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Two new Neotropical species of *Telephanus* Erichson near *T. serratus* Nevermann (Coleoptera: Silvanidae)

Michael C. Thomas

Florida State Collection of Arthropods, Michael.Thomas@freshfromflorida.com

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INSECTA MUNDI

A Journal of World Insect Systematics

0197

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Nevermann (Coleoptera: Silvanidae)

Michael C. Thomas

Florida State Collection of Arthropods
Florida Department of Agriculture and Consumer Services
P.O. Box 147100
Gainesville, FL 32614-7100
michael.thomas@freshfromflorida.com

Date of Issue: September 15, 2011

Michael C. Thomas

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Insecta Mundi 0197: 1-11

Published in 2011 by

Center for Systematic Entomology, Inc.

P. O. Box 141874

Gainesville, FL 32614-1874 U. S. A.

<http://www.centerforsystematicentomology.org/>

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. **Insecta Mundi** will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. **Insecta Mundi** publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

Insecta Mundi is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. **Insecta Mundi** is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

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Printed copies deposited in libraries (ISSN 0749-6737)

Electronic copies in PDF format (On-Line ISSN 1942-1354, CDROM ISSN 1942-1362)

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Two new Neotropical species of *Telephanus* Erichson near *T. serratus* Nevermann (Coleoptera: Silvanidae)

Michael C. Thomas

Florida State Collection of Arthropods

Florida Department of Agriculture and Consumer Services

P.O. Box 147100

Gainesville, FL 32614-7100

michael.thomas@freshfromflorida.com

Abstract. The Mesoamerican species of *Telephanus* distinguished by the presence eight lateral pronotal spines and long temples are reviewed. The group includes *T. serratus* Nevermann and two previously undescribed species that are described herein: *T. bellus* Thomas, **new species**, from Costa Rica, and the flightless *T. monstrosus* Thomas, **new species**, from Mexico.

Introduction

The genus *Telephanus* Erichson is the largest genus in the family Silvanidae, with 107 described species, all but six of which occur in the New World (Thomas 2011). Of the New World species, only the Mesoamerican (Nevermann 1931) and Caribbean (Nevermann 1932, 1937) faunas have been revised. *Telephanus serratus* Nevermann is the only described Mesoamerican species of *Telephanus* out of the 43 treated by Nevermann (1931) with eight lateral pronotal setae situated on prominent teeth, small eyes located far in advance of the base of the head, and an antennal scape broader basally than apically, giving it a “bud vase” shape. Recently, specimens of two undescribed species sharing these character states have come to light and are described below. One of the new species lacks hind wings and is the first flightless species of the genus to be recorded from a continental locality.

Materials and Methods

Repositories of specimens are: El Colegio de la Frontera Sur, San Cristóbal de las Casas, Chiapas, Mexico (**CEET**); Canadian Museum of Nature, Ottawa (**CMNC**); Florida State Collection of Arthropods, Gainesville (**FSCA**); Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica (**INBI**); United States National Museum of Natural History, Smithsonian Institution, Washington, D.C. (**USNM**); University of Kansas, Lawrence (**SEMC**).

Notes on characters. The lateral pronotal armature (Fig. 4) is important in the identification of *Telephanus* species. It consists of setae borne on socketed denticles which are usually obvious even when the setae are broken off, which frequently occurs during even the most careful handling. In some species, as in those which are the subject of the present paper, the setae are rigid and spine-like; in others, they are rather more slender and flexible. They are counted beginning at the anterior lateral angle and proceeding posteriorly. There are setae frequently located mesally to the anterior angle along the anterior margin but they are usually easily distinguished from the anteriormost lateral seta, and there are occasionally smaller secondary setae which are distinguishable from the primary setae. This group of species is characterized by eight lateral spines, arranged in three groups: the first group is composed of three spines at and immediately behind the anterior angle, the middle spine of which is located a little ventrad to the other two; the second group lies immediately posterior to the first group and is composed of four equally spaced spines; the third group consists of a single spine at the basal angle.

Elytral pubescence is composed of alternating rows of striae and interstriae setae. In *T. serratus* (Fig. 7) the striae setae are very fine, pale and reclinate and the interstriae setae are thickened, suberect and darker. In the two species described below, the striae and interstriae setae alternate inclination as in *T. serratus*, but are similar to each other in thickness and color.

The nature of the punctation of the dorsal surface of the head and pronotum has been especially troublesome to describe. Under a dissecting microscope at 160× and using diffused lighting, the punc-

tation appears to be punctate reticulate (as illustrated by Eady (1968)). Scanning electron microscopy reveals that that description fits the pronotal punctation rather well (Fig. 6) but not that of the head, where the punctures are not so distinctly impressed, especially at the anterior edge of each puncture. Nevertheless, I have described the head sculpture to be reticulate punctate since that is how it appears under light microscopy.

Telephanus serratus Nevermann

Figure 1, 4-8

Telephanus serratus Nevermann, 1931:161

Diagnosis. The combination of eight lateral pronotal spines situated on prominent teeth, small eyes located far in advance of the base of the head, and an antennal scape broader basally than apically separates this species from all other Mesoamerican species except for the two described below. From them it can be distinguished by its testaceous coloration with an m-shaped dark mark on the elytra, its dual form of elytral pubescence, and shape of the parameres.

Nevermann's 1931 detailed description is translated as follows (paragraph indents have been added for clarity):

Telephanus serratus sp.n. Taf. V, fig. 4.

Yellow to brown yellow, antennae, head and thorax usually darker than elytra and legs, mouth parts yellow, Elytra almost always with m-shaped black markings just behind the middle. Very flat, wide shape, eyes wide in front, thorax and elytra on the edge with large, serrated bristle teeth.

Antennae monochrome, slender, 2/3 as long as the insect, the last 5-6 segments thickened slightly. Due to compact segmentation, the antennae are almost thread-like. Scape at the end thinner than at the base, apical segment very fine; segment 2 notably shorter than 3, both together equal to 2/3 of the 1st, 4th half as long as 1; 5 and 6 shorter than 4, about equal to each other; 7-10. each of these a little shorter than his previous one, until the 10th equal to 1/3 of the 1st is, the final segment ♂ equal to half 1, the ♀ slightly longer and slimmer.

Head width across oval, as long, very flat, finely hairy. Eyes small, coarsely faceted, slightly protruding, arranged far to the front to 1 1/4 of its length from the thorax. Temples rounded very wide neck half as wide as the head. Frontal suture straight, weak, Antennal insertions flat. Punctures oblong, coarse, dense and flat, often running together. At the underside next to the eyes are some coarse punctures. The final member of the labial palpi is wide and very short.

Thorax wider than the head, quadrate, in the central axis roof shaped, front and rear edge is straight, parallel side edges inflected, just before the posterior angles slightly. At the anterior edge of each side are in addition to the three angles strong bristle teeth at the side edges 7 are inclined forward directed, saw-like, strong bristle teeth. Under the 2nd tooth stands yet a smaller. The marginal groove is just visible between the point-like teeth. The strong brown bristles are short, more than 1/4 the length of the thoracic width. The punctuation is coarse, moderately deep, often confluent. Scutellum is small, slightly triangular, coarsely punctured, the transverse furrow glossy, wide at the rear edge.

Elytra oval, almost flat, 3 1/2 times as long as the thorax and 2 times as long as wide, broadest just behind the middle. Rounded shoulders, short, wide, rounded, apically truncate, suture slightly gaping. Punctate striae irregular, coarse, slightly weak towards the end, the intervals, therefore, very narrow, slightly convex. The front edge of the elytra is sharp; saw-like, rearwardly directed bristle teeth are on the shoulder and the front half of the side edge that are alternately tipped with a long and a short bristle. follow behind these little teeth, regularly and the close texture with a reception obliquely rearward bristle. The margin expansion in the middle is very broad. On the last interval finer vertical bristles are from the shoulder to the end where they are slightly longer. On each interval is a series of regularly arranged, fine upright tactile bristles, while the fine hair is rooted in the punctate striae.

The prothorax is, adjacent to the center, sparsely punctate; the mesothorax and the metathorax coarsely at the sides, as the first two abdominal segments and the 3rd on the sides.

The median groove of the metathorax is deep, closed at the rear narrow. The sex differences at the anal segment are slight, the ♂ has the trailing edge more distended than the ♀. Legs are short and strong. The wings are transparent with yellow midribs, only the radius is smoke colored. They are relatively short, 2.5 to 2.6 mm long and 0.9 mm wide.

Size: Length 3.1 to 3.7 mm, width 1-1.2 mm.

Locations: Costa Rica, Bananito, Hamburg Farm, Farm Iberia, Ramal Parismina. Panamá, Porte Bello (February 1911, EA Schwarz coll), Museum of Washington.

Types and cotypes in my collection. I have also given cotypes to the Hamburg Museum and to the British Museum. The specimens in the Washington Museum from Panamá are cotypes.

T. serratus is unique because of its peculiar bristle teeth and is also immediately recognized by the large flat head. (*T. 4-punctatus* Schauf. and *cubanus* Nev. i. litt. have similar shape of the head and thorax.) The 92 specimens from Costa Rica, I found all at the Atlantic side from sea level to 300 m high. Only in March and December were not yet found specimens. In August and October were the most; newly hatched specimens and were found in copula pairs also most common in these months. This species is not common, the biggest catch of a day was 16 specimens in October and only 8 in February. In 3 specimens that lack the dark markings of the elytra, it may not yet be fully colored. The beetle is mostly dependent on the withered leaves of banana (*Musa sapientum*), rarely on the Platanus (*Musa paradisiaca*) and at the Manila banana (*Musa textilis*). Furthermore, in palm leaves (*Acanthorhiza* sp. and *Elaeis melanococca*), on *Heliconia imbricata* dead leaves and other plants unknown to me. A specimen on dry bark and one from the bark of a dying cocoa tree.

Additional descriptive notes. Parameres relatively slender, apex strongly produced beyond insertion of large latero-apical seta (Fig. 8). Body length 2.88 - 3.12mm.

Specimens examined. 30, in USNM, from: **Costa Rica:** Limón, Reventazón, Hamburg Farm; **Panama:** Porto Bello; Barro Colorado Is.; **USA:** New York, intercepted on bananas from Panama. Thirteen of the specimens from Costa Rica are labelled by Nevermann as co-types; one Schwarz specimen from Panama is labelled as a co-type; the other five Schwarz specimens bear red paper triangles. Nevermann (1931) noted (see above) that the Schwarz specimens from Panama were all co-types. I have not seen Nevermann specimens from the other museums in which he deposited material.

***Telephanus bellus* Thomas, n.sp.**

Figure 2, 9

Diagnosis: This species is most similar to *T. serratus*, differing in its darker, more reddish coloration, shape of the elytral macula, broader pronotum, elytral setae of similar color and size, and shape of parameres.

Description. Holotype, male, deposited in SEMC, with following label data: "COSTA RICA: Puntarenas Corcovado National Park, Sirena Stn., Naranjas Trail, 5 m 82°4'48"N, 83°35'22"W 30 JUN 2000; Z.H. Falin CR1ABF00 054 ex: treefall"/[barcode] SM0240135 KUNHM-ENT" [dissected and genitalia mounted on point in dimethyl hydantoin formaldehyde with specimen].

Body. Length, 2.96mm. Color reddish testaceous, antennae, mouthparts, elytra, and legs paler; elytra with a quadrate black macula near middle (Fig. 2).

Head. As wide as long, measured across eyes; temple long (Fig. 2); eyes located anteriorly, about 0.28× length of head (Fig. 2); surface sculpture strongly reticulate basally and laterally with a pale, reclinate seta arising from the posterior edge of each puncture, most setae directed anteriorly, clypeus with large, shallow punctures but not reticulate. Antennae elongate, filiform, attaining about middle of elytra, scape elongate, 0.76× length of head, broader basally than anteriorly; ratios of antennomeres: 2.7:1.0:1.0:1.3:1.3:1.1:1.0:1.0:1.0:1.0:1.4. Several spine-like setae present at posterior edge of eye, extending anteriorly over base of eye.

Pronotum. Quadrate; broadest near midpoint, slightly narrowed basally, lateral margins with eight socketed denticles and associated long rigid spines, presenting a strongly serrate appearance; denticles extending from margin about 1× their apical diameter; surface sculpture strongly reticulate throughout, pubescence as on head.

Elytra. Elongate, somewhat ovate, 1.86× longer than wide, widest at about midpoint; apices separately rounded; elytra with punctate striae, each puncture with a fine, pale, reclinate seta arising at the anterior margin; intervals with a single row of suberect, pale setae; lateral margins moderately explanate, with pronounced denticles along about the basal third and alternating longer and shorter, socketed spines, angled posteriorly; apical two-thirds of margins armed with shorter, posteriorly directed spines; a row of long, erect, laterally directed spines present along entire length of first interval above marginal stria (as in Fig. 5).

Male genitalia. Parameres slender, mesal edge slightly sinuate; apex not produced beyond insertion of large latero-apical seta (Fig. 9).

Variation. The length of the single paratype is 2.88mm.

Paratype. 1, same data as holotype (INBI).

Etymology. The specific epithet is the Latin word for “beautiful.”

***Telephanus monstrosus* Thomas, n.sp.**

Figure 3, 10

Diagnosis. This is the most distinctive of the Mesoamerican *Telephanus* species, with strongly spinose pronotal margins, rounded elytral humeri, and absence of hind wings. The parameres differ from the other two species treated here in being relatively broad, the exterior face almost straight, and the mesal face sinuate.

Description. Holotype, male, deposited in FSCA, with following label data: “MEXICO: Chiapas Mpio. Huixtan San Cristobal de las Casas Airport 2350m 16°41'25"N 92°31'48"W 24.VII.2005 R. Anderson oak-pine forest litter” [dissected and genitalia mounted on point in dimethyl hydantoin formaldehyde with specimen].

Body. Length, 3.32mm. Color dark testaceous, antennal flagellomeres, mouthparts, tibiae and elytra paler, elytra immaculate (Fig. 3).

Head. 1.2× wider than long, measured across eyes; temple long (Fig. 3); eyes located anteriorly, about 0.32× length of head; surface sculpture strongly reticulate with a reclinate seta arising from the posterior edge of each puncture, most setae directed anteriorly. Antennae elongate, filiform, attaining about basal third of elytra, scape elongate, 0.8× length of head, broader basally than anteriorly; ratios of antennomeres: 3.3:1.0:1.2:1.3:1.2:1.2:1.2:1.2:1.1:1.5. Several spine-like setae are located at the posterior edge of the eye and extend anteriorly over the base of the eye.

Pronotum. Transverse, 1.3× wider than long; broadest near midpoint, slightly narrowed basally, lateral margins with eight socketed denticles and long rigid spines, anteriormost group of denticles distinctly produced and lobe-like (Fig. 3), all denticles extending from the margin 2-3× their apical diameter; surface sculpture strongly reticulate, pubescence as on head.

Elytra. Elongate, ovate, 1.6× longer than wide, widest near midpoint; humeral angles rounded; apices separately rounded; elytra with punctate striae, each puncture with fine pale seta arising at anterior margin; intervals with a single row of slightly thicker, suberect setae; lateral margins broadly explanate, with pronounced denticles along about the basal third and alternating longer and shorter, socketed spines, angled posteriorly; apical two-thirds of the margin armed with shorter, posteriorly directed spines; first interval above marginal stria not bearing a row of long erect spines. Hind wings absent.

Male genitalia. Parameres relatively broad, lateral face almost straight, and mesal face sinuate; apex not produced beyond insertion of large latero-apical seta (Fig. 10).

Variation. The paratypes range in length from 2.96mm to 3.64mm.

Paratypes. 15, as follows: 1, “MEXICO Chiapas Mpio: San Cristóbal Reserva Huitepec 25-VIII-94; B.

Gómez HR 15-7"/"ECOSC-E 24958" (CEET); 1, same data except HR 15-5 and no second label (CEET); 1, "MEXICO Chiapas Mpio: San Cristóbal Reserva Huitepec 27-V-94; B. Gómez; O. Gómez HR 11-10 Bosque de Encinos"/"ECOSUR 3683" (CEET); 1, same except 3684 (CEET); 6, "MEXICO Chiapas Mpio: San Cristóbal 3 Km E San Cristóbal 15-II-94; R.W. Jones Hojarasca 4m²", each specimen bears a second label reading "ECOSC-E" and one of the following numbers: 24816, 24827, 24828, 24829, 24954, 24955 (CEET, FSCA); 1, "MEXICO Chiapas Mpio: San Cristóbal Reserva Huitepec 24-I-95; R. Jones, B. Gómez HR 25-5" (FSCA); 1, "MEXICO Chiapas Mpio: San Cristóbal Reserva Huitepec 20-VI-95; B. Gómez M. Girón, A. Mendoza HR 38-6"/"ECOSC-E 24956" (CEET); 2, "MEXICO: Chiapas Mpio. Coapilla Ca. 10.5kn NE Coapilla, 1900m 17°09.916N, 93°08.337W"/"12.vii.2007, R. Anderson mixed liquidambar-magnolia-pine forest litter 2007-010" (CMNC, FSCA); 1, "MEXICO: Chiapas: Mpio. Coapilla Coapilla, 17°08'N, 93°10'W" 1600m, 26.VII.2005 R. Anderson oak forest litter MEX1A05-010"/[barcode] SM0711104 KUNHM-ENT"(SEMC).

Etymology. The specific epithet is the Latin word for "monstrous."

Discussion. This species is the first known flightless species of *Telephanus* described from a continental locality. Only three other flightless species are known, all from islands: *T. darlingtoni* Nevermann (1937) and *T. acrolophus* Thomas (1984), both from Jamaica; and *T. gomyi* Thomas (1992), from Reunion Island.

All three species treated here, having eight pronotal spines, which will lead to couplet 23 in the key to the Mesoamerican species by Nevermann (1931). The key is modified here to include the two new species. A fourth species, *T. glycerius* Nevermann also has eight lateral pronotal spines but based on Nevermann's description and his comparison of it with *T. hirsutus* Nevermann it is not especially close to this group of species.

23. Elytra yellow with dark longitudinal stripes on the lateral declivity; antennomere I red-yellow, remainder of antenna brown-yellow ***T. glycerius* Nevermann**
 — Elytra without longitudinal markings, immaculate or with transverse markings; antennal segments concolorous **23A**
- 23A. Hind wings absent; elytra immaculate..... ***T. monstrosus* Thomas, n.sp.**
 — Hind wings present; elytra with dark markings..... **23B**
- 23B. Elytra with black M-shaped mark; ground color yellowish brown ***T. serratus* Nevermann**
 — Elytra with broad, transverse black macula; ground color reddish brown.....
 ***T. bellus* Thomas, n.sp.**

Acknowledgments

I especially thank Natalia J. Vandenberg for the loan of the USNM Nevermann *Telephanus* collection, without which this paper would have been impossible. For the loan of other specimens, I thank Zack Falin, Jorge L. León-Cortés, and Robert Anderson. Andrew Cline and John Marris reviewed the manuscript and offered valuable suggestions for its improvement. John Heppner provided invaluable help with translation. This is Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Bureau of Entomology, Nematology, and Plant Pathology, Entomology Contribution No. 1195.

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Received August 3, 2011; Accepted August 17, 2011.

Subject Edited by F. Shockley.



Figure 1. *Telephanus serratus* Nevermann, habitus.



Figure 2. *Telephanus bellus* Thomas, n. sp., habitus.



Figure 3. *Telephanus monstrosus* Thomas, n. sp., habitus.

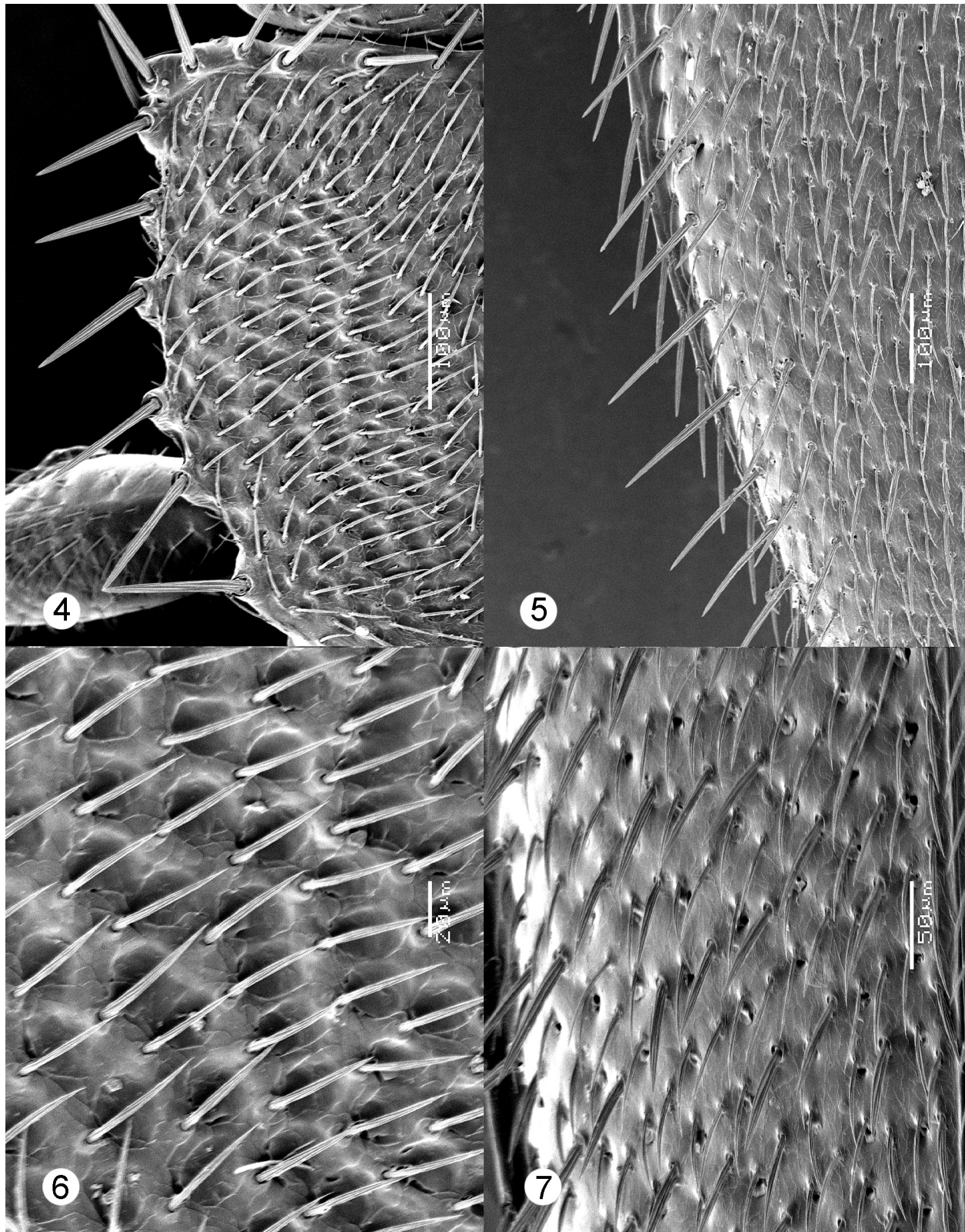


Figure 4-7. *Telephanus serratus*. 4) Lateral edge of pronotum. 5) Lateral edge of elytron. 6) Pronotal punctation. 7) Elytral pubescence.

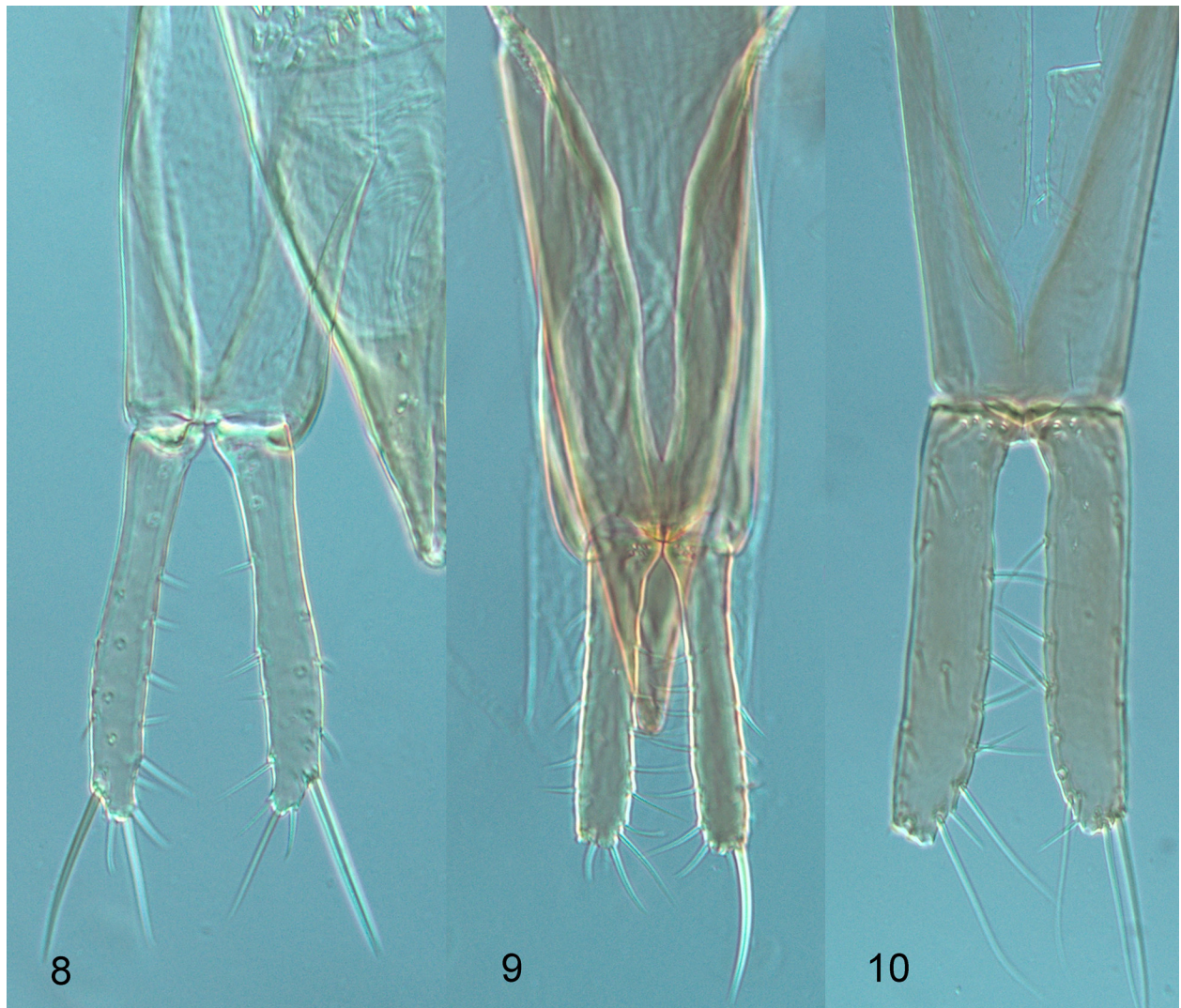


Figure 8-10. Parameres. **8)** *Telephanus serratus*. **9)** *Telephanus bellus*. **10)** *Telephanus monstrosus*.

