by the future investigations of the neotropical braconine fauna. In addition to the description of the new species (*S. concava*) redescrptions are presented for the two known species (*S. infelix*, *S. lachrymosa*) and a key was compiled to facilitate their identification.

#### DESCRIPTION AND REDESCRIPTIONS OF THE SPECIES

ABBREVIATIONS – The following abbreviations are employed (after VAN ACHTERBERG 1993: 4–5):

Eye – OOL = ocellar-ocular line, i.e. shortest distance between hind ocellus and compound eye; POL = postocellar line, i.e. shortest distance between hind ocelli.

Wing veins – *m-cu* = transverse medio-cubital vein; *r* = transverse radial vein; *1-M* = basal vein; *2-SR* = transverse cubital vein; *3-SR* = second section of the radial vein; *SRI* = third section of the radial vein; *1-SR-M* = median vein.

#### *Sacirema concava* n. sp.

(Figs 1–12)

#### MATERIAL EXAMINED

(1 ♀). – Holotype ♀: Central America, Martinique (Lesser Antilles), ex Coll. Marshall. – Holotype is deposited in the Hungarian Natural History Museum (Department of Zoology), Budapest, Hym. Typ. No. 10977. – Holotype is in good condition: (1) glued ventrally on a card, (2) right hind leg missing, (3) left hind wing torn proximally and distally.

#### ETYMOLOGY

The species name “*concava*” refers to the slightly concave sides of the first tergite beyond the pair of spiracles.

#### DIAGNOSIS

The new species, *Sacirema concava*, is nearest to *S. lachrymosa* (CAMERON), their distinction is presented in the key to the three *Sacirema* species subsequent the redescription of *S. lachrymosa*.

#### DESCRIPTION OF THE FEMALE HOLOTYPE

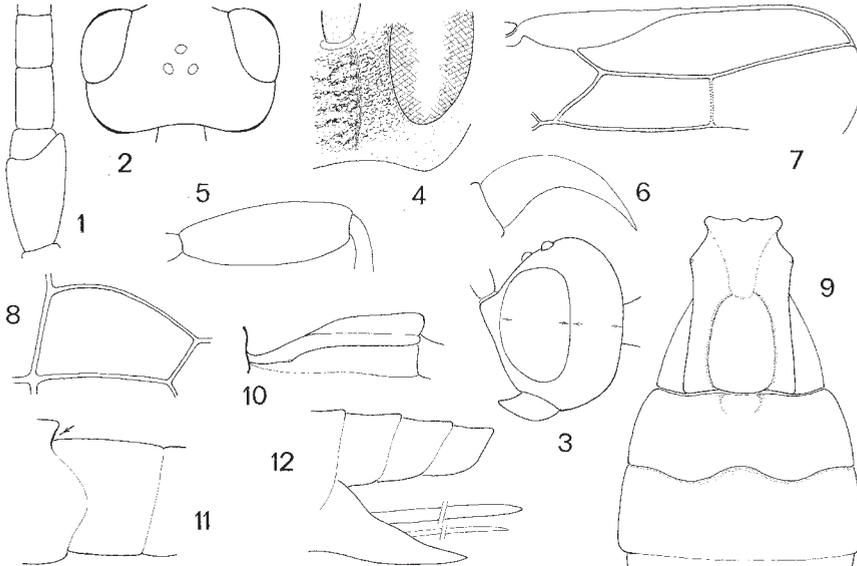
Body 8.5 mm long. Antenna about one-third shorter than body and with 43 antennomeres. Scape in lateral view assymetric, i.e. apically emarginated so that ventrally clearly longer than dorsally (Fig. 1). First flagellomere 1.5 times, second flagellomere 1.25 times as long as broad (Fig. 1), further flagellomeres gradually shortening so that from flagellomeres 9–10 distal flagellomeres cubic. – Head in dorsal view transverse (Fig. 2), 1.6 times as broad as long, eye somewhat longer than temple, temple rounded, occiput excavated. Ocelli small and near to each other, OOL clearly twice as long as

POL. Eye in lateral view 1.7 times as high as wide, temple one-fifth shorter than width of eye and evenly wide beyond eye (Fig. 3, see arrows). Pair of carinae of face less distinct and ventrally slightly converging, face rugo-rugulose rather transversely (Fig. 4); otherwise head polished.

Mesosoma in lateral view 1.4 times as long as high, smooth and shiny. Notaulix faintly distinct. – Hind femur 2.6 times as long as broad somewhat distally (Fig. 5). Claw downcurved, basally without lobe as in Fig. 6.

Fore wing somewhat shorter than body. Pterostigma (Fig. 7) 4.0 times as long as wide and issuing *r* proximally from its middle; *r* a bit shorter than width of pterostigma; second submarginal cell less long, 3–*SR* 1.7 times as long as 2–*SR*, *SRI* just arched, 1.25 times (or one-fourth) longer than 3–*SR* and reaching tip of wing. First discal cell wide, 1–*SR*–*M* curved and 1.85 times length of 1–*M*, 1–*M* and *m*–*cu* almost parallel and 1–*M* 1.8 times as long as *m*–*cu* (Fig. 8).

First tergite 1.5 times as long as broad behind, beyond pair of spiracles not broadening and side of tergite somewhat concave (Fig. 9); scutum in lateral view less raised (Fig. 10). Second tergite transverse, 3.3 times as broad behind as long medially, mid-basally “not pinched up”, its hind margin clearly bisinuate; third tergite slightly longer than second tergite, its anterior margin (in lateral view) weakly deepening (Fig. 11, see arrows). Tergites polished. Hypopygium pointed and distal end of ovipositor apparatus as in Fig. 12.



1–12. *Sacirema concava* n. sp.: 1 – scape, pedicel and flagellomeres 1–2, 2 – head in dorsal view, 3 – head in lateral view, 4 – sculpture of face (right part), 5 – hind femur, 6 – claw, 7 – distal part of right fore wing, 8 – first discal cell of fore wing, 9 – tergites 1–3, 10 – first tergite in lateral view, 11 – tergites 2–3 in lateral view, 12 – posterior part of metasoma in lateral view with hypopygium and ovipositor apparatus

Ground colour of body and legs black, mesosoma with fore coxa, trochanters and tegula testaceous. Antenna and palpi also black. Wings dark brown fumous; pterostigma black, veins proximo-distally black to blackish.

Male and host unknown.

TAXONOMIC REMARK

The new species was identified by T. A. MARSHALL as *Bracon* “*thoracicus* BRULLÉ” (cited MARSHALL’S name label).

DISTRIBUTION

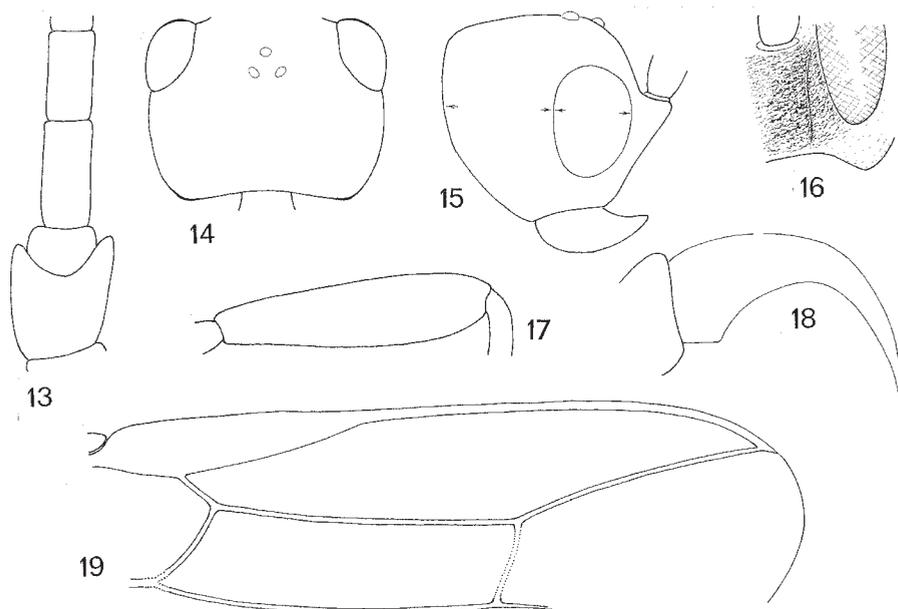
Martinique Island (Lesser Antilles in Central America).

***Sacirema infelix* (DALLA TORRE), n. comb.**

(Figs 13–24)

*Bracon thoracicus* BRULLÉ, 1846 (nec SAY, 1836): 392 ♀ (syntype series 1 ♀), type locality: „Hab. l’Amérique méridionale;...” (country?), lectotype female (present designation) in Museum National d’Histoire Naturelle, Paris; examined. – SZÉPLIGETI 1906: 591 (as „*Br. thoracicus* BRULL. = *infelix* D.T.” in key).

*Bracon infelix* DALLA TORRE, 1898: 273, replacement name for *B. thoracicus* BRULLÉ, 1846 nec SAY, 1836. SHENEFELT 1978: 1493 (as *B. infelix* D.T., literature up to 1906).

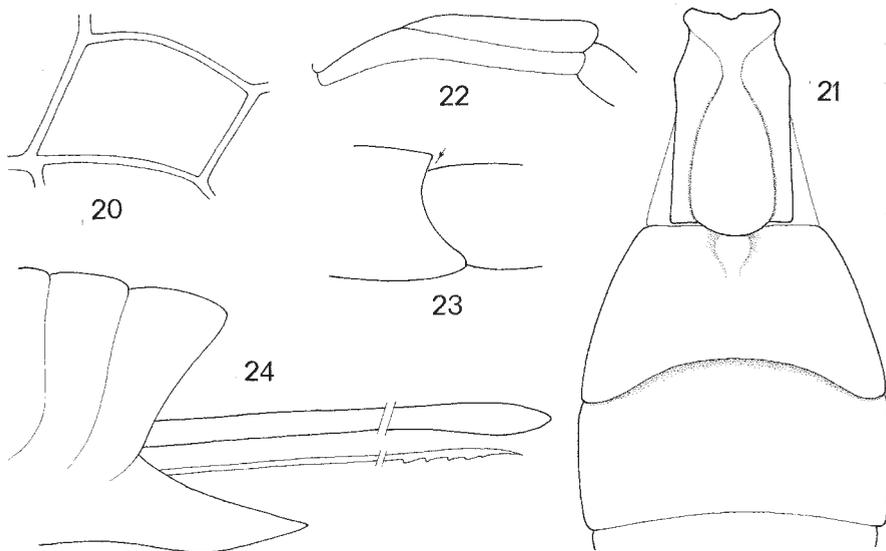


13–19. *Sacirema infelix* (DALLA TORRE): 13 – scape, pedicel and flagellomeres 1–2, 14 – head in dorsal view, 15 – head in lateral view, 16 – sculpture of face (right half), 17 – hind femur, 18 – claw, 19 – distal part of right fore wing

Designation of the female lectotype of *Bracon thoracicus* BRULLÉ: (first white label, handscript) “/71”; (second label, ?in handwriting of BRULLÉ) „*Bracon thoracicus* Br?”; third label is with the locality added by me after BRULLÉ l.c.; fourth label is my lectotype label; fifth label gives the new name *Sacirema infelix* (DALLA TORRE). – The lectotype is in poor condition: (1) entire body and legs covered with aspergillus; (2) right flagellum missing, left flagellum damaged: present only the first five flagellomeres; (3) ventral part of mesosoma damaged: (?eaten by museum beetle; (4) missing: left fore wing, left middle leg; (5) right middle leg glued on a green round label and pinned close below the wasp.

REDESCRIPTION OF THE FEMALE LECTOTYPE. – Body 16 mm long. Scape stout, as long as broad apically, in outer-lateral view emarginate as in Fig. 13. First flagellomere 2.1 times, second flagellomere 1.8 times as long as broad apically (Fig. 13), further three flagellomeres hardly diminishing. – Head in dorsal view (Fig. 14) cubic, 1.3 times as broad as long, temple long, 1.5 times length of eye, gradually rounded, occiput just excavated. Ocelli near to each other, OOL three times longer than POL. Eye in lateral view 1.45 times as high as wide, temple 1.45 times wider than eye and ventrally narrowing (Fig. 15, see arrows). Pair of carinae of face distinct, between carinae the median field rugo-rugulose (Fig. 16); otherwise head smooth.

Mesosoma in lateral view about two times as long as high, smooth and shiny. Hind femur long, 3.75 times as long as broad distally (Fig. 17). Claw narrow, downcurved, without basal lobe (Fig. 18).



20–24. *Sacirema infelix* (DALLA TORRE): 20 – first discal cell of fore wing, 21 – tergites 1–3, 22 – first tergite in lateral view, 23 – tergites 2–3 in lateral view, 24 – posterior end of metasoma in lateral view with hypopygium and ovipositor apparatus

Fore wing as long as body. Pterostigma (Fig. 19) cuneiform, i.e. narrowing distally, 5.3 times as long as wide basally, issuing *r* proximally from its middle, *r* just shorter than width of pterostigma. Second submarginal cell long, *3-SR* 3.4 times as long as *2-SR*, *SRI* shorter than *3-SR*, just arched and reaching tip of wing. First discal cell quadrate, *1-SR-M* curved and 1.4 times length of *1-M*, *1-M* and *m-cu* parallel and *1-M* somewhat longer than *m-cu* (Fig. 20).

First tergite (Fig. 21) 1.66 times as long as broad behind, parallel-sided, sides behind pair of spiracles slightly concave, scutum emerging somewhat convex-form (Fig. 22). Second tergite transverse, 1.5 times as wide behind as long laterally, its hind margin deeply arched, mid-basally weakly “pinched up”. Third tergite slightly shorter than second tergite (Fig. 21), its fore margin (in lateral view) less deepening (Fig. 23, see arrow). Tergites smooth. Ovipositor sheath somewhat longer than hind tibia + tarsus combined. Hypopygium pointed, posterior end of ovipositor and its sheath as in Fig. 24 (position of the hypopygium essentially modified owing to its unnatural position in the wasp itself).

Head and tergites black; mesosoma testaceous; pronotum, prosternum and propodeum blackish to black. Tegula black. Legs black. Wings dark brown fumous, pterostigma black, venation proximo-distally black to brown.

Male and host unknown.

#### DISTRIBUTION

Central America.

### *Sacirema lachrymosa* (CAMERON)

(Figs 25–35)

*Iphiaulax lachrymosus* CAMERON, 1887: 322 ♀ (syntype series 1 ♀), type locality: Panama, Bugaba, female holotype is deposited in The Natural History Museum, London; examined. – SHENEFELT 1978: 1774 (as *Iphiaulax lachrymosus*, literature up to 1904).

*Sacirema lachrymosa* (CAMERON): QUICKE 1995: 226 (description of the new genus *Sacirema*, its generotype species *Iphiaulax lachrymosus*).

Female holotype of *I. lachrymosus* is in poor condition: (1) pinned on a fairly thick insect needle by mesosoma; (2) left antenna and right flagellum missing; (3) right hind tarsus missing; (4) metasoma and left hind leg glued to lower part of propodeum; (5) right middle leg glued on a separate small card attached to the pin; (6) wings dirty.

ADDITIONAL FEATURES TO THE REDESCRIPTION BY QUICKE (1995: 226–228). – Body 7.5 mm long. Scape in lateral view slightly conical, apically emarginate, i.e. longer ventrally than dorsally (Fig. 25). Head in dorsal view transverse, 1.6 times as broad as long (Fig. 26, see arrows), eye twice as long as temple, temple receded, occiput weakly excavated. Malar space just shorter than basal width of mandible. Eye in lateral view 1.3 times as high as wide, temple half as wide as eye (Fig. 27, see arrows). Sculpture of face as in Fig. 1 (cf. QUICKE l.c.), otherwise head smooth and shiny.

Mesosoma 1.75 times as long as high. Hind femur 4.1 times as long as broad distally (Fig. 28). Claw downcurved as in Fig. 29.

Forewing about as long as body. Pterostigma (Fig. 30) cuneiform, i.e. distally narrowing, 4.2 times as long as wide proximally, issuing *r* somewhat proximally from its middle; *r* as long as width of pterostigma. Second submarginal cell long,  $3-SR$  2.3 times as long as  $2-SR$ ,  $SRI$  1.5 times as long as  $3-SR$  and reaching tip of wing. First discal cell quadrate,  $1-SR-M$  bent and 1.7 times length of  $1-M$ ,  $1-M$  and  $m-cu$  slightly converging,  $1-M$  one-fourth longer than  $m-cu$  (Fig. 31).

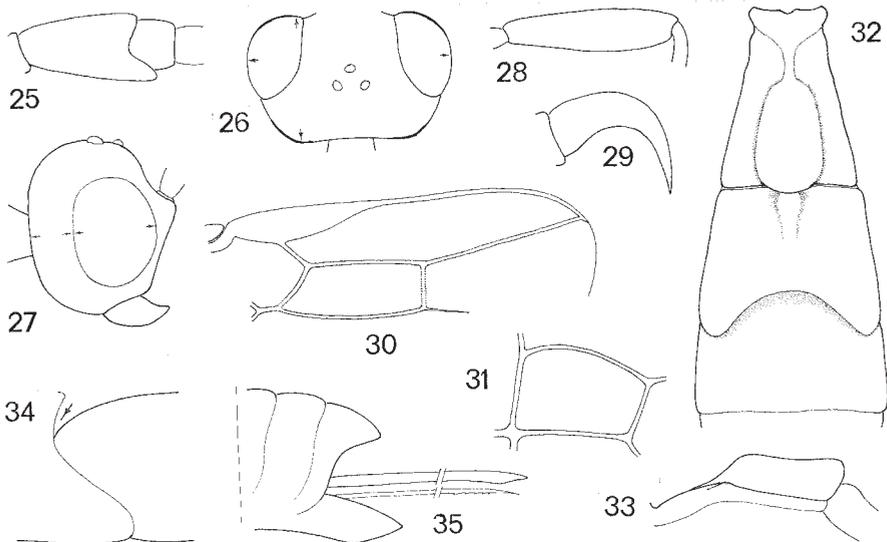
First tergite 1.2 times as long as broad behind, distinctly broadening posteriorly (Fig. 32); scutum in lateral view highly raised (Fig. 33). Second tergite less transverse, 1.9 times as broad behind as long medially, mid-basally "pinched up", its hind margin deeply concave; third tergite joining to second tergite with deepening margin (Figs 32, 34 see arrow). Every tergite smooth and shiny. Hypopygium pointed and distal end of ovipositor apparatus as in Fig. 35.

Head and last four tergites black; mesosoma, tergites 1-4 and sternites ochreous. Palpi yellowish with blackish tint. Fore leg ochreous, femur and tibia dark brown to blackish. Middle leg dark brown, hind leg black. Wings yellowish, apically and transverse-median streak of fore wing brown; pterostigma blackish, apically faintly yellowish, veins yellowish.

Male and host unknown.

#### DISTRIBUTION

Panama.



25-35. *Sacirema lachrymosa* (CAMERON): 25 - scape and pedicel, 26 - head in dorsal view, 27 - head in lateral view, 28 - hind femur, 29 - claw, 30 - distal part of right fore wing, 31 - first discal cell of fore wing, 32 - tergites 1-3, 33 - first tergite in lateral view, 34 - tergites 2-3 in lateral view, 35 - posterior part of metasoma in lateral view with hypopygium and ovipositor apparatus

KEY TO THE *SACIREMA* SPECIES

- 1 (2) Head in dorsal view cubic, 1.3 times as broad as long; temple 1.5 times length of eye (Fig. 14); temple in lateral view wide, 1.45 times wider than eye (Fig. 15), see arrows). Second submarginal cell of fore wing long, 3–SR 3.4 times as long as 2–SR, SR1 clearly shorter than 3–SR (Fig. 19). Scape short, its length equal to its apical width; apically emarginate and ventrally not longer than dorsally (Fig. 13). Second tergite transverse and its hind margin deeply arched (Fig. 21). Head and tergites black, mesosoma testaceous with blackish to black pattern. Wings dark fumous; legs black. #: 16 mm. – Central America ..... *S. infelix* (DALLA TORRE, 1898)
- 2 (1) Head in dorsal view transverse, 1.6 times as broad as long; temple more or less shorter than eye (Figs 2, 26); temple in lateral view narrow, at most half as wide as eye (Figs 3, 27, see arrows). Second submarginal cell of fore wing less long, 3–SR at most 2.3 times as long as 2–SR, SR1 clearly longer than 3–SR (Figs 7, 30). Scape long, 1.5 times to twice longer than apically broad, ventrally distinctly longer than dorsally (Figs 1, 25).
- 3 (4) Second tergite transverse, 3.3 times as broad behind as long medially, its hind margin clearly bisinuate (Fig. 9); fore margin of third tergite (in lateral view) less deepening (Fig. 11, see arrow); scutum of first tergite less raised (Fig. 10). Temple in dorsal view rounded (Fig. 2). First discal cell wide, 1–SR–M 1.85 times length of 1–M (Fig. 8). Claw less downcurved (Fig. 6). Wings dark brown fumous, legs black. #: 8.5 mm. – Martinique Island ..... *S. concava* n. sp.
- 4 (3) Second tergite less transverse, 1.9 times as broad behind as long medially, its hind margin deeply concave (Fig. 32); fore margin of third tergite (in lateral view) more deepening (Fig. 34, see arrow); scutum of first tergite in lateral highly raised (Fig. 33). Temple in dorsal view receded (Fig. 26). First discal cell quadrate, 1–SR–M 1.7 times length of 1–M (Fig. 31). Claw more downcurved (Fig. 29). Wings yellowish with a transverse brown streak; legs ochreous to black. #: 7.5 mm. – Panama ..... *S. lachrymosa* (CAMERON)

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