

Niborskiana: a new genus to accommodate *Tigava gracilis* Monte and *Tigava notabilis* Drake (Hemiptera: Heteroptera: Tingidae)

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Abstract

A new Neotropical genus, *Niborskiana* n. gen., is introduced to accommodate *Tigava gracilis* Monte and *T. notabilis* Drake, and redescrptions, illustrations and photographs of these two species are provided. A diagnosis for the genus *Tigava* and a key to the related Neotropical genera are presented.

Key words: *Niborskiana*, new genus, Neotropical Region, key to Neotropical genera

Introduction

Tigava Stål was at one point a highly polyphyletic genus comprised of species that now belong to several other genera, such as *Campylovingis* Drake & Bondar, *Gitava* Drake, *Idiostyla* Drake, *Tigavaria* Drake, and *Vatiga* Drake & Hambleton. In fact, the type species of all these genera were first described in *Tigava*. All are distributed in the Neotropical Region, except for *Gitava* from Africa and *Tigavaria* from Australia. They all share a very simple morphology, when compared with other lace bugs, with long slender scarcely ornate bodies. *Ceratotingis* Montemayor and *Macrotigis* Champion are two Neotropical genera that also are similar in appearance to *Tigava* (Montemayor 2008; Montemayor & Costa 2009), but unlike the other previously mentioned genera their species were never placed in *Tigava*.

Currently *Tigava* contains 14 species: *T. bombacis* Drake & Poor, *T. brevicollis* Monte, *T. ceibae* Drake & Poor, *T. convexicollis* Champion, *T. corumbiana* Drake, *T. ferruginea* Monte, *T. gracilis* Monte, *T. graminis* Drake & Poor, *T. hambletoni* Drake, *T. notabilis* Drake, *T. praecellans* Stål, *T. pulchella* Champion, *T. semota* Drake and *T. tingoana* Drake. From these species, *T. gracilis* and *T. notabilis* exhibit differences in the head, pronotum and hemelytra that set them apart from species of *Tigava*.

In this contribution, a new genus is introduced to accommodate *T. gracilis* and *T. notabilis*; redescrptions, illustrations and photographs of these two species are provided; and a key is given to help distinguish the related genera.

Material and methods

Material studied in this paper belongs to the American Museum of Natural History, New York, United States (AMNH) and the Smithsonian Institution, National Museum of Natural History, Washington D.C., United States (USNM). The specimens of *Tigava gracilis* were compared with photographs of a paratype deposited in the Museu Nacional, Rio de Janeiro. The symbol “?” is used to indicate that the measurement could not be taken because the structure was missing.

Taxonomy

Genus *Niborskiana* n. gen.

(Figs. 1, 2)

Type species: *Tigava notabilis* Drake 1922.

Diagnosis. Antennae same length or shorter than body; scape approximately twice the length of the head; postero-orbital plates present; head with three cephalic spines, occipital spines divergent, short, not reaching the posterior margin of eyes; hood scarcely developed; pronotum tricarinate; paranota carinate; margins of hemelytra strongly constricted posteriorly; discoidal area not reaching half the length of hemelytra; costal area carinate.

Description. Head (Figs. 3, 4, 7, 8) short, broad, with postero-orbital plates conspicuous and yellowish; with three cephalic spines, frontal spine short, blunt arising from a small tubercle on the head, occipital spines decumbent and divergent, not reaching posterior margin of eyes; eyes higher than long; bucculae broad. Rostrum short, reaching posterior margin of prosternum or anterior margin of mesosternum. Antennae same length or shorter than body length.

Pronotum (Figs. 3, 7) coarsely punctuate; hood scarcely developed; three pronotal carinae, low and not areolated, median carinae higher than lateral carinae; paranota slender and carinate, wider opposite callus; posterior process with punctures of similar size as those of the pronotal disc, the last puncture sometimes larger. Rostral laminae (Figs. 5, 9) areolate, mesosternal laminae slightly constricted, metasternal laminae closed behind.

Hemelytra (Figs. 6, 10) narrow, strongly constricted posteriorly, widened distally, extending considerably beyond the apex of abdomen, margins serrate and glabrous; costal area slender, carinate; subcostal area wider than costal area, sub-vertical, composed of two or three rows of areolae; discoidal area short, not reaching the middle of the hemelytra; sutural area wide, areolae large, becomes larger and more irregular posteriorly; hipocostal ridge with one row of areolae. Legs yellowish, long and slender.

Etymology. This genus is named after Ricardo Niborski, an outstanding human being and hematologist who, with utmost dedication towards his work, saves lives and gives happiness to so many families, among them mine.

Discussion. *Niborskiana* can be easily recognized by the presence of the postero-orbital plates and the very short and divergent occipital spines. *Tigava* and *Tigavaria* are similar in having long, thin bodies, with the antennae including the scape remarkably long, a poorly developed hood and slender hemelytra with the costal and subcostal area narrow. Moreover, *Tigava* and *Tigavaria* have occipital spines that surpass the anterior margin of eyes, the head is not produced into a small tubercle, there are no postero-orbital plates, the bucculae are narrower, their costal areas are areolate and the hemelytra are straight or smoothly constricted at the base of the distal third.

Niborskiana gracilis (Monte) n. comb.

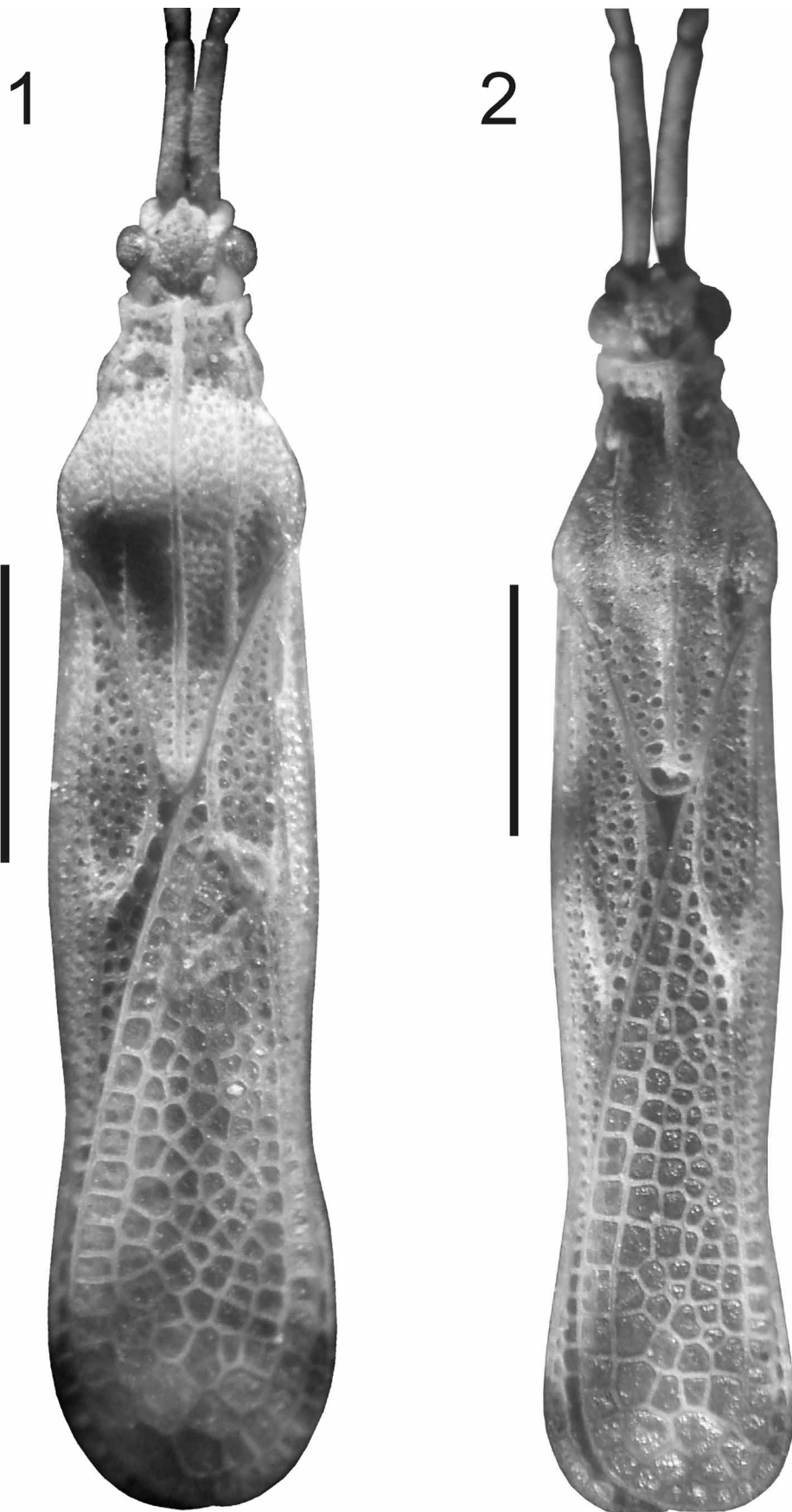
(Figs. 1, 3–6)

Tigava gracilis Monte, 1940a: 379; 1940b: 144; 1944: 159; Drake & Ruhoff, 1965: 388.

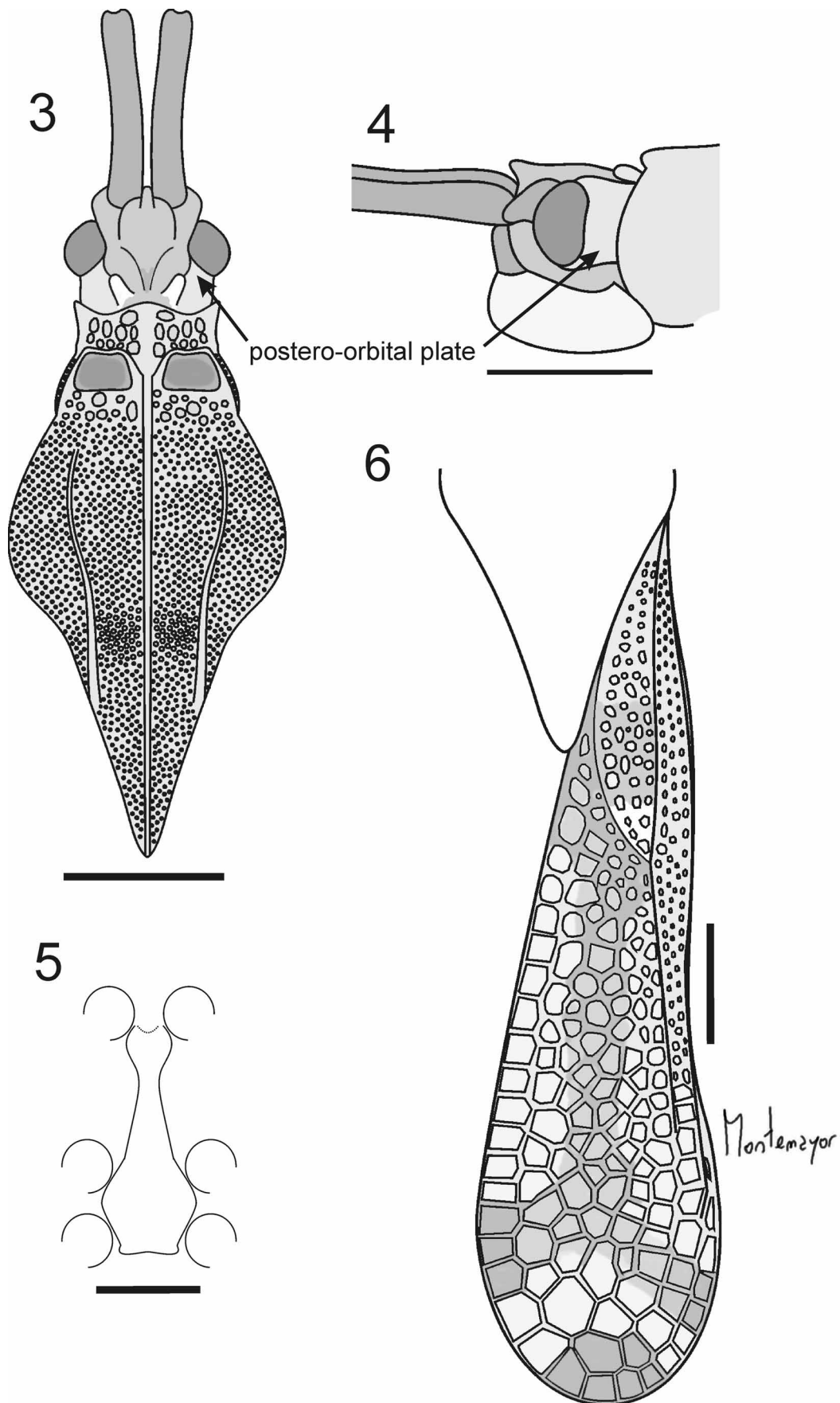
Diagnosis. End of posterior process acute (Fig. 3); punctures of posterior process of similar size as pronotal punctures; discoidal area between 4 and 5 times longer than wide; hemelytra approximately 3.5 times longer than wide.

Redescription (Fig. 1). General colour pale reddish brown. Head (Figs. 3, 4) reddish brown; cephalic spines yellowish, blunt; clypeus reddish brown; bucculae with scattered large areolae. Rostrum yellowish. Antennae shorter than the body; scape and pedicel brown, basiflagellomere yellowish, distiflagellomere black except base yellowish. Scape slightly more than twice the length of the head, glabrous; pedicel glabrous; basiflagellomere with scattered long setae; distiflagellomere wider in distal third, longer than scape, with abundant long semidecumbent setae, intermixed with short, scattered, semierect setae.

Pronotum (Fig. 3) yellowish brown, coarsely pitted; collar yellowish with two rows of areolae; callus dark brown, glabrous; lateral carinae low, lower on pronotal disc, subparallel posteriorly; punctures of posterior process of similar size as those of pronotal disc; posterior process with acute end. Thoracic sterna reddish brown; rostral laminae as in Figure 5.



FIGURES 1–2. Habitus. **1,** *Niborskiana gracilis* (Monte); **2,** *Niborskiana notabilis* (Drake). Scale bar = 1.0 mm.



FIGURES 3–6. *Niborskiana gracilis* (Monte) **n. comb.** 3, Head and pronotum, dorsal view; 4, Head, lateral view; 5, Rostral channel; 6, Hemelytra. Scale bar = 0.5 mm.

Hemelytra (Fig. 6) yellowish, with a mediolongitudinal dark area extending to the apex of the sutural area enclosing an area wherein the vein as well as the cells are paler; discoidal area dark brown except for apex, between 4 and 5.5 times longer than wide, four rows of areolae at maximum width.

Measurements. Females (N= 2). Body length 4.40–4.53; Scape: 0.58–0.64, pedicel: 0.16–0.16, basiflagellomere: 2.27–2.18, distiflagellomere: 0.64–0.61; Antennal proportions: 0.16–0.18: 0.04–0.04: 0.62–0.61: 0.17–0.17; Head length: 0.28–0.30, width: 0.35–0.35; Pronotal length: 1.79–1.79, width: 0.93–0.93; Hemelytra length: 3.53–3.54, discoidal area length: 1.28–1.41, width: 0.29–0.29.

Material examined. 2 ♀, C. J. Drake, *Tigava gracilis* det. Drake (USNM).

Distribution. Brazil.

Host plant. Fabaceae.

Comments. In the original description (Monte 1940a), only one cephalic spine is mentioned. But the material examined as well as the paratype whose photographs were studied have three cephalic spines, although the occipital spines are extremely short. The holotype of this species is not deposited in Monte's collection at the Museu Nacional (Luiz Antônio Alves Costa, personal communication), so it is probably lost.

Niborskiana notabilis (Drake) n. comb.

(Figs. 2, 7–10)

Tigava notabilis Drake, 1922: 364; 1930: 1; Monte, 1944: 159; Drake & Ruhoff, 1965: 389.

Diagnosis. End of posterior process blunt (Fig. 7); punctures of posterior process larger than pronotal punctures; discoidal area between 5.5 and 6 times longer than wide; hemelytra approximately 4 times longer than wide.

Redescription (Fig. 2). General colour yellowish brown. Head (Figs. 7, 8) ashy brown; cephalic spines yellow, blunt; clypeus dark brown; bucculae yellowish with several small areolae. Rostrum yellow except for the brown apex. Antennae same length as body; scape, pedicel and basiflagellomere reddish brown, distiflagellomere black except for yellowish base. Scape more than twice the length of the head (between 2.25 and 2.75), glabrous; pedicel glabrous; basiflagellomere with scattered, semierect setae; distiflagellomere filiform, approximately same length as scape, with abundant, long setae.

Pronotum (Fig. 7) reddish brown, coarsely pitted; collar yellowish with three rows of areolae; callus ashy red, glabrous; lateral carinae low, same height throughout length; punctures of posterior process becoming gradually larger posteriorly, except for the last one that is much larger than the rest; apex of posterior process blunt. Thoracic sterna reddish brown; rostral laminae as in Figure 9.

Hemelytra (Fig. 10) yellowish, with a mediolongitudinal dark area extending to the apex of the sutural area enclosing an area wherein the vein as well as the cells are paler; discoidal area dark brown except for distal apex, between 5.5 times and 6 times longer than wide, three rows of areolae at its maximum width.

Type material examined. Paratypes: 2 ♂, Brazil, Chapada, April, Acc N° 2966 (USNM).

Paratypes measurements. Body length: 4.90–5.10; Scape: 0.90–0.90, pedicel: 0.15–0.15, basiflagellomere: 2.86–2.95, distiflagellomere: 0.85–?; Antennal proportions: 0.16–?: 0.03–?: 0.62: 0.18–?; Head length: 0.40–0.40, width: 0.55–0.57; Pronotal length: 1.67–1.80, width: 0.87–0.92; Hemelytra length: 3.60–3.80, discoidal area length: 1.55–1.60, width: 0.25–0.27.

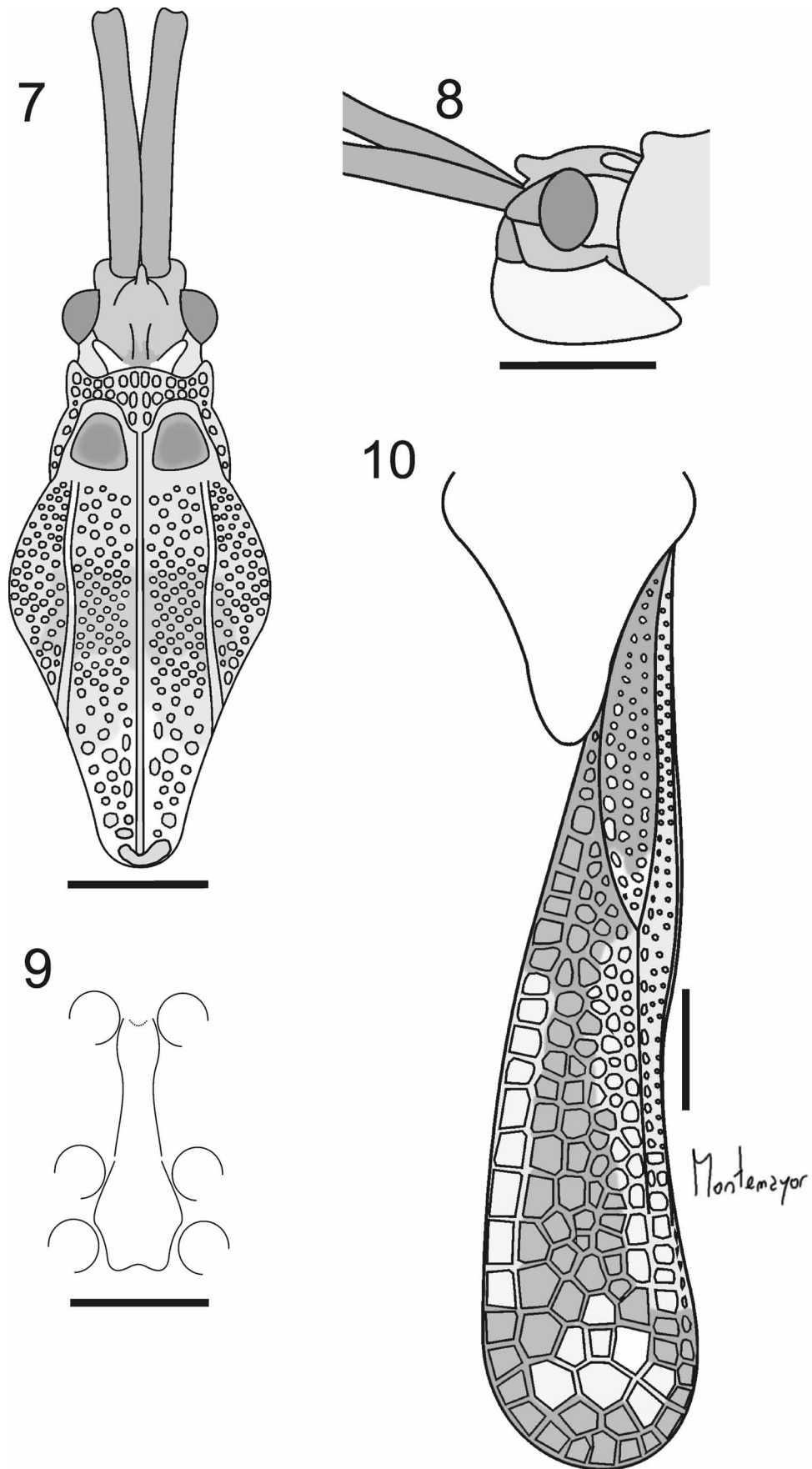
Other material examined. 2 ♀ 1 ♂, Brazil, Chapada, April (AMNH).

Measurements. Females (N= two) and male (N= one) respectively.: Body length: 5.20–5.10 4.90; Scape: 0.90–?–0.92, pedicel: 0.15–?–0.15, basiflagellomere: 1.42–?–1.47, distiflagellomere: 0.87–?–0.95; Antennal proportions: 0.27–?–0.26: 0.040–?–0.040: 0.42–?–0.42: 0.26–?–0.27; Head length: 0.45–0.42–0.42, width: 0.57–0.55–0.55; Pronotal length: 1.82–1.75–1.65, width: 0.95–0.90–0.87; Hemelytra length: 3.75–3.75–3.55, discoidal area length: 1.60–1.65–1.55, width: 0.25–0.25–0.27.

Distribution. Bolivia and Brazil.

Host plant. Unknown.

Comments. The length of the scape is quite variable among the different specimens but is always longer than in *N. gracilis*. In addition to the characters mentioned in the diagnosis, *N. notabilis* can be easily distinguished from *N. gracilis* by the longer and more slender body and by the scape which, although it is quite variable among the different specimens, is always longer. When Drake (1922) described this species he mentioned that “the very narrow



FIGURES 7–10. *Niborskiana notabilis* (Drake) **n. comb.** **7,** Head and pronotum, dorsal view; **8,** Head, lateral view; **9,** Rostral channel; **10,** Hemelytra. Scale bar = 0.5 mm.

carina-like paranota and costal area of the elytra, each without areolae, distinguish *T. notabilis* at once from any other known species in the genus". These characters, shared with *N. gracilis*, are actually some of the characters that define the new genus *Niborskiana*.

Tigava Stål

Diagnosis. Antennae approximately same length or longer than body; scape between two and four times the length of the head; three cephalic spines; occipital spines reaching or surpassing anterior margin of eyes, sub-parallel or convergent; hood scarcely developed or absent; pronotum tricarinate; paranota carinate or areolate; margins of hemelytra serrate and glabrous, straight or smoothly constricted at base of distal third; discoidal area not reaching half of hemelytra; costal area areolate and uniseriate; areolae of sutural area close to discoidal area; areolae on sutural and discoidal areas similar in size.

Key to Neotropical genera

- 1 Antennae remarkably longer than body length, distiflagellomere lanceolate and strongly swollen. 2
- Antennae approximately as long as or shorter than body length, distiflagellomere filiform 3
- 2 Head with three spines; lateral pronotal carinae developed along entire length. *Ceratotingis*
- Head with one spine; pronotum without lateral carinae or with only a short carina on posterior process *Macrotisingis*
- 3 Paranota wide, with anterior and most-inner areolae much larger than remaining areolae 4
- Paranota narrow, carinate or areolate, if areolate, anterior and most-inner areolae the same size as the remaining areolae 5
- 4 Head with three or four spines; mesosternal rostral laminae deeply constricted at mesosternum *Vatiga*
- Head with five spines; mesosternal rostral laminae parallel *Idiostyla*
- 5 Head with five spines *Campylotingis*
- Head with three spines 6
- 6 Occipital cephalic spines not reaching posterior margin of eyes, divergent; with postero-orbital plates; costal area carinate *Niborskiana* **n. gen.**
- Occipital cephalic spines reaching or surpassing anterior margin of eyes, sub-parallel or convergent; without postero-orbital plates; costal area areolate *Tigava*

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