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## Contribution towards the knowledge of *Psalidognathus* Gray, 1831 (Coleoptera, Cerambycidae, Prioninae)

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Contribution towards the knowledge of *Psalidognathus* Gray, 1831  
(Coleoptera, Cerambycidae, Prioninae)

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Contribution towards the knowledge of *Psalidognathus* Gray, 1831  
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**Abstract.** The species of the “*modestus*” group of the genus *Psalidognathus* Gray (Cerambycidae: Prioninae) (currently with four species and three subspecies), which are recognized mainly by the antennomeres without apical spines, are studied. *Psalidognathus thomsoni* Lameere, 1885 is revalidated as a species distinct from *P. modestus* Fries, 1833. *Psalidognathus erythrocerus reichei* Quentin and Villiers, 1983 and *P. erythrocerus pubescens* Quentin and Villiers, 1983 are considered as different species from *P. erythrocerus* Reiche, 1840. *Psalidognathus colombianus* Demelt, 1989 and *Psalidognathus modestus chocoensis* Salazar, 2005 are synonymized with *P. modestus*, **syn. nov.** *Psalidognathus rufescens*, although belonging to “*friendii*” group, is redescribed and some remarks are added. Species redescribed: *P. erythrocerus*; *P. modestus*; *P. reichei*; *P. rufescens*; *P. onorei* Quentin and Villiers, 1983; and *P. thomsoni*. *Psalidognathus cerberus* **sp. nov.** is described from Colombia and Ecuador. A provisional key is provided to males of species of “*modestus*” group.

**Keywords.** Key; Prionini; Revalidation; Synonymy; Taxonomy.

## Introduction

Gray (1831, plate 6) figured a species that he named *Psalidognathus friendii* (Coleoptera, Cerambycidae, Prioninae). In this work, there is no description of the species or genus. Article 12.2.7 (ICZN 1999) allows considering both the proposal of a new genus-group and new species-group names, as available based on indication from an illustration. Thus, the type species of *Psalidognathus* is *P. friendii* by monotypy.

Gray (1832) considered *Psalidognathus* as a subgenus of *Prionus* Geoffroy, 1762, and described it: “The antennae long, with spines at the apex of each joint; basal joint long, oblong; the second joint short, globose; third long as the fifth and sixth together; seventh to eleventh moderate, and grooved on the outer side. The labrum coriaceous, very small, rounded. The mandibles long, curved under, the exterior ridge rounded; the apex with a sharp edge interiorly, the base with three small teeth; the maxillary palpi as long as the head and thorax; the first joint as long as the third, and the second as long as the fourth; the latter has an enlarging, flattened, and rounded club; the head square, with a strong spine on each side, also a spine at the base of the mandibles; the thorax much broader than long, with three spines on each side; the scutellum triangular, rounded at the tips; the body long, broader at the base, narrowing towards the tip; the legs long; the anterior tibia flattened, grooved, and hairy beneath; the tarsi rather slender.”

After the original description of the genus *Psalidognathus* (tribe Prionini), Thomson (1859) revised it and included six species: *P. erythrocerus* Reiche, 1840; *P. modestus* Fries, 1833; *P. mygaloides* Thomson, 1859; *P. incas* Thomson, 1859; *P. sallei* Thomson, 1859; and *P. friendii* Gray, 1831, but omitted *P. superbus* Fries, 1833. *Psalidognathus sallei* is mentioned in catalogues (e.g. Monné 2006) as published in 1858. However, Thomson (1859) affirmed that it was published in March 1859. Some other volumes of the “*Annales de la Société Entomologique de France*” show the date of publication of each part, and it is possible to see that usually the last part of the volume was published in the first quarter of next year. This makes the information in Thomson (1877) on the date of publication of *P. sallei* reliable.

Thomson (1877) revised this genus again and in that paper, he included the response from Ståhl on a question on the types of *P. superbus* (translation): “You asked me if, in my opinion, *P. SUPERBUS* Fries is

identical to *P. FRIENDII* Gray. Having at my disposal only a male of *P. SUPERBUS* and a specimen of the same sex of *P. FRIENDII*, it seems difficult to judge the issue. But *P. SUPERBUS* is more strongly rough, and the anterior tibiae of a different form. The two species may therefore be distinct". This can explain his previous (1859) omission of *P. superbis*. In his second revision, Thomson (1877) included thirteen species and some subspecies: *P. friendii* (with the subspecies *P. f. testaceus* Thomson, 1877; *P. f. viridiobscurus* Thomson, 1877; *P. f. violaceus* Thomson, 1877; *P. f. subniger* Thomson, 1877; and *P. f. ater* Thomson, 1877); *P. sallei*; *P. superbis*; *P. boucardii* Thomson, 1874; *P. incas*; *P. modestus*; *P. mygaloides* (= female of *P. sallei* sensu Thomson, 1859); *P. deyrollei* Thomson, 1877; *P. wallisii* [sic] Taschenberg, 1870; *P. batesii* Thomson, 1877; *P. limbatus* Taschenberg, 1870; *P. castaneipennis* Thomson, 1877; and *P. erythrocerus*. According to Thomson (1877) the species that he described as *P. mygaloides* in 1859 is *P. modestus*, and consequently, the species that was described as *P. modestus* is *P. mygaloides*.

The third revision of *Psalidognathus* was made by Lameere (1910). According to this author, the genus encompassed the following species: *P. erythrocerus*; *P. modestus* (= *P. mygaloides* male; = *P. wallisii* male; = *P. limbatus*; = *P. deyrollei* male; = *P. batesii*; = *P. castaneipennis*); *P. thomsoni* Lameere, 1885 (= *P. modestus* sensu Thomson (1859); = *P. mygaloides* sensu Thomson (1877)); *P. friendii* [sic]; *P. sallei* (= *P. mygaloides* female); and *P. superbis* (= *P. limenius* Erichson, 1847; = *P. incas*; = *P. boucardii*; = *P. gloriosus* Thomson, 1880).

Finally, the most recent revision was made by Quentin and Villiers (1983), who included in the genus the following species and subspecies: *P. erythrocerus erythrocerus*; *P. erythrocerus reichei* Quentin and Villiers, 1983; *P. erythrocerus pubescens* Quentin and Villiers, 1983; *P. modestus* (= to *P. thomsoni* and the other synonymies pointed out by Lameere (1910), except *P. deyrollei*); *P. onorei* Quentin and Villiers, 1983; *P. friendii friendii* [sic] (= *P. deyrollei* male and female; *P. friendii testaceus*; *P. friendii violaceus*; *P. friendii viridiobscurus*; *P. friendii subniger*; *P. friendii ater* – nearly all the same with Lameere (1913)); *P. friendii* [sic] *sallei* (= *P. mygaloides* female); *P. superbis superbis* (= *P. incas*; and *P. boucardii* [sic]); *P. superbis gloriosus*; and *P. rufescens* Quentin and Villiers, 1983. Regarding *P. superbis gloriosus*, Quentin and Villiers wrote (translation): "Of this species [*P. superbis*], Lameere listed the following synonyms: *limenius* Erichson, 1847 and *incas* Thomson, 1859; he considered as varieties, *boucardii*, Thomson, 1874 and *gloriosus* Thomson 1880. Examination of the type series of the latter form has led us to consider it as special, although it could, by lack of precise geographical information, raise it to the rank of subspecies." However, actually they wrote in this part: "*Psalidognathus superbis* m. *gloriosus* Thomson, 1880 [*Nowelle combinaison*]". Evidently the use of "m" (for morpha) was a mistake. There is no doubt about the intention of the authors, because they wrote on the subspecies (translation): "This form differs from *superbis superbis* by its narrower stature..." In Monné (2006) the subspecies was given as a synonym of *P. superbis*, following Quentin and Villiers (1983): use of "m" (morpha). Quentin and Villiers (1983) also wrote on *P. friendii friendii* (translation): "In his publication, Lameere (1910, 1913, 1919) attributed to *friendii* [sic] the following synonyms: *deyrollei* Thomson, 1877 (only male); *testaceus* Thomson, 1877; *violaceus* Thoms., 1877; *viridiobscurus* Thomson, 1877; *subniger* Thomson, 1877; *ater* Thomson, 1877. Must be added to this list *deyrollei* Thomson, 1877 (female)." However, as can be seen in the table, Lameere (1910), besides Lameere (1913, 1919), affirmed that the male of *P. deyrollei* corresponds to *P. modestus*, and the female to *P. friendii*. Those authors considered the male of *P. limbatus* as synonym of *P. modestus*. However, as correctly recorded by Lameere (1910), *P. limbatus* was described based on a single female.

Despite these preceding works, there are still problems remaining (for example: identification of females; extreme variation in males and females; localization of some types), due to the lack of materials and insufficient investigation of the appropriate literature. Fortunately, we have been able to examine the fairly large number of specimens that have accumulated during the past three decades. In studying these new materials, along with the old ones, we can provide answers to some of these problems. New papers (Lackerbeck 1998, Komiya 2003, Jeniš 2010) have also been published recently and, while they contributed some new knowledge about the species of *Psalidognathus*, they also increased nomenclatural confusion by including many errors or inappropriate treatments.

In this paper we discuss present knowledge and correct inappropriate treatments given in previous papers.

Our objective is not to present a complete revision of the genus *Psalidognathus*, nor of the "*modestus*" species group. Although the number of specimens examined here is sufficient to make nomenclatural

**Table 1.** Summary of the four previous reviews on *Psalidognathus*. The species of “*friendii*” group are not object of present study (except *P. rufescens*).

	Thomson (1859)	Thomson (1877)	Lameere (1910)	Quentin and Villiers (1983)
<i>P. friendii</i> Gray, 1831	= <i>P. friendii</i>	= <i>P. friendii</i>	= <i>P. friendii</i>	= <i>P. f. friendii</i>
<i>P. modestus</i> Fries, 1833	= <i>P. modestus</i>	= <i>P. mygaloides</i> sensu Thomson (1859)	= <i>P. modestus</i>	= <i>P. modestus</i>
<i>P. superbus</i> Fries, 1833	omitted	= <i>P. superbus</i>	= <i>P. superbus</i>	= <i>P. s. superbus</i>
<i>P. erythrocerus</i> Reiche, 1840	= <i>P. erythrocerus</i>	= <i>P. erythrocerus</i>	= <i>P. erythrocerus</i>	= <i>P. e. erythrocerus</i>
<i>P. sallei</i> Thomson, 1859	= <i>P. sallei</i>	male = <i>P. sallei</i> ; female = <i>P. mygaloides</i>	= <i>P. sallei</i>	= <i>P. friendii sallei</i>
<i>P. mygaloides</i> Thomson, 1859	= <i>P. mygaloides</i>	= <i>P. modestus</i> sensu Thomson (1859)	male = <i>P. modestus</i> sensu Thomson (1859); female = <i>P. sallei</i>	male = <i>P. modestus</i> sensu Thomson (1859); female = <i>P. friendii sallei</i>
<i>P. incas</i> Thomson, 1859	= <i>P. incas</i>	= <i>P. incas</i>	= <i>P. superbus</i>	= <i>P. superbus superbus</i>
<i>P. friendii testaceus</i> Thomson, 1877	*	= <i>P. friendii testaceus</i>	= <i>P. friendii</i>	= <i>P. f. friendii</i>
<i>P. friendii viridiobscurus</i> Thomson, 1877	*	= <i>P. friendii viridiobscurus</i>	= <i>P. friendii</i>	= <i>P. f. friendii</i>
<i>P. friendii violaceus</i> Thomson, 1877	*	= <i>P. friendii violaceus</i>	= <i>P. friendii</i>	= <i>P. f. friendii</i>
<i>P. friendii subniger</i> Thomson, 1877	*	= <i>P. friendii subniger</i>	= <i>P. friendii</i>	= <i>P. f. friendii</i>
<i>P. friendii ater</i> Thomson, 1877	*	= <i>P. friendii ater</i>	= <i>P. friendii</i>	= <i>P. f. friendii</i>
<i>P. boucardii</i> Thomson, 1874	*	= <i>P. boucardii</i>	= <i>P. superbus</i>	= <i>P. superbus superbus</i>
<i>P. deyrollei</i> Thomson, 1877	*	= <i>P. deyrollei</i>	male = <i>P. modestus</i> ; female = <i>P. friendii</i>	male and female = <i>P. friendii friendii</i>
<i>P. wallisii</i> Taschenberg, 1870	*	= <i>P. wallisii</i>	male = <i>P. modestus</i>	= <i>P. modestus</i>
<i>P. limbatus</i> Taschenberg, 1870	*	= <i>P. limbatus</i>	= <i>P. modestus</i>	male = <i>P. modestus</i>
<i>P. batesii</i> Thomson, 1877	*	= <i>P. batesii</i>	= <i>P. modestus</i>	= <i>P. modestus</i>
<i>P. castaneipennis</i> Thomson, 1877	*	= <i>P. castaneipennis</i>	= <i>P. modestus</i>	= <i>P. modestus</i>
<i>P. limenius</i> Erichson, 1847	omitted	omitted	= <i>P. superbus</i>	= <i>P. superbus superbus</i>
<i>P. gloriosus</i> Thomson, 1880	*	*	= <i>P. superbus</i>	= <i>P. superbus m. gloriosus</i>
<i>P. thomsoni</i> Lameere, 1885	*	*	= <i>P. modestus</i> sensu Thomson (1859); = <i>P. mygaloides</i> sensu Thomson (1877)	= <i>P. modestus</i>
<i>P. erythrocerus reichei</i> Quentin and Villiers, 1983	*	*	*	= <i>P. e. reichei</i>
<i>P. erythrocerus pubescens</i> Quentin and Villiers, 1983	*	*	*	= <i>P. e. pubescens</i>
<i>P. onorei</i> Quentin and Villiers, 1983	*	*	*	= <i>P. onorei</i>
<i>P. rufescens</i> Quentin and Villiers, 1983	*	*	*	= <i>P. rufescens</i>

changes, additional specimens are required to resolve some doubts. These doubts mainly concern the females; in species of this genus it is not easy to conclusively determine correspondence between the genders. This is a common problem in the Prioninae, where females of different species, and sometimes even different genera, are frequently very similar in morphology. We do not propose a revision to the “*modestus*” species group because it is premature (mainly due problems with females), but we give a provisional key to males of the group. The key given by Quentin and Villiers (1983) used antennal color as an important character, but the increased material studied for this paper indicates that antennal color is highly variable, limiting the value of their key.

## Material and methods

Whenever it was possible we studied photographs of the types of the species involved in the study (see Acknowledgments). Those photos were compared with the specimens studied and with original descriptions and eventual redescriptions by early authors. Unfortunately, the types of *Psalidognathus modestus* were not found in the collection (Naturhistoriska Riksmuseet) where they were deposited.

Because numerous translations are included in the text we have preceded each with “(translation)” and placed the translated text in quotes to clarify where it begins and ends.

Some species listed in Table 1, following Quentin and Villiers (1983) (currently, the accepted species in *Psalidognathus*) are not objects of the present study. Those species belong to “*friendii*” group: *P. friendii friendii*; *P. friendii sallei*; *P. superbus* [cited as *P. superbus superbus*, following Quentin and Villiers (1983)]; *P. superbus* m. *gloriosus* (it has no nomenclatural status, because it is an infrasubspecific name). *Psalidognathus rufescens*, although belonging to “*friendii*” group, will be studied here.

The collection acronyms used in the text are as follows:

**DHPC** - Daniel Heffern Private Collection, Texas, USA

**IJPC** - Ivo Jeniš Private Collection, Náklo, Czech Republic

**ISNB** - Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium

**MNHN** - Muséum National d’Histoire Naturelle, Paris, France

**MZSP** - Museu de Zoologia, Universidade de São Paulo, São Paulo, Brazil

**NHRS** - Naturhistoriska Riksmuseet, Stockholm, Sweden

**SMNS** - Staatliches Museum für Naturkunde, Stuttgart, Germany

**UNAB** - Museo Entomológico, Facultad de Agronomía Universidad Nacional de Colombia Santafé de Bogotá, Colombia

**ZKCO** - Ziro Komiya Collection, Tokyo, Japan

## Results

### Provisional key to males of “*modestus*” group

1. Cephalic carinae not notably elevated throughout (sub-uniform height along the entire length) (Fig. 5, 8, 30) ..... **2**
- Cephalic carinae notably elevated, mainly apically (Fig. 11, 14, 23) ..... **4**
- 2(1). Protibiae not distinctly enlarged from base to apical third, forming distinct swelling between basal third and apical fifth (Fig. 27, 29). Colombia and Ecuador ..... ***P. cerberus* sp. nov.**
- Protibiae uniformly enlarged from base to apical third, and slightly narrowed from this point towards apex (Fig. 2, 8, 9) ..... **3**
- 3(2). Elytral color usually uniformly dark; cephalic carinae parallel throughout (Fig. 4, 5). Colombia, Ecuador, and Brazil (Amazonas) ..... ***P. thomsoni* Lameere, 1885**
- Elytral color lighter (brown-reddish); cephalic carinae divergent at apical third (Fig. 8). Colombia ..... ***P. erythrocerus* Reiche, 1840**
- 4(1). Distance between superior ocular lobes smaller than length of scape (Fig. 11, 12, 20, 22) ..... **5**

- Distance between superior ocular lobes, at least, equal to length of scape (Fig. 14, 15, 18) ..... 6
- 5(4). Protibiae with distinct swelling only at distal half (Fig. 11, 12). Colombia and Ecuador ..... ***P. onorei* Quentin & Villiers, 1983**
- Protibiae with distinct swelling from base to almost apex (Fig. 23). Costa Rica, Panama, Colombia, and Ecuador ..... ***P. modestus* Fries, 1833**
- 6(4). Head and pronotum distinctly pubescent; scape short, not sub-cylindrical, not reaching posterior ocular edge. Peru ..... ***P. pubescens* Quentin & Villiers, 1983**
- Head and pronotum not distinctly pubescent (on pronotum, more distinctly only laterally); scape elongated, sub-cylindrical, reaching or almost reaching posterior ocular edge. Colombia and Ecuador ..... ***P. reichei* Quentin and Villiers, 1983**

***Psalidognathus thomsoni* Lameere, 1885, revalidated**

(Fig. 1-7)

*Psalidognathus modestus*; Thomson 1859: 40 (male) (non Fries 1833); Lameere 1885a: 7 (larva).

*Psalidognathus mygaloides*; Thomson 1877: 257 (non Thomson 1859); Thomson 1878: 4 (types).

*Psalidognathus thomsoni* Lameere, 1885b: ix; Blackwelder 1946: 555 (checklist); Jeniš 2010: 20, 21, 86, 87.

*Psalidognathus (Psalidognathus) thomsoni*; Lameere 1910: 372; 1913: 64 (cat.); 1919: 120; Quentin and Villiers 1983: 444 (*syn.*; lectotype).

*Psalidognathus erythrocerus reichei*; Komiya 2003: fig. 18 (male).

**Redescription. Male** (Fig. 1-5). Integument dark-brown, almost black, with slightly violaceous reflection (mainly on basal half of elytra); antennomeres V-XI gradually lighter; apical extreme of maxillary and labial palpi and posterior edge of ventrites I-III lighter brown.

Dorsal surface of head (Fig. 2, 5) strongly rugose; pilosity slightly long, sparse. Cephalic carinae (Fig. 5) wide up to posterior edge of eyes; narrow from this point, not notably elevated throughout (sub-uniform height along the entire length); prolonged and parallel up to almost anterior margin of pronotum, with small and slightly elevated projection in proximities of apex (from this point the carinae decrease in height). Area between carinae longitudinally sulcate. Area behind eyes smoother than on dorsal surface. Distance between upper ocular lobes equal to 1.6 times the width of one lobe. Antennal tubercles slightly apart at base; basal two thirds coarsely, confluent punctate; apical third smooth. Clypeus finely, sparsely punctate; pilosity moderately long, sparse. Labrum smooth, strongly sloping down at apical half, distinctly narrowed at apex; pilosity long, moderately abundant. Head laterally, behind eyes, with two large tubercles (apex acute), punctate on dorsal surface, granulose on lateral and ventral surface. Genal apex not strongly elongate, with small spine. Hypostomal sclerite finely, abundantly punctate; pilosity moderately long, abundant. Mandibles (Fig. 2, 3, 5) slightly longer than head, coarsely, confluent punctate on basal third, punctures gradually finer and sparser towards apex (both on dorsal and ventral surface); mandibles asymmetric (Fig. 2); apices of both mandibles very broad; basal tooth of apex of left mandible not projected, forming almost a right angle between inner edge of apex and large and deep concavity before it; basal tooth of apex of right mandible acute and distinctly projected; inner margin of left mandible with two small, somewhat acute teeth (sometimes, the basal is smaller than other); inner margin of right mandible with concavity before apex not large and deep and a single, small, distinct tooth before it. Scape slightly enlarged towards apex; dorsal surface coarsely, abundantly, confluent punctate (mainly towards inner side); latero-outer face distinctly finer and sparser punctate than on dorsal face; ventral face transversely rugose. Antennomere III twice as long as scape. Antennomeres III-V slightly flattened dorso-ventrally (mainly antennomere III); inner apex rounded; outer apex projected, without spine.

Pronotum rugose, except on anterior and posterior areas, which are smooth or finely and sparsely punctate; pilosity moderately long, erect, abundant, barely noticeable in dorsal view; lateral margins with three large wide teeth; posterior angle projected, obtuse. Prosternal process with broad, very distinct keel from base. Scutellum with short, abundant hairs. Elytra rugose (rugosity coarser on basal half



and gradually finer towards apex); humerus with somewhat short, but very distinct spine; sutural apex with short spine (sometimes absent). Metasternum finely punctate; punctures very abundant laterally and close to the metacoxal cavities, clearly sparser on triangular area around metasternal suture. Ventrites I-III very finely, sparsely punctate; almost glabrous, except on lateral and basal area. Ventrites IV finely punctate (punctures more abundant than on I-III); pilosity sparse throughout. Ventrite V abundantly, finely punctate; pilosity abundant. Apical half of dorsal surface of profemora coarsely, moderately abundantly confluent punctate; dorsal surface of meso- and metafemora finely, sparsely punctate. Protibiae uniformly enlarged from base to apical third, and slightly narrowed from this point towards apex; ventral surface abundantly pilose. Apices of metatarsomeres I-III distinctly spinose.

**Female** (Fig. 6). Body elongate. Head, without mandibles, about as long as wide. Distance between upper ocular lobes about length of scape. Cephalic carinae as in males, but usually more distance between them. Antennae almost reach apical third of elytra; scape just surpasses posterior edge of eyes; antennomere III almost twice length of scape. Mandible as long as head. Apex of genae short, narrow and acute. Pronotum as in males. Elytral lateral margins almost parallel on basal half, convergent towards apex at apical half; apex rounded; sutural angle without spine; sculpture as in males. Fore tibiae not very narrow, distinctly enlarged near apex. Metatarsomere I longer than II; metatarsomere V about as long as I-III together.

**Variation.** Male: elytral color pattern from light brown (usually darker on base) to almost black; spine of elytral sutural angle from distinct to almost absent; lateral tubercles on head from small to large; central anterior third of pronotum from sculptured to almost smooth; central anterior third of pronotum from sculptured to almost smooth. In specimens from Ecuador (2 exs.), cephalic carinae are similar to others in dorsal view but slightly more developed in lateral view. Female: head, without mandibles, longer than wide; distance between upper ocular lobes equal to about 1.7 times length of scape; antennomere III as long as 1.5 times length of scape; elytral lateral margins sometimes more rounded from base to apex, but never strongly enlarged at middle, or sub-parallel from base to apical third.

**Dimensions in mm (male/female).** Total length (including mandibles), 57.0-65.5/51.0-56.0; length of prothorax, 7.0-8.0/7.0-8.0; width of prothorax between the apices of the anterior angles, 16.0-15.0/14.0-20.0; width of prothorax between the apices of the posterior angles, 12.0-13.8/11.0-14.0; humeral width, 19.0-23.0/19.0-23.0; elytral length, 32.0-42.5/32.0-35.0.

**Geographical distribution.** Described from Colombia (no specific locality). We add two more countries: Ecuador and Brazil (Amazonas).

**Material examined.** ECUADOR, *Imbabura*: Lita (1000 m), female, 05.II.1982 [no collector indicated] (ZKCO); 2 males, XII.2002, [no collector indicated] (ZKCO). Napo: Baeza, male, XI.2000, [no collector indicated] (ZKCO). COLOMBIA, female, I-II.1982, [no collector indicated] (ZKCO). *Boyaca*: Muzo, male [no date or collector indicated] (ISNB); female, 05.II.1976 [no collector indicated] (ZKCO). *Caquetá*: male, 16.VI.1975, [no collector indicated] (DHPC); male, XI.1980, [no collector indicated] (DHPC). BRASIL, *Amazonas*: male, I.1960, [no collector indicated] (ZKCO).

**Remarks.** Thomson (1877) stated that the species he named as *P. modestus* should receive the name of *P. mygaloides*, and that the species he named *P. mygaloides* should receive the name of *P. modestus*. Thomson (1877) explained that the female he originally included in *P. mygaloides* (Thomson, 1859) should be excluded, because it belonged to *P. sallei* Thomson, 1858. In other words, Thomson (1877) affirmed that the male included in his (1959) description of *P. mygaloides* actually belonged to *P. modestus*.

Lameere (1885b) proposed a new name for *P. mygaloides sensu* Thomson (1877) (translation): “The crossover of names that Mr. J. Thomson proposed between the two species seems to me likely to give rise to confusion in the future: it would be better, I think, give what he has described as the *modestus*, and that he would call *mygaloides* (Rev. Zool. 1877, p. 257), the name **Thomsoni**.” Indeed, the name proposed by Lameere (1885b) is valid not because the changes proposed by Thomson (1877) are confusing (and they really are), but because *P. modestus sensu* Thomson (1859) is a homonym of *P. modestus* Fries, 1835, and *P. mygaloides* Thomson, 1859 is a synonym of *P. modestus* Fries, 1835.

Thus, the bibliography recorded by Quentin and Villiers (1983) for *P. thomsoni* is correct:

“*P. thomsoni* Lameere, 1885

= *P. modestus* Thomson, 1859

= *P. mygaloides* Thomson, 1877 nec Thomson, 1859 (mâle)”.

Quentin and Villiers (1983) synonymized *P. thomsoni* with *P. modestus*, without explaining their rationale (translation): “Lameere listed for this very widespread species, the following synonyms: *mygaloides* Thomson, 1859 (male); *wallisi* Taschenberg, 1870; *limbatus* Taschenberg, 1870 (male); *deyrollei* Thomson, 1877; *castaneipennis* Thomson, 1877 and *batesi* [sic] Thomson, 1877. Of these, should be removed *deyrollei* male, that belongs to the group with spinous antenna, and be added *thomsoni* Lameere, 1885.”

*Psalidognathus thomsoni* differs from *P. modestus* by the shape of the cephalic carinae and by the antennomeres III-V slightly flattened dorso-ventrally. In *P. modestus* the cephalic carinae have a large tooth on the apex, and they are strongly divergent beyond the eyes, and the antennomeres III-V are not distinctly flattened dorso-ventrally. It differs from *P. onorei* Quentin and Villiers, 1983, mainly, by the protibiae uniformly enlarged from the base (Fig. 2-4). In *P. onorei* the protibiae are enlarged only around the middle (Fig. 8, 9).

Among the species that Quentin and Villiers (1983) placed in the group with antennomeres unarmed or unidentate at the apex, *P. thomsoni* most resembles *P. erythrocerus* Reiche, 1840, *P. reichei* Quentin and Villiers, 1983, and *P. pubescens* Quentin and Villiers, 1983. It differs from them by: color usually uniformly dark; cephalic carinae parallel throughout in dorsal view. However, in the latter three species, the elytral color is lighter (brown-reddish), and the cephalic carinae diverge at the apical third. It also differs from *P. reichei* and *P. pubescens* by the lack of a conical and projected tooth at the apex of the cephalic carinae. It differs from *P. erythrocerus* by its shorter antennae, not reaching the elytral apex, and by its shorter antennomere III, twice as long as scape. In *P. erythrocerus* the antennae reach the elytral apex, and antennomere III is more than twice the length of the scape.

Jeniš (2010) included figures of the males and females of *P. thomsoni*, but did not formally revalidate the species. This makes the nomenclatural act (revalidation) questionable. The two dark males (p. 20 and 86) and the female (p. 20 and 87) really are *P. thomsoni*. However, the male with lighter elytra (p. 20) is probably not this species: the scape is shorter and thicker; the elytra wider and more truncate at the apex; and the tarsi longer.

### ***Psalidognathus erythrocerus* Reiche, 1840**

(Fig. 8-10)

*Psalidognathus erythrocerus* Reiche, 1840: 358; White 1853: 8; Thomson 1859: 39; 1877: 260; Kirsch 1889: 53 (distr.); Blackwelder 1946: 555 (checklist); Jeniš 2010: 21 (male), 92.

*Psalidognathus erythrocerus erythrocerus*; Quentin and Villiers 1983: 442 (neotype); Monné and Giesbert 1994: 16 (checklist); Monné 1995: 58 (cat.); Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 88 (cat.).

*Psalidognathus (Psalidognathus) erythrocerus*; Lameere 1913: 64 (cat.); 1919: 120.

**Redescription. Male** (Fig. 8, 9). (Description based on photos of the neotype). Integument dark-brown, almost black; antennomere III dark-brown, gradually lighter to V, VI-XI becoming reddish-brown.

Dorsal surface of head strongly rugose. Cephalic carinae wide up to posterior edge of eyes; narrow from this point, slightly elevated throughout (sub-uniform height along entire length); divergent towards the apex, with small and slightly elevated projection at apex. Area between carinae slightly longitudinally sulcate. Distance between upper ocular lobes equal to about 1.7 times width of one lobe. Antennal tubercles separated at base; basal two thirds coarsely, confluent punctate; apical third smooth. Head, behind eyes, with two large lateral tubercles (apex narrow), punctate on dorsal surface. Genal apex not strongly elongate. Mandibles shorter than head, dorsally coarsely, confluent punctate; apex of both mandibles very broad. Scape slightly enlarged towards apex; dorsal surface coarsely, abundantly, confluent punctate. Antennomere III about 2.5 times length of scape. Inner apices of antennomeres III-V rounded; outer apices projected, without spine.

Pronotum rugose; lateral margins with two large wide teeth between anterior and posterior angles; posterior angle projected, somewhat rounded at apex. Elytra rugose (coarser on basal half and gradually finer towards apex); humeri with short, but very distinct spine; sutural apex projected. Apical half of dorsal surface of profemora coarsely scabrous. Protibiae uniformly enlarged from base to apical third, narrowed from this point to near apex, and then somewhat enlarged again; ventral surface abundantly pilose.

**Female** (Fig. 10). Body broad, color as in males. Head, without mandibles, slightly wider than long. Distance between upper ocular lobes slightly shorter than scape. Cephalic carinae as in males but more distant and less developed. Antennae reach about apical two fifths of elytra; scape clearly surpasses posterior edge of eye; antennomere III about 1.7 times length of scape. Elytral lateral margins divergent from base to middle, convergent from middle to apices; humeral angle with spine; sutural angle slightly projected but not spined; sculpture as in males. Fore tibiae slender and widened towards apices. Metatarsomere I as long as II-III together; metatarsomeres II and III moderately spinose at apex; metatarsomere V (without claws) slightly longer than I-III together.

**Variation.** Male: antennae sometimes not bicolored and black throughout. Female: elytra brown-reddish.

**Dimensions in mm (male/female).** Total length (including mandibles), 58.0/58.0; length of prothorax, 7.0-8.0/8.0; width of prothorax between the apices of the anterior angles, 14.0-15.0/15.0; width of prothorax between the apices of the posterior angles, 12.0/12.0; humeral width, 20.0/19.0; elytral length, 37.0-38.0/37.0.

**Geographical distribution.** Described and known only from Colombia.

**Material examined.** COLOMBIA, 1 male, 1 female, I-V.1980, [no collector indicated] (ZKCO). *Valle del Cauca*: Cali, male, V.1980, [no collector indicated] (ZKCO).

**Remarks.** Quentin and Villiers (1983: 442) discussed on the types of *P. erythrocerus* (translation): “The syntypes disappeared with part of Sédillot’s Collection, before to be deposited in the Museum of Paris”. Also according to Horn and Kahle (1935: 221) (translation): “Clerid, Thorictid and Cerambycid via Sédillot (Paris)”. However, Cambefort (2006: 279) noted (translation): “Most species outside Europe went to England. The following groups (Palearctic species) reached the Museum: cerambycids via Sédillot...”. Thus, if only the Palearctic species of Cerambycidae were deposited in the MNHN via Sédillot, it is not possible to affirm that the syntypes of *P. erythrocerus* (Neotropical) are lost. It is possible that the specimens of Cerambycidae from outside Europe were bought by someone else (not Sédillot). But it is also true that the syntypes could have been destroyed while in Sédillot’s Collection, because, according to Cambefort (2006: 291) (translation): “But that does not facilitate the maintenance of a body as important, also greatly neglected by its owner. Also various damages (degradation, depredation or theft), relatively severe, were recognized when Sédillot’s sons donated the collection to the Museum, on December 19, 1935”.

Quentin and Villiers (1983) did not redescribe *P. erythrocerus*, but provided some details in the key to the species (translation): “Antennae with antennomeres inermis or, at most, with a single tooth from III”; “Antennae narrow, bicolor, with antennomeres III-V not depressed”; “Antennae reaching the apex of elytra (male) or distinctly surpassing the middle (female). Cephalic carinae obliterate and finished by a mucro (Colombia).”

According to Reiche (1840), *P. erythrocerus* has the following features (translation): “Dark, mandibles projected, bent; palpi reddish; head grooved; antennae as long as body, scape rugose, dark; antennomeres III-IV smooth, black-reddish; remaining reddish, all inermis; prothorax transversal, rugose, laterally trispinous, anterior spine lobiform, anterior edge sinuous, lateral edges emarginated, posterior edge sub-square spinous at both sides: scutellum semirounded, rugose. Elytra as an inverted cone, granulose, rugose on base, humeri narrow, spinous towards apex. Ventrally black-reddish, legs of uniform color throughout; protibiae dilated, inside hirsute. Female unknown. – From Colombia. Sent by Dom. Lebas”. The neotype agrees very well with the original description. However, the original descrip-

tion does not completely rule out the possibility that the types belong to a different and closely-related species.

We tried to find the syntypes of *P. erythrocerus* in other collections, based on Cambefort's affirmation, but without success. Thus, we assume that the syntypes are really lost and that the designation of neotype (Fig. 8) by Quentin and Villiers (1983) is valid.

### ***Psalidognathus onorei* Quentin and Villiers, 1983**

(Fig. 11-13)

*Psalidognathus onorei* Quentin and Villiers, 1983: 444; Monné and Giesbert 1994: 16; Monné 1995: 59 (cat.); Komiya 2003: fig. 14 (male); Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 90 (cat.); Jeniš 2010: 20 (female of right side), 83 (?).

**Redescription. Male** (Fig. 11, 12). Integument brown; head and legs dark brown partly blackish; mandibles, maxillary and labial palpi blackish; elytra reddish brown; antennomere gradually becoming lighter towards apex.

Dorsal surface of head rugosely confluent punctate, glabrous; cephalic carinae sparsely punctate, in dorsal view, starting from inner edge of antennal tubercle, slightly convergent to posterior line of eyes, then divergent posteriad, acutely pointed upward at about posterior third of head and then suddenly ending; carinae, in lateral view, strongly elevated, triangular, with gentle anterior slope and steep posterior slope; in front view, looking like horns of a goat; apices open in V-form. Area between carinae longitudinally concave but not clearly sulcate. Area behind eyes smoother than vertex. Eyes not strongly bulging, slightly convex from lateral margin of head, about twice as wide as long in dorsal view; distance between upper ocular lobes about as wide as lobe. Antennal tubercles coarsely confluent punctate. Clypeus finely sparsely punctate; pilosity short and sparse. Labrum smooth but partly rugose, strongly lowered at apical half; pilosity short and sparse. Head with distinct lateral conical tubercles, roughly granulate on dorsal side and rather finely so on ventral and lateral sides. Genal apex not elongate, pointed apically. Hypostomal sclerite finely punctate; pilosity rather long and sparse. Jugular process rather short and small but acutely pointed apically.

Mandible about 1.1 times as long as head, moderately curved downward and inward, thick and broad at base, steeply narrowed at basal fourth and then gradually becoming flatter and thinner apicad; external side rounded and internal side vertically flat in basal half and steeply edged along internal margin in apical half; coarsely and confluent punctate on basal half, gradually becoming more finely and sparsely towards apices except laterally and internal side smooth and shiny; each mandible with two teeth (distinct pointed in right mandible and obtuse in left one), an obtuse one very close to the base and another one beyond middle.

Antennae about as long as body; apico-internal end of each antennomere not acutely angled in dorsal view but triangularly projected in dorso-lateral view on antennomeres V-X; scape attaining middle of head, slightly enlarged towards apex, with coarse and dense punctures, especially large and confluent on inner lateral surface; antennomere II punctate; III-VII punctate, rather densely at basal third, and gradually becoming sparser apicad; antennomere III twice as long as scape; antennomeres III-XI with longitudinal sulci, one placed ventrally on antennomeres III-XI, one running on dorso-internal side from apical fourth of antennomeres V-XI, one slender and irregularly running on dorsal side from antennomere VII-XI and last one running external side from apical half of antennomere VI-XI; margins of sulci edged; punctate parts of antennae sub-shiny, and sulcate parts dull throughout without punctures.

Pronotum rugose throughout, subglabrous but with sparse short hairs laterally; posterior and anterior margin well elevated and fringed with erect abundant hairs; lateral margins with three large wide teeth; anterior tooth distinctly projected forward beyond anterior margin of pronotum; posterior angle slightly projected and obtuse. Prosternal process convex at middle, with a keel extending from base. Scutellum semicircular, about twice as wide as long, with sparse short hairs, central part convex and densely punctate, surrounded with less punctate, dark colored area. Elytra somewhat shiny, deeply, densely and confluent punctate at basal fifth; punctures gradually becoming finer from base to apices and from apical third to apices becoming irregular and partly interspersed with granules; with short

acute spine on humeri; sutural apex shortly steeply angled but without spine. Metasternum finely punctate. Ventrites I-IV glabrous and very finely punctate. Ventrite V finely punctate and pilose, with hairs short and sparse basally and very long and thick apically. Profemora densely and coarsely punctate-granulate on dorsal side; ventral side of pro-femora, meso- and metafemora finely and sparsely punctate. Protibiae gradually enlarged, forming distinct swelling between basal third and apical fifth, suddenly narrowed and constricted at about apical fifth and then enlarged again apicad; very sparsely punctate; thickly pilose on the swelling and pilosity gradually becoming sparser both basad and apicad. Apices of metatarsomeres I-III distinctly spinose.

**Female** (Fig. 13). Body broad. Distance between upper ocular lobes about 0.9 times length of scape. Cephalic carinae as in males, but with more distance between them. Antennae almost reach the apical fourth of the elytra; scape just surpasses the posterior edge of eyes; antennomere III almost twice the length of scape. Mandibles shorter than head. Pronotum as in males, but laterally more expanded. Elytral lateral margins slightly divergent from base to middle, strongly convergent from middle to apex; apex rounded; sutural angle without spine; sculpture as in males. Fore tibiae not expanded on inner margin of apical half, distinctly enlarged near apex. Metatarsomere I slightly longer than II-III together; metatarsomeres II and III distinctly spinose at apices; metatarsomere V (without claws) shorter than I-III together.

**Dimensions in mm (male).** Total length (including mandibles), 75.0-79.0; length of prothorax, 8.0-9.0; width of prothorax between the apices of the anterior angles, 19.0-20.0; width of prothorax between the apices of the posterior angles, 14.0-16.0; humeral width, 22.0-24.0; elytral length, 41.0-45.0.

**Geographical distribution.** Described and known only from Ecuador (San Domingo de los Colorados). We add Colombia as new country record.

**Material examined.** ECUADOR, B&, VI.1982, Marachal col. (ZKCO). COLOMBIA, Choco: B&, I.2003, local collector (ZKCO).

**Remarks.** In their key to the species of *Psalidognathus*, Quentin and Villiers (1983) wrote in couplet 2 (translation):

“Antennae narrowed, bicolor, with articles III-V not depressed.....3  
Antennae extended, totally dark, with articles III-V from flattened to depressed...5”

In their description of *P. onorei*, Quentin and Villiers (1983) did not record the antennal color. However, the holotype male (Fig. 11) and the paratype female (allotype) deposited at MNHN, show distinctly bicolored antennae. In the holotype, the scape is dark-brown (blackish in some areas), antennomeres III-VI gradually becoming lighter in color, and VII-XI uniformly light. In the female allotype the antennae are uniformly darker colored from scape to antennomere VII, and VIII-XI similarly light colored, but darker than the same parts in males. In Quentin and Villiers (1983) key, *P. onorei* keys out under 5 (antennae totally dark), and therefore cannot be identified using the key.

We examined a female that we believe belongs to this species, although the posterior angles of prothorax are distinctly less acute, and the elytra are narrower towards the apex than shown in Fig. 13, which was used for this description.

### ***Psalidognathus reichei* Quentin and Villiers, 1983**

(Fig. 14-17)

*Psalidognathus erythrocerus reichei* Quentin and Villiers, 1983: 442; Monné and Giesbert 1994: 16 (checklist); Monné 1995: 58 (cat.); Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 89 (cat.).

*Psalidognathus (Psalidognathus) erythrocerus*; Lameere 1910: 371.

*Psalidognathus pubescens*; Jeniš 2010: 21 (male and females), 94 (male), 95 (female).

*Psalidognathus reichei* subsp.?: Komiya 2003: fig. 19 (male).

**Redescription. Male** (Fig. 14, 15). Integument brown; head dorsally blackish, and ventrally brownish; mandibles blackish; legs dark brown partly blackish; elytra dark brown on base, gradually lighter towards apex; scape, pedicel and almost entire antennomere III blackish; apex of antennomere III and entire antennomere IV brown; antennomeres V-XI distinctly lighter, mainly after VIII.

Dorsal surface of head coarsely rugosely confluent punctate between cephalic carinae, punctures finer laterally and between apices of cephalic carinae and prothorax; area between cephalic carinae with very short sparse hairs; area between cephalic carinae and prothorax, and area between cephalic carinae and lateral conical tubercles with short, abundant hairs (including external lateral faces of cephalic carinae and on conical tubercles); cephalic carinae, in dorsal view, start at inner edge of antennal tubercle, convergent to posterior line of eyes, then divergent posteriad, acutely pointed upward at about posterior half of head and then suddenly ending; carinae, in lateral view, strongly elevated, triangular, with gentle anterior slope and steep posterior slope; in front view, looking like horns of a goat and apices open in V-form. Area between carinae slightly concave before the triangular apices, and distinctly longitudinally sulcate between triangular apices. Eyes not strongly bulging, convex from lateral margin of head; greatest width about 0.4 times the length; distance between upper ocular lobes about 2.6 times width of one lobe. Antennal tubercles moderately finely punctate (partially confluent) on basal half, becoming almost impunctate towards apex. Clypeus finely sparsely punctate; pilosity very short and sparse. Labrum almost vertical, finely, very sparsely punctate; pilosity transverse on basal third and central apex. Head with distinct lateral conical tubercles. Genal apex not elongate, pointed apically. Hypostomal sclerite moderately finely punctate; pilosity rather long and not dense.

Mandible about 1.6 times as long as head, moderately curved downward and inward, thick and broad at base, gradually becoming flatter and thinner apicad; external side rounded and internal side vertically flat in basal half and steeply edged along internal margin in apical half; coarsely and confluent punctate on dorsal basal half, gradually becoming more finely and sparsely punctate towards apices except on edges, which are smooth and shiny; each mandible with one tooth, distinct pointed in right mandible and obtuse in left mandible.

Antennae do not reach elytral apex; apico-internal end of antennomeres IV-X triangular; scape does not reach base of lateral conical tubercle on head, gradually enlarged towards apex (mainly at apical fourth), coarsely, densely punctate dorsally, and transversely striate ventrally; antennomeres III-VI finely, sparsely punctate; antennomere III twice as long as scape.

Pronotum rugose throughout, covered with short, sparse hairs on central disc, hairs longer and distinctly more abundant laterally; posterior and anterior margin well elevated and fringed with erect and abundant hairs; lateral margins with two large, widely acute teeth; anterior angle distinctly projected forward beyond anterior margin of pronotum, acute at apex; posterior angle distinctly projected and rounded at apex. Prosternal process convex at middle, with a keel extending from base. Scutellum semicircular, about twice as wide as long, with sparse short hairs. Elytra somewhat shiny, deeply, densely and confluent punctate on basal fifth; punctures gradually becoming finer from base to apex; with short and acute spines on humeri; sutural angle distinctly projected. Metasternum finely punctate. Ventrites I-IV very finely punctate, mainly centrally, with short, sparse hairs centrally, distinctly more abundant laterally. Ventrite V finely punctate, covered with long, abundant pilosity that is shorter and sparser on basal part, longer laterally and apically. Profemora densely and coarsely punctate-granulate on dorsal side; ventral side of pro-femora, meso- and metafemora finely and sparsely punctate. Protibiae gradually enlarged; depression of ventral surface extending from almost base to apical sixth, densely, abundantly pilose. Apices of metatarsomeres I-III distinctly spinose.

**Female** (Fig. 16, 17). Body broad. Mandibles about as long as head. Distance between upper ocular lobes about 1.3 times length of scape. Cephalic carinae as in males, but more distance between them, and with the apices less pronounced. Antennae reach apical third of elytra; scape just surpasses posterior edge of eyes; antennomere III about 1.6 times as long as scape. Pronotum as in males, but laterally more expanded. Lateral elytral margins slightly divergent from base to middle; apex rounded with central emargination; sutural angle without spine; sculpture as in males. Apical half of fore tibiae not expanded on inner margin.

**Variation.** Males: posterior angles of prothorax from rounded to acute at apex; profemora punctate-striate on dorsal side.

**Dimensions in mm (male/female).** Total length (including mandibles), 53.0-89.0/52.0-63.0; length of prothorax, 5.0-10.0/6.0-8.0; width of prothorax between the apices of the anterior angles, 11.0-18.0/15.0-17.0; width of prothorax between the apices of the posterior angles, 9.0-16.0/12.0-13.0; humeral width, 16.0-23.0/17.10-20.0; elytral length, 33.0-45.0/33.0-36.0.

**Geographical distribution.** Ecuador and Peru (Quentin and Villiers, 1983).

**Material examined.** ECUADOR, *Chimborazo*: Riobamba, 2 males, 1921, E. Feyer col. (MZSP). *Tungurahua*: Route Baños-Viscaya (2500 m), 2 males, V.2002 [no collector indicated] (ZKCO); female, VI.2002, [no collector indicated] (ZKCO); (2000), male, XII.2003, [no collector indicated] (ZKCO); Route Viscaya-Tungurahua (2300 m), male, XII.1991, [no collector indicated] (ZKCO); (2000), female, VII.2003, [no collector indicated] (ZKCO).

**Remarks.** *Psalidognathus erythrocerus sensu* Lameere (1910) does not correspond to *P. erythrocerus erythrocerus sensu* Quentin and Villiers (1983), but it does to *P. erythrocerus reichei* Quentin and Villiers (1983).

The redescription of *P. erythrocerus* Reiche, 1840 in Lameere (1910) provides some details that support this (translation): “This is the most primitive species by the large width of the space between the eyes above; the cephalic carina bordering the eye ends on the occiput by a strong conical tubercle, but less distinct than in *P. modestus*, the two tubercles are widely separated.” Besides, the specimens deposited at ISNB (Fig. 15, 16), identified by Lameere as *P. erythrocerus*, are distinctly different from the neotype of *P. erythrocerus erythrocerus* designated by Quentin and Villiers (1983).

The description of *P. erythrocerus* in Quentin and Villiers (1983) discusses the cephalic carinae (translation): “Reiche’s description does not mention anything on the conical tubercles on the head, but said “head canaliculated.” The examination of large series of that species shows that in effect only the specimens from Colombia have the cephalic carinae slightly marked, but separated by a depression, and ending with a simple mucro. Contrariwise, the specimens from Ecuador and Peru, the most common in the collections, have on the head strong cephalic carinae ending with a strong conical tubercle; and they constitute two subspecies described below.”

Unfortunately, as seen above, according to Quentin and Villiers (1983) the syntypes of *P. erythrocerus* are lost. However, it is probable that the interpretation of *P. erythrocerus* in Lameere (1910) is really a misidentification and that the species described by Reiche (1840) is best represented by the neotype (Fig. 8).

Curiously, Quentin and Villiers (1983) did not comment on the redescription by Lameere (1910) who affirmed, mistakenly, that the species was from Peru. Indeed, Reiche (1840) described the species from Colombia: “Hab. Columbia. Dom. Lebas invenit”. Evidently, *P. erythrocerus* also can occur in Peru, but the description by Reiche (1840) (“Capite canaliculato”) suggests that the interpretation by Quentin and Villiers (1983) is more likely. However, the limits of what we know now as Colombia are very different from what they were at the time in which the specimen was described (and it is not known when the specimen was actually collected). According to Cardona-Duque et al. (2010) (translation): “Between 1816 and 1819 the Spanish reconquest happens and apparently from 1819 always encompassed the territories of Panama and Colombia, having different names: Colombia (between 1819 and 1830), Republic of New Granada (between 1830 and 1858), Granadina Confederation (between 1858 and 1861), United States of the New Granada (between 1861 and 1863), United States of Colombia (between 1863 and 1886), Republic of Colombia (between 1866 and 1903), and finally became independent from Panama in 1903 (Montoya-Guzmán pers. comm.). Palacios & Safford (2002) affirmed that Venezuela became independent in 1830, and then Venezuela was not part of the territory, at least, since 1830”.

The main differences between *P. reichei* and *P. erythrocerus*, besides those mentioned by Quentin and Villiers (1983), are: distance between upper ocular lobes in males equals to approximately the length of the scape; distance between upper ocular lobes in females smaller than 1.5 times the length of the scape; cephalic carinae in males very distant from each other between the eyes, strongly divergent towards the apex; anterior tibiae distinctly narrower. In *P. erythrocerus* the distance between upper ocular lobes in males is equal to half the length of the scape, and in females equals about 0.7 times the length of the

scape; the cephalic carinae in males are close to each other between the eyes and slightly divergent at apex; and the anterior tibiae are distinctly wider.

The study of specimens of other species of *Psalidognathus* shows that this marked difference in the shape and disposition of the cephalic carinae, and of the distance between upper ocular lobes, is not likely to represent intraspecific variation. Moreover, it is difficult to understand why Quentin and Villiers (1983) chose to consider *P. reichei* Quentin and Villiers, 1983 as subspecies of *P. erythrocerus*. We consider *P. reichei* as a species distinct from *P. erythrocerus*, based on the clear structural differences, absence of intermediate specimens, and an assessment of the intraspecific variability documented in other species of the genus.

Although Quentin and Villiers (1983) did not comment on the pronotum in their description of *P. erythrocerus reichei*, they affirmed in the key (translation): "Head and pronotum glabrous." However, the study of photos of the types shows that there is, at least laterally, very evident pubescence. Such pubescence on the head and pronotum, though not so distinct, was also confirmed on the specimens at the MZSP.

Jeniš (2010: 20, 21, 90, 91) considered *P. reichei* and *P. erythrocerus* as distinct species, but this was a questionable nomenclatural act. Besides, the specimens figured (p. 90, 91) do not agree with the original description or photos of the holotype (in color, antennal length, or shape of antennomere III). The male (p. 90), probably corresponds to a variant of *P. modestus*; the female (p. 91) corresponds to *P. onorei*.

### ***Psalidognathus pubescens* Quentin and Villiers, 1983**

(Fig. 18, 19)

*Psalidognathus erythrocerus pubescens* Quentin and Villiers, 1983: 443; Monné and Giesbert 1994: 16 (checklist); Monné 1995: 58 (cat.); Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 88 (cat.).

**Remarks.** *Psalidognathus pubescens* (Fig. 18, 19) is also a species distinct from *P. erythrocerus*. The original description, associated with the type's photographs, suggests that the species is much more similar to *P. reichei* than it is to *P. erythrocerus*. According to Quentin and Villiers (1983) the males differ from those of *P. reichei*: head and pronotum more pubescent; teeth of lateral margins of prothorax short and obtuse; elytra very weakly punctate towards apex; the females differ in that antennomere III is 1.5 times the length of scape. In *P. reichei* males, the head and pronotum are distinctly less pubescent, the teeth of the lateral margins of the prothorax are more acute, and the elytral punctation is coarser and more distinct on apical half; in females antennomere III is more than 1.5 times the length of scape. Other characters that differentiate males of the two species, which were not mentioned by Quentin and Villiers (1983), are the length and the shape of the scape and of antennomere III, and the shape of the cephalic carinae. The photographs of the types show that in males of *P. pubescens* (Fig. 18) the scape is shorter than in males of *P. reichei* (Fig. 14), and antennomere III is thicker. Likewise, in *P. pubescens* the cephalic carinae are closer to each other, mainly at the apex, than they are in *P. reichei*. It is important to note that, despite what Quentin and Villiers (1983) affirmed regarding the shape of the teeth of the lateral margins of the prothorax (short and obtuse), one of the male paratypes has the teeth as sharp as those in *P. reichei*.

Jeniš (2010: 21, 94, 95) figured *P. pubescens* as species distinct from *P. erythrocerus*, without formalization. However, the figured male (p. 21, 94) does not agree with the photographs of the holotype and male paratypes. The male figured by Jeniš (2010) shows: scape and antennomere III longer and finer; sculpture on apical half of the elytra distinctly weaker than on base; protibiae finer and longer. Likewise, the scape in the females figured (p. 21, 95) is longer and finer than in the female paratypes. Thus, we believe that none of the three specimens figured in Jeniš (2010) under this name correspond to *P. pubescens*: they are *P. reichei*.

**Geographical distribution.** Peru (Quentin and Villiers, 1983).



***Psalidognathus modestus* Fries, 1833**

(Fig. 20-24)

*Psalidognathus modestus* Fries, 1833: 327; White 1853: 8; Pascoe 1866: 295 (distr.); Lacordaire 1868: 41 (nota); Gemminger and Harold 1872: 2754 (cat.); Thomson 1877: 256; Bates 1879: 3 (distr.); 1884: 226 (distr.; *syn.*); Pittier and Biolley 1895: 27 (*error*); Tristán 1897: 10 (distr.); Brèthes 1920: 45 (distr.); Blackwelder 1946: 555 (checklist); Quentin and Villiers 1983: 443; Chemsak et al. 1992: 22 (checklist); Monné and Giesbert 1994: 16 (checklist); Monné 1995: 59 (cat.); Martínez 2000: 85 (checklist); Komiya 2003: figs. 10, 11 (male, female); Salazar 2005: 245; Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 89 (cat.); Swift et al. 2010: 9 (checklist); Jeniš 2010: 21, 84, 85 (male, female).

*Psalidognathus (Prionacalus) modestus*; White 1845: 111.

*Psalidognathus (Psalidognathus) modestus*; Lameere 1910: 372 (revision); 1913: 64 (cat.); 1919: 120; Duffy 1960: 69.

*Psalidognathus mygaloides* Thomson, 1859: 41; Thomson 1877: 256 (*syn.*); Lacordaire 1868: 41 (nota); Bates 1884: 226; Quentin and Villiers 1983: 443 (lectotype).

*Psalidognathus wallisi* Taschenberg, 1870: 191; Bates 1884: 226 (*syn.*).

*Psalidognathus wallisii*; Thomson 1877: 257 (distr.).

*Psalidognathus limbatus* Taschenberg, 1870: 192; Gemminger and Harold 1872: 2754 (cat.); Thomson 1877: 259; Lameere 1910: 372 (*syn.*).

*Psalidognathus batesii* Thomson, 1877: 257; Thomson 1878: 3 (types);

*Psalidognathus batesi*; Lameere 1883: 2 (cat.); Bates 1884: 226 (*syn.*); Quentin and Villiers 1983: 443 (lectotype).

*Psalidognathus castaneipennis* Thomson, 1877: 260 (*nomen nudum*); Lameere 1910: 372 (*syn.*).

*Psalidognathus (Psalidognathus) colombianus* Demelt, 1989: 243. **Syn. nov.**

*Psalidognathus colombianus*; Monné and Giesbert 1994: 16 (cat.); Monné 1995: 58 (cat.); Komiya 2003: figs. 12, 13 (male, female); Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 88 (cat.); Jeniš 2010: 20 (male, females), 88 (male), 89 (female).

*Psalidognathus reichei*; Jeniš 2010: 20, 90 (male), 21, 91 (female) (?).

*Psalidognathus* sp.; Komiya 2003: fig. 120 (male).

*Psalidognathus modestus choacoensis* Salazar, 2005: 246, fig. 1. **Syn. nov.**

**Redescription. Male** (Fig. 20, 22-24). Integument dark-brown, dorsally almost black; ventrites reddish-brown, except on apical and lateral portions (mainly on IV and V).

Dorsal surface of head (Fig. 23) strongly rugose; pilosity very short and sparse. Cephalic carinae (Fig. 23), in dorsal view, starting from inner edges of antennal tubercles, convergent to posterior line of eyes, then divergent posteriad, acutely pointed upward at about posterior half of head and then suddenly ending; carinae, in lateral view, strongly elevated, triangular, with gentle anterior slope and steep posterior slope; in front view, looking like horns of a goat and apices open in V-form. Area between carinae longitudinally sulcate. Area behind eyes distinctly smoother than on dorsal surface, with small, moderately abundant asperities, gradually more abundant towards base of head. Distance between upper ocular lobes twice width of one lobe. Antennal tubercles strongly separated at base; basal two thirds coarsely, confluent punctate; apical third smooth. Clypeus laterally moderately coarsely punctate, centrally smoother; pilosity short, very sparse. Labrum punctate on centro-basal area, smooth on the remaining surface, strongly sloping down at apical half, distinctly narrowed at apex; pilosity long, moderately abundant on distal margin, shorter and sparser centrally. Head, behind eyes, with two large lateral tubercles (apex acute), punctate on dorsal surface, granulose on lateral and ventral surface. Genal apex not strongly elongate, with small spine. Hypostomal sclerite moderately abundantly transversely striate; pilosity moderately long, laterally more abundant. Mandibles slightly longer than head, coarsely, confluent punctate on basal half, gradually finer and sparser towards apex (both on dorsal and ventral surface); apices of both mandibles very broad; basal tooth of apex of left mandible not projected, forming almost a right angle between inner edge of apex and large and deep concavity before it; basal tooth of apex of right mandible acute and distinctly projected; inner margin of left mandible with small, acute tooth; inner margin of right mandible with small tooth, fused to the tooth of that of apex. Antennae surpass

elytral apex at about apex of antennomere X. Scape slightly enlarged towards apex; dorsal surface coarsely, abundantly, confluent punctate; latero-outer face longitudinally sulcate; ventral face rugose, with some asperities, and inner margin elevated; inner face abundantly granulate. Antennomere III 1.5 times longer than scape. Antennomeres III-VI slightly flattened dorso-ventrally; inner apex rounded; outer apex projected, without spine.

Pronotum rugose; pilosity moderately long, sparse, present only laterally, mainly near angles, barely noticeable in dorsal view; lateral margins with two large spines; anterior angle bifurcated (apex of bifurcation variable: acute or rounded); posterior angle projected, acute. Prosternal process with broad, very distinct keel from base. Scutellum with short, abundant hairs. Elytra rugose (coarser on basal half and gradually finer towards apex); humeri with somewhat short, but very distinct spines; sutural apices with short spines. Metasternum finely punctate; punctures very abundant laterally, sparser on triangular area around metasternal suture. Ventrites I-III very finely, sparsely punctate; almost glabrous. Ventrites IV finely punctate (punctures more abundant than on I-III); pilosity sparse throughout. Ventrite V abundantly, finely punctate; pilosity abundant on distal half. Dorsal surface of profemora striate (mainly on apical half); dorsal surface of meso- and metafemora finely, sparsely punctate. Protibiae uniformly enlarged from base up to apical third, narrowed from this point to near apex, and then somewhat enlarged again; ventral surface abundantly pilose. Apices of metatarsomeres I-III distinctly spinose.

**Female** (Fig. 21). Body broad. Mandibles about as long as head. Distance between upper ocular lobes about 0.8 times length of scape. Cephalic carinae as in males, but more distance between them, and with the apex less pronounced. Antennae reaching apical third of elytra; scape surpasses posterior edge of eyes; antennomere III about 1.5 times as long as scape. Pronotum as in males, but laterally more expanded. Elytra rugose throughout; lateral margins rounded; apex rounded; sutural angle without spine; sculpture as in males. Fore tibiae not expanded on inner margin of apical half.

**Variation:** Males – ventral surface of body almost wholly reddish-brown; apical third of antennal tubercles finely punctate; mandibles as long as head; mandibles of small males with two large teeth at inner margin, the distal one larger, both rounded at apices; latero-outer face not longitudinally sulcate; inner face of scape sparsely granulate; sutural angle of elytra without spine.

**Dimensions in mm (male/female).** Total length (including mandibles), 44.0-82.0/53.0-70.0; length of prothorax, 6.0-9.0/6.0-9.0; width of prothorax between the apices of the anterior angles, 11.0-19.0/14.0-21.0; width of prothorax between the apices of the posterior angles, 9.0-18.0/9.0-15.0; humeral width, 17.0-24.0/17.0-25.0; elytral length, 27.0-46.0/33.0-41.0.

**Geographical distribution.** Described from Colombia (Antioquia) and also recorded in Costa Rica, Panama, and Ecuador.

**Material examined.** COSTA RICA, *Alajuela*: Balsa, 3 males, 1 female, VI.1988 [no collector indicated] (ZKCO); *Limón*: Route Vista Azul-Chirripó, male, VI.2000, S. Sierra col. (ZKCO). *San José*: La Balsa (San Ramón), male, 30.VI.1983, D. Roubik col. (MZSP). ECUADOR, *Loja*: male, [no date or collector indicated] (MZSP). *Pichincha*: vicinity of Alluriquín (760 m), male, IX.1993, [no collector indicated] (DHPC). COLOMBIA, Calima Valley, 1 male, 1 female, 1979, [no collector indicated] (ZKCO); 3 males, V.1982, [no collector indicated] (ZKCO); male, 18.VIII.1990, [no collector indicated] (ZKCO). *Valle del Cauca*: Calima River, male, X.1984, [no collector indicated] (DHPC); female, 1-7.XI.1985, C. Farrell col. (DHPC). *Chocó*: male, II.2003, local collector (ZKCO). ECUADOR, *Loja*: Pichincha, 5 males, 1 female, V.2001, [no collector indicated] (ZKCO); female, V.2003 [no collector indicated] (ZKCO).

**Remarks.** Fries (1833) described *Psalidognathus modestus* based, at least, on one male and one female from Colombia (Antioquia). We tried to get photographs of the syntypes, but without success. According to Dr. Bert Viklund (NHRS): “Some of the old *Psalidognathus* material has been in an exhibition for many years, so I will check those for any syntypes”. After this personal communication, we had no news from Dr. Bert Viklund. It is possible that the syntypes are lost (without type labels) among the specimens deposited at NHRS. However, we examined a male identified as *P. modestus* by Christopher Aurivillius from the collection of MNHN. This specimen has following labels: Comparé au type par Aurivillius;

modestus Fries / compare au type communiqué par M'Aurivillius VI.92; Ex-Musaeo Mniszech; Muséum Paris / 1952 / Coll. R. Oberthür.

Thomson (1859) described *Psalidognathus mygaloides* based on a male and a female, and Thomson (1877) synonymized it with *P. modestus* (see discussion on *P. thomsoni*). Quentin and Villiers (1983) designated a lectotype for this species (translation): “a. *mygaloides* male Thomson, 1859. We designated as lectotype a male with 60 mm length, having the following labels: “Th. Type”, “Ex. Musaeo James Thomson”, “Mygaloides, Type, Th., Ar. n., 41, Col a.”, “Muséum Paris, Coll. J. Thomson, 1952””.

Taschenberg (1870) described *P. wallisi* (based on a male and a female) and *P. limbatus* (base on one female), both from Ecuador (Loja). Thomson (1877) described *P. batesii* from Panama (based on one male) and *P. castaneipennis* from Colombia (based on an unknown number of specimens).

Bates (1884) synonymized both *P. wallisi* and *P. batesii* with *P. modestus*: “The description of Taschenberg certainly fits the present species; and Thomson’s *P. batesi* [sic] applies fairly well to the larger individuals which seem to prevail in Chiriqui and in Costa Rica.”

Lameere (1910) wrote (translation): “I noticed in the Museum of Halle that Taschenberg had paired a male of *P. modestus* Fries with a female of *Prionacalus cacicus* White to describe his species *Psalidognathus Wallisi*, and he described the true female of *P. modestus* under the name of *P. limbatus*.” Lameere (1910) also synonymized *P. castaneipennis* and *P. deyrollei* Thomson, 1877 with *P. modestus*, but Quentin and Villiers (1983) disagreed on the latter (translation): “Of these, must be removed *deyrollei* male that belongs to the group with spinose antennae.” These authors designated a lectotype for *P. castaneipennis* (translation): “c. *castaneipennis* Thomson, 1877. We designate as lectotype a male with 55 mm length, with the following labels: “Th., Type”, “Ex Musaeo James Thompson [sic]”, “Limbatus Taschenb., Castaneipennis Th., Type, Cauca, Col a”, “Muséum Paris, Coll. J. Thomson, 1952.”

Quentin and Villiers (1983) designated a lectotype for *P. batesii* (translation): “b. *batesi* Thomson, 1877. We designated as lectotype a male with 68 mm length (with mandibles), with the following labels: “Th., type”, “Ex Musaeo James Thomson”, “Batesii Th., Type, T.C. 9, Panama”, “Muséum Paris, Coll. J. Thomson, 1952.” However, when Thomson described the species he only provided a single measurement, indicating that he had only one specimen (holotype male). Thus, the designation of a lectotype is meaningless.

We agree with the synonymical list in Quentin and Villiers (1983), except regarding *P. thomsoni*: “*mygaloides* Thomson, 1859 (mâle); *wallisi* Taschenberg, 1870; *limbatus* Taschenberg, 1870 (mâle); *deyrollei* Thomson, 1877 [see above]; *castaneipennis* Thomson, 1877 et *batesi* [sic] Thomson, 1877”.

Demelt (1989) described *Psalidognathus colombianus* (Fig. 22) from Colombia, comparing it with *P. onorei* Quentin and Villiers, 1983 (translation): “The new species is more closely related to *Psalidognathus onorei* QUENTIN & VILLIERS, 1983 from Ecuador, but differs from it by the darker color (*onorei* always is dark brown-reddish), by the pronotum distinctly broader, by the massive head with different mandibles, and apical part of protibiae not cut inside.” Although the comparison is correct, apparently Demelt (1989) did not know *P. modestus*. If he had, he probably would have also made comparisons with *P. modestus*, and may not have ended up describing *P. colombianus*. We examined a photo of the holotype of *P. colombianus*, besides some other specimens (male and females) deposited at SMNS, sent by Dr. Michael Balke through Robert Perger. We believe that *P. colombianus* is another synonym of *P. modestus*. The holotype has strongly developed lateral tubercles on the head, but this character is highly variable in the species. For example, when comparing the specimen identified by Aurivillius as *P. modestus*, the lectotype of *P. castaneipennis*, the lectotype of *P. batesii*, the second male from SMNS, and the holotype of *P. modestus*, we can see that the size of the tubercles increases gradually. Another peculiarity of the holotype of *P. colombianus* is that the apices of the antennal tubercles are distinctly acute. However, this feature is not so pronounced in the second specimen identified as *P. colombianus*. The variation in this character is evident when we compare the lectotype of *P. batesii* with the lectotype of *P. castaneipennis* (more acute in the former). 1. 1.

Salazar (2005) recorded some notes on *Psalidognathus modestus* and described a new subspecies. This work was not mentioned in Monné (2006) and, apparently, is little known, so we deem it appropriate to reproduce full lines of certain parts of this work (translation): “This species described by male and female holotypes [sic] from Antioquia (FRIES, 1833: 9) we can recognize by their shiny black color, labium shorter, bifid and males having the protibiae (side views) with the sides subparallel, shortly narrow at base and with brush of hairs extending from base to apex. Known from Costa Rica, Colombia

and Venezuela (VÉLEZ-ANGEL, 1989; MONNÉ & HOVORE, 2002), but in our country in the Caldas region is much rarer. We only have one male collected in Valle del Cauca (Buga 900 m, 17-IV-2003, Ocampo-Salimas leg.), whose morphotype agrees with the keys of identification by QUENTIN & VILLIERS (1983: 442). However, we have a race notably different from biogeographic Chocó: *Psalidognathus modestus chocoensis* subsp. nov., (Fig 1.) characterized by its small size (OO= 45-53 mm), (O= 60-62 mm), glossy black color, with antennal articles depressed and not dented. The appearance of the elytra more sinuous and rounded in female; in male they are straight. The head has the lateral spines short and straight in female, curved in male. Dorsal carinae strong with two short and acute spines. Protibiae in male as in typical species, thickened and pubescent in its half. The female abdomen is longer than the elytra: Holotype male and Allotype female deposited at MHN-UC: CHOCÓ: San José del Palmar, 1800 m., (in copula), 25-III-2005, J. I. Vargas leg. (Manizales-Caldas). Paratype male with the same data of locality, date and collector, deposited at A.N.E.C.B. (Manizales). Paratype male: VALLE: Río Garrapatas-El Dovia, 10-I-1996, E. Henao leg., deposited at CEH, Villamaría”.

Regarding the affirmation by Salazar (2005) on the types (“descrita por los holotipos macho y hembra”), actually, Fries (1833) did not say how many specimens he had, although at least there was one male and one female. In addition, the specimens used for the original description are syntypes, and not “holotipos.” All features listed by Salazar (2005) to describe *P. modestus chocoensis* also occur in *P. modestus modestus* and are characters of the species itself. Thus, based on the original description of *P. m. chocoensis* and in the photograph of one male type (Fig. 24), we synonymize this subspecies with the typical form.

### ***Psalidognathus rufescens* Quentin and Villiers, 1983**

(Fig. 25, 26)

*Psalidognathus rufescens* Quentin and Villiers, 1983: 446; Monné and Giesbert 1994: 16 (checklist); Monné 1995: 59 (cat.); Lackerbeck 1998: 519; Komiya 2003: fig. 9 (male); Monné and Hovore 2005: 21 (checklist); 2006: 20 (checklist); Monné 2006: 90 (cat.).

**Redescription. Male** (Fig. 25). Integument dark-brown; head, mandibles, scape, blackish; elytra reddish-brown with irregular brown areas (mainly on basal third).

Dorsal surface of head strongly punctate-rugose; pilosity moderately long and sparse between clypeus and posterior edge of eyes, long and abundant between the latter and prothorax. Cephalic carinae starting from inner edge of antennal tubercles, convergent to middle of eyes, then parallel up to end; slightly elevated at convergent area, gradually elevated from middle of eyes to posterior edge of eyes, then moderately abruptly declivous, slightly elevated again, and gradually declivous to the apex. Area between carinae longitudinally sulcate. Area behind upper eye lobes coarsely confluent punctate close to the eyes, gradually finer towards prothorax; area behind lower ocular lobes with asperities close to the eyes (this region gradually narrowed towards inferior edge), and obliquely striate-punctate close to the prothorax (this region gradually wider towards inferior edge); pilosity long and abundant on area confluent punctate and with asperities, short and sparse on area striate-punctate. Distance between upper ocular lobes equal to 0.5 width of one lobe. Distance between lower ocular lobes equal to 0.6 width of one lobe (at level of genal apex). Antennal tubercles close at base, separated by furrow; basal half coarsely, confluent punctate, gradually finer and sparser towards apex. Clypeus vertical, laterally coarsely confluent punctate on base; remaining areas with moderately fine, sparse punctures; pilosity long, moderately abundant laterally. Labrum punctate on centro-basal area, smooth on remaining surface, distinctly narrowed at apex; pilosity long and sparse. Head, behind eyes, with somewhat small lateral tubercle (apex rounded). Genal apex moderately elongated, distinctly acute at apex. Hypostomal sclerite striate-punctate (mainly laterally); pilosity long and moderately abundant. Mandibles about as long as head, coarsely, confluent punctate on basal halves, gradually finer and sparser towards apices (both on dorsal and ventral surface), smooth near inner edge of apical half; apices of both mandibles very broad; basal tooth of apex of left mandible not projected; basal tooth of apex of right mandible acute and distinctly projected; inner margin of mandibles with two large, triangular teeth. Antennae surpass elytral apex about middle of antennomere X. Scape slightly enlarged towards apex; dorsal surface coarsely, abundantly, confluent punctate on basal half, sparser towards apex, that is almost smooth; latero-outer face longitudinally

sulcate; ventral face with some asperities, and inner margin elevated; inner face moderately coarsely striate-punctate, mainly on basal half. Antennomere 1.8 times as long as scape. Antennomeres III-VI not flattened dorso-ventrally; inner and outer apex projected and acute (mainly the latter); sensorial area of antennomere III occupying almost entire lateral half.

Prothorax narrow (width without spines about twice the length). Pronotum rugose-punctate; pilosity long, abundant throughout; lateral margins with two very large spines; anterior angle projected in a long spine; posterior angle projected, rounded at apex. Prosternal process with broad, very distinct basal keel. Scutellum with long, abundant hairs. Elytra rugose (coarser on basal third, gradually finer towards apical fourth, and slightly coarser apically); humeri with long spines; sutural apices with short spines; each elytron with three distinct carinae; lateral basal half distinctly explanate. Metasternum and metepisterna finely punctate; pilosity long and very abundant. Ventrites I-III finely, sparse punctate, with smooth areas; ventrite I basally with long, moderately sparse hairs; ventrites II-IV laterally with long hairs; ventrite V with long hairs laterally and apically. Dorsal surface of profemora striate-punctate; dorsal surface of meso- and metafemora finely, sparsely punctate; edges of ventral surface of femora with short spines, mainly on mesofemur. Protibiae slightly enlarged from middle to base of apical fourth; ventral surface abundantly pilose on enlarged area. Apices of metatarsomeres I-III distinctly spinose.

**Female** (Fig. 26). (Description based on photo of female deposited at the collection of MNHN). Body broad. Mandibles about as long as head. Distance between upper ocular lobes about 1.5 times width of one lobe. Cephalic carinae as in males, but more distance between them, and somewhat convergent beyond eyes. Antennae reach apical fourth of elytra; scape just surpasses posterior edge of eyes; antennomere III about 1.2 times as long as scape. Pronotum as in males. Lateral elytral margins rounded; apex subtruncate; sutural angle without spine; sculpture as in males. Fore tibiae not expanded on inner margin of apical half.

**Dimensions in mm (male).** Total length (including mandibles), 52.0-60.9; length of prothorax, 4.0-5.0; width of prothorax between the apices of the anterior angles, 14.0-15.3; width of prothorax between the apices of the posterior angles, 9.0-11.0; humeral width, 16.0-18.4; elytral length, 33.0-37.4.

**Geographical distribution.** Described from Ecuador and known also from Colombia.

**Material examined.** COLOMBIA, *Valle Del Cauca*: male, [no date indicated], L. C. Locarno col. (MZSP); Cali (1000 m), male, 10.XII.19745, Leon Denhez col. (ZKCO).

**Remarks.** *Psalidognathus rufescens* was described by Quentin and Villiers (1983) based on a single male (Fig. 25) (translation): “Ecuador: Loja (Abbé *Gaujon*), holotype male.”

Lackerbeck (1998) described the female for the first time and wrote: “Material: 1 [female symbol] (*Paratyus [sic] /Allotypus*), 58 mm, Colombia, Valle Cosumbo River, Pital R., Big River Calima, 900m, IV-V.1984, R. MARX, in Coll. LACKERBECK”.

In 1998 the third edition of the International Code of Zoological Nomenclature (ICZN 1985), was in force. According to the Recommendation 72A of this edition: “The term ‘allotype’ may be used to designate among paratypes a specimen of opposite sex to the holotype. Authors are recommended to avoid using the term ‘allotype’ for specimens other than paratypes”. Evidently a recommendation is not a law, and so, many authors at that time designated allotypes that did not belong to the type series. Thus, when Lackerbeck (1998) designated a female from his private collection as allotype, he did not violate the Code. However, he violated the Code when he considered this allotype as a paratype. The specimen from Lackerbeck’s Collection is not a type, and does not have any special value.

The males of *P. rufescens* deposited at MZSP and ZKCO are slimmer than the holotype. The female figured in Lackerbeck (1998) is wider than we expected, after examining the males. However, when compared with the male holotype, the body is not disproportionate, although the elytra is laterally more rounded than females of other species. This is particularly important, because the males of *P. rufescens* have the elytra with sides more parallel than other species of *Psalidognathus*.

Quentin and Villiers (1983) recorded (translation): “distance between upper ocular lobes equal to about one third of a lobe seen from above.” However, their Figure 4 shows that this distance is approximately equal to a lobe. Their drawing (Figure 4) does not agree with the holotype (Fig. 25), in which the

distance between upper ocular lobes is slightly less than the width of a lobe. Additionally, the apex of the upper ocular lobe is distinctly narrower in the holotype than in Figure 4. The shape and distance of the upper ocular lobe in Quentin and Villiers (1983) Figure 4 agrees perfectly with the males deposited at MZSP and ZKCO.

Regarding the integument, Quentin and Villiers (1983) wrote (translation): “Entirely reddish, head, antennae and legs darker.” Nevertheless, Lackerbeck (1998) pointed out (translation): “Black, elytra reddish.” The male deposited at ZKCO has the prothorax and legs more reddish than the holotype and the specimen deposited at MZSP, in which they are dark brown. Thus, it appears that the color can be darker or lighter.

Lackerbeck (1998) also wrote (translation): “By the little bulge formed on the vertex and sides of the head can easily be differentiated from all other *Psalidognathus*, except *P. erythrocerus* REICHE, 1840.” This is not true. Males of *P. erythrocerus* have a very distinct tubercle on the sides of the head, and females of many species of *Psalidognathus* have lateral tubercles exactly like those of Lackerbeck’s female (sometimes absent). Regarding the cephalic carinae, they are similar to those of *P. thomsoni* (male and female), to those of species in the “*friendii*” group, and to those of *P. erythrocerus* females.

Based on the features observed by us, and comparing the female in Lackerbeck (1998) with another deposited at MNHN (Fig. 26) we conclude that both are really *P. rufescens*. But it is interesting to note that the female deposited at MNHN has the apical third of the elytral narrower than the females in Lackerbeck (1998).

### ***Psalidognathus cerberus* sp. nov.**

(Fig. 27-30)

*Psalidognathus erythrocerus erythrocerus*; Komiya 2003: figs. 16, 17 (male, female).

**Diagnosis.** *Psalidognathus cerberus* sp. nov. is similar to *P. onorei*, but differs: distance between upper ocular lobes less than width of one lobe; protibiae not strongly enlarged around middle, and not distinctly narrowed near apex. In *P. onorei* the distance between upper ocular lobes is at least 1.5 times the width of one lobe, and the protibiae are strongly enlarged around middle and distinctly narrowed near apex.

**Description. Male** (Fig. 27, 29, 30). Integument brown; head, mandibles, palpi, antennomeres, pronotum and legs blackish brown, middle part of pronotum, apical half of antennae and protibiae less blackish; elytra reddish brown, apical margin of scutellum and suture dark brown.

Dorsal surface of head (Fig. 30) rugosely confluent punctate-granulate, sparse hairs; cephalic carinae vermiculate-punctate, in dorsal view, starting from inner edges of antennal tubercles, slightly narrowed at line of eyes, extending sub-parallel to just beyond the middle of head, then slightly widened and connected with conical tubercles; carinae, in lateral view, sub-uniformly high in apical four fifths and triangularly elevated at posterior end; in front view, looking like a pair of equilateral triangles with acute and externally pointing apices. Area between carinae longitudinally concave but not sulcate. Area behind eyes smoother than vertex. Eyes not strongly bulging, slightly convex from lateral margin of head, in dorsal view about 2.4 times as wide as long; distance between upper ocular lobes about 0.8 times as wide as lobe. Antennal tubercles coarsely confluent punctate and narrowly shiny near apices, strongly triangularly elevated towards antennal insertion. Clypeus sparsely punctate with fine punctures; pilosity short and sparse. Labrum smooth, strongly lower at apical half; pilosity short and sparse. Head with distinct conical lateral tubercles, covered with irregular and large granules. Genal apex not elongated, pointed apically. Hypostomal sclerite finely punctate; pilosity rather long and not dense. Jugular process obtuse.

Mandible (Fig. 30) about 1.1 times as long as head, moderately curved downward and inward, thick and broad at base, steeply narrowed at basal fourth and then gradually becoming flatter and thinner apicad; external side rounded and internal side edged along internal margin except: coarsely and confluent punctate on basal half, gradually becoming more finely and sparsely towards apices except on edge parts which are smooth and shiny; each mandible furnished with three teeth, an obtuse one very close to base

and another larger one sub-connectedly near to first one; the third one the largest, placed at about middle. Maxillary palpi 1.1 times as long as mandible, apices of palpomeres II and III club-formed, palpomere 4 sub-flattened, obliquely truncate and with angle rounded, furnished with a short elongated fovea on upper side near external margin. Labial palpi 0.8 times as long as maxillary, palpomeres II and III similarly formed to maxillary palpomeres III and IV.

Antenna about as long as body; apical corners of antennomeres III-VIII more or less angular but not acute nor spined; scape attaining middle of head, enlarged towards apex and narrowed to antennal insertion, covered with coarse punctures and with rough granules on inner lateral surface; antennomere III about 2.2 times as long as scape, antennomere 4 slightly longer than scape, antennomeres IV-X gradually decreasing length from base to apex, antennomere XI as long as V; antennomeres II-V sparsely punctate and antennomere III coarsely granulate underside; antennomeres III-XI with longitudinal sulci, the longest one running along the underside from apical third of antennomeres III-XI, the second one running on dorso-internal side from apical fourth of antennomeres V-XI, the third one slender and irregular, accompanied by several carina and running on dorsal side from antennomere VII-XI, and fourth one running external side at apical sixth of antennomere III and from apical half of antennomere IV-XI; margins of sulci edged; punctate parts of antennae shiny, sulcate parts matte throughout and without any punctures.

Pronotum rugose throughout, subglabrous but very sparsely scattered with short hairs on lateral parts; posterior and anterior margin well elevated and fringed with erect and abundant pilosity; lateral margins with three large wide teeth and a short tooth on basal angle; anterior tooth distinctly projected forward beyond anterior margin of pronotum. Prosternal process strongly convex at middle, but not keeled. Scutellum semicircular, about twice as wide as long, subglabrous with middle part flat and densely punctate. Elytra shiny, deeply, densely, confluent and somewhat vermiculate-punctate throughout, but punctures gradually becoming finer towards apices; with short and acute spines on humeri; sutural ends with short but distinct spines. Metasternum finely punctate, thinly covered with long hairs. Ventrites I-IV glabrous and very finely punctate. Ventrite V finely punctate and covered with long and thick pilosity that is short and sparse basally and very long and thick apically.

Profemora densely and coarsely puncto-granulate on dorsal side, longitudinally flattened on underside, where sparsely fringed with small teeth and setae; meso- and metafemora finely and sparsely punctate. Protibiae gradually enlarged on ventral side, forming distinct swelling between basal third and apical fifth, suddenly narrowed and constricted at about apical fifth and then enlarged again apicad; very sparsely punctate; thickly pilose on swelling and pilosity gradually becoming sparser both basad and apicad. Apices of meso- and metatarsomeres I-III distinctly spinose.

**Female** (Fig. 28). Body broader than in males. Mandibles shorter than head (about 0.8 times). Distance between upper ocular lobes about 1.8 times width of one lobe. Cephalic carinae similar to those of males, but more distance between them, subparallel from base to apex, and with the apex less pronounced. Antennae reach apical third of elytra; scape surpasses posterior edge of eyes; antennomere III about 1.9 times longer than scape. Pronotum as in males. Elytral lateral margins slightly divergent from base to middle, and convergent towards apex (slightly rounded from base to apex); apex slightly rounded, almost truncate; sutural angle without spine; sculpture somewhat coarser than in males. Fore tibiae not expanded on inner margin of apical half.

**Dimensions in mm (male/female).** Total length (including mandibles), 44.0-60.0/41.0-62.7; length of prothorax, 5.0-7.0/4.0-9.7; width of prothorax between the apices of the anterior angles, 12.0-17.0/10.0-20.2; width of prothorax between the apices of the posterior angles, 8.0-12.0/8.0-17.0; humeral width, 13.0-29.0/14.0-24.0; elytral length, 27.0-35.0/27.0-41.2. Total length of the holotype, 49.4 mm.

**Etymology.** Κερβερος, the species name, was taken from Greek mythology, a three headed dog guarding the entrance to Hades. It was said that this dog has very robust forelegs and the peculiarly formed protibiae of this species gave us that image, although this species does not have three heads. Greek: male.

**Type material.** Holotype male from COLOMBIA, *Huila*: Gigante, IV.1974, [no collector indicated] (MZSP). Paratypes – South America (no further data), 2 males, about 1975 (DHPC). COLOMBIA, *Huila*: Gigante, male, III.1973, [no collector indicated] (ZKCO); female, IV.1974, [no collector indicated] (MZSP); male,

V.1974, [no collector indicated] (ZKCO); male, VI.1974, [no collector indicated] (ZKCO); male, I-II.1982, [no collector indicated] (ZKCO). *Madgalena*: Putomayo, female, IV.1977, [no collector indicated] (ZKCO). ECUADOR, *Sucumbíos*: La Bonita, female, XII.2000, [no collector indicated] (ZKCO). *Caquetá*: male, III.1975 [no collector indicated] (ZKCO); male, 16.VI.1975, [no collector indicated] (DHPC); 2 females, 27.VI.1975, [no collector indicated] (DHPC); 1 male, 1 female, XI.1979, [no collector indicated] (DHPC). *Boyacá*: Muzo, male, 5.II.1976, [no collector indicated] (DHPC).

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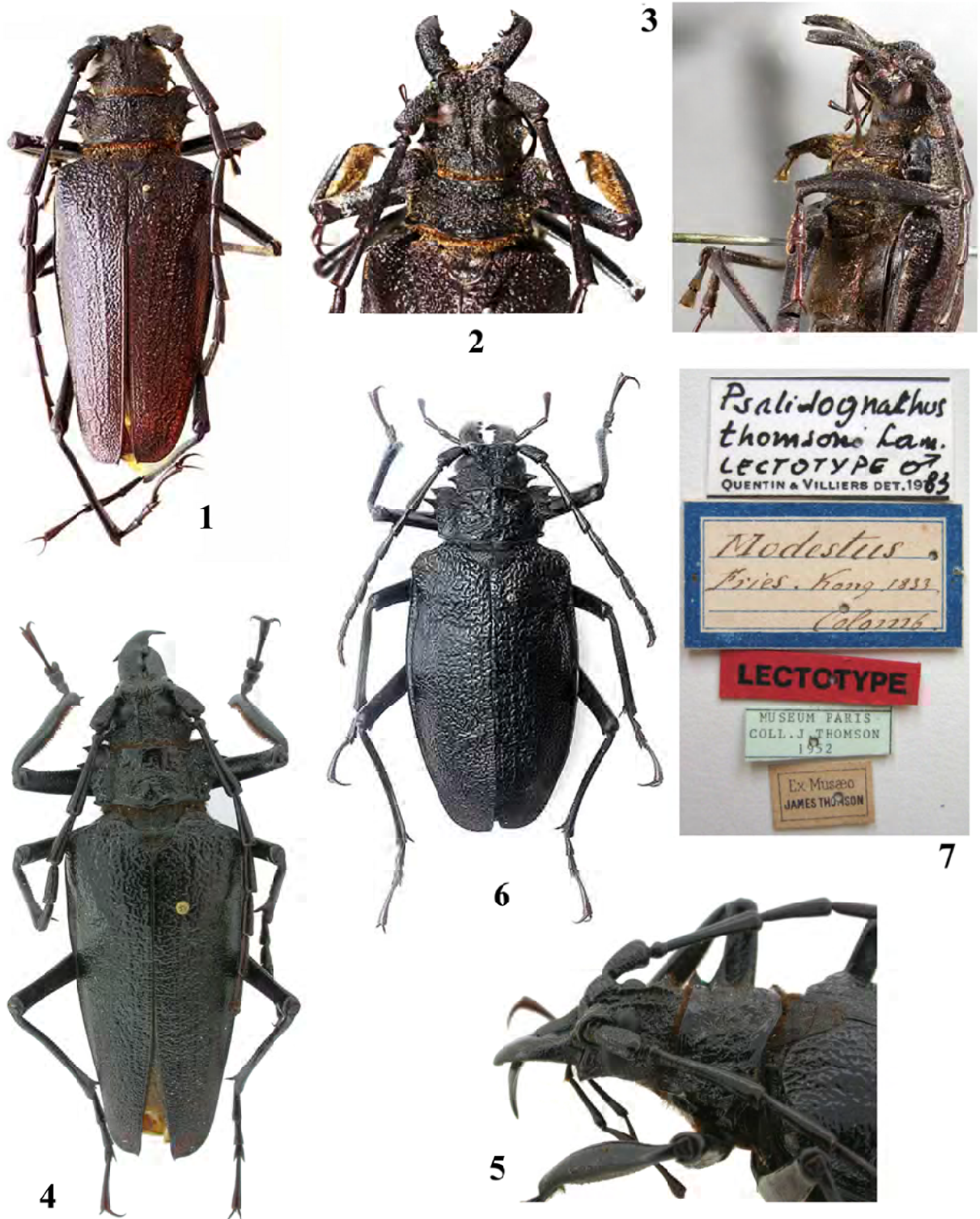
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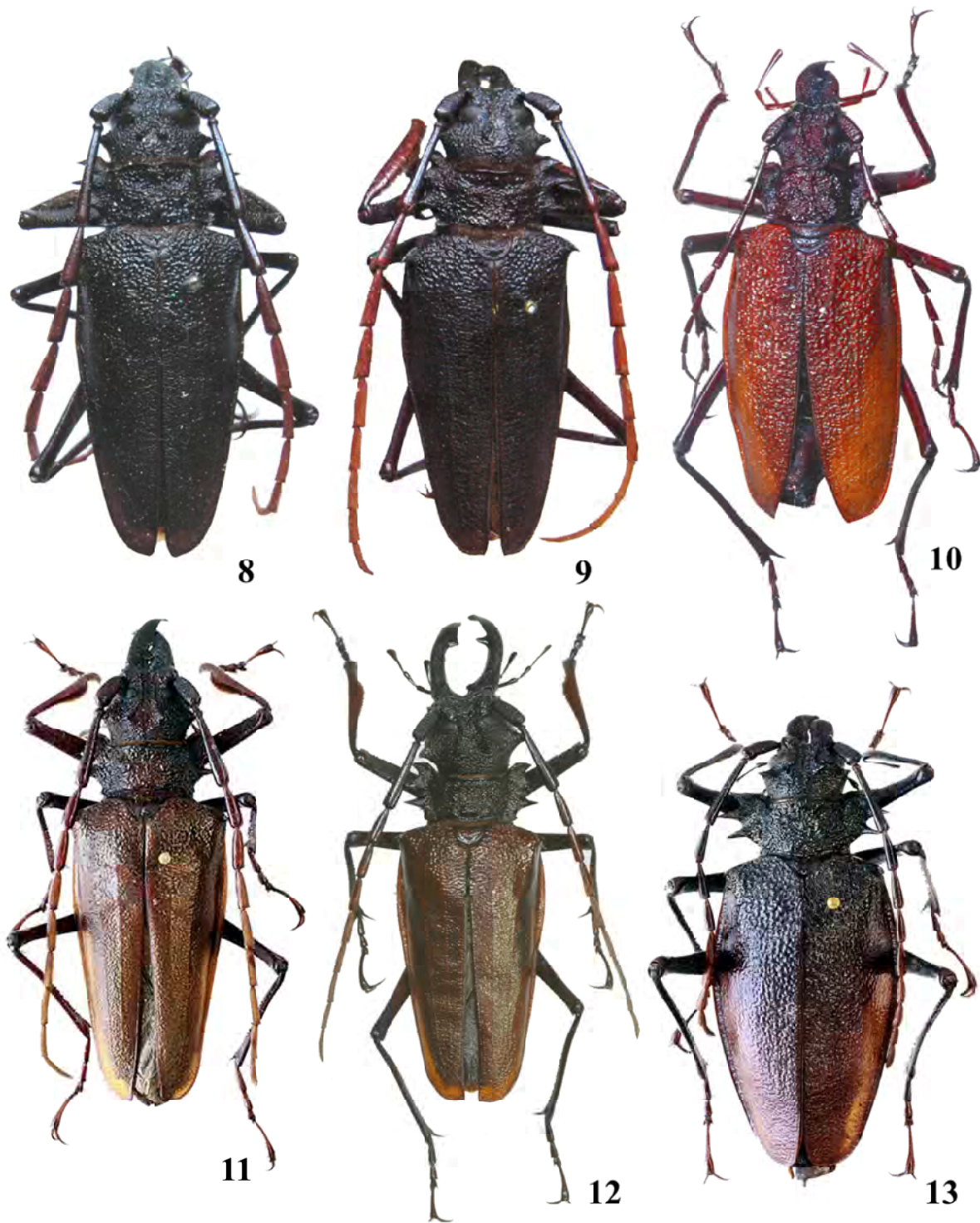
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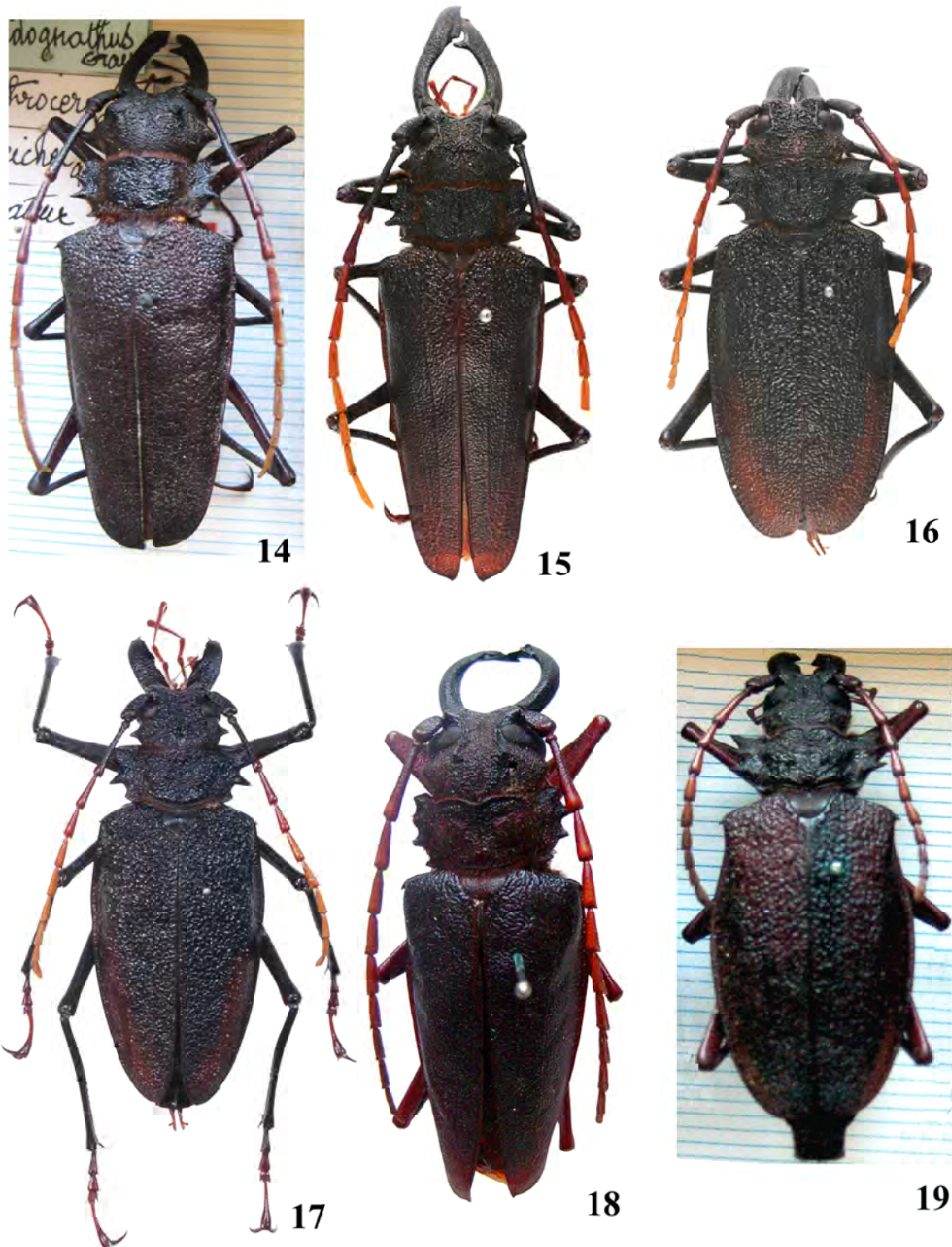


**Figure 1-7.** *Psalidognathus thomsoni*. 1) Lectotype male, dorsal habitus. 2) Lectotype male, head and pronotum. 3) Lectotype male, partial lateral view. 4) Male, dorsal habitus. 5) Male, head showing cephalic carinae. 6) Female, dorsal habitus. 7) Lectotype, labels. Photos 1, 2, 3, and 7 by Eugenio Nearn.

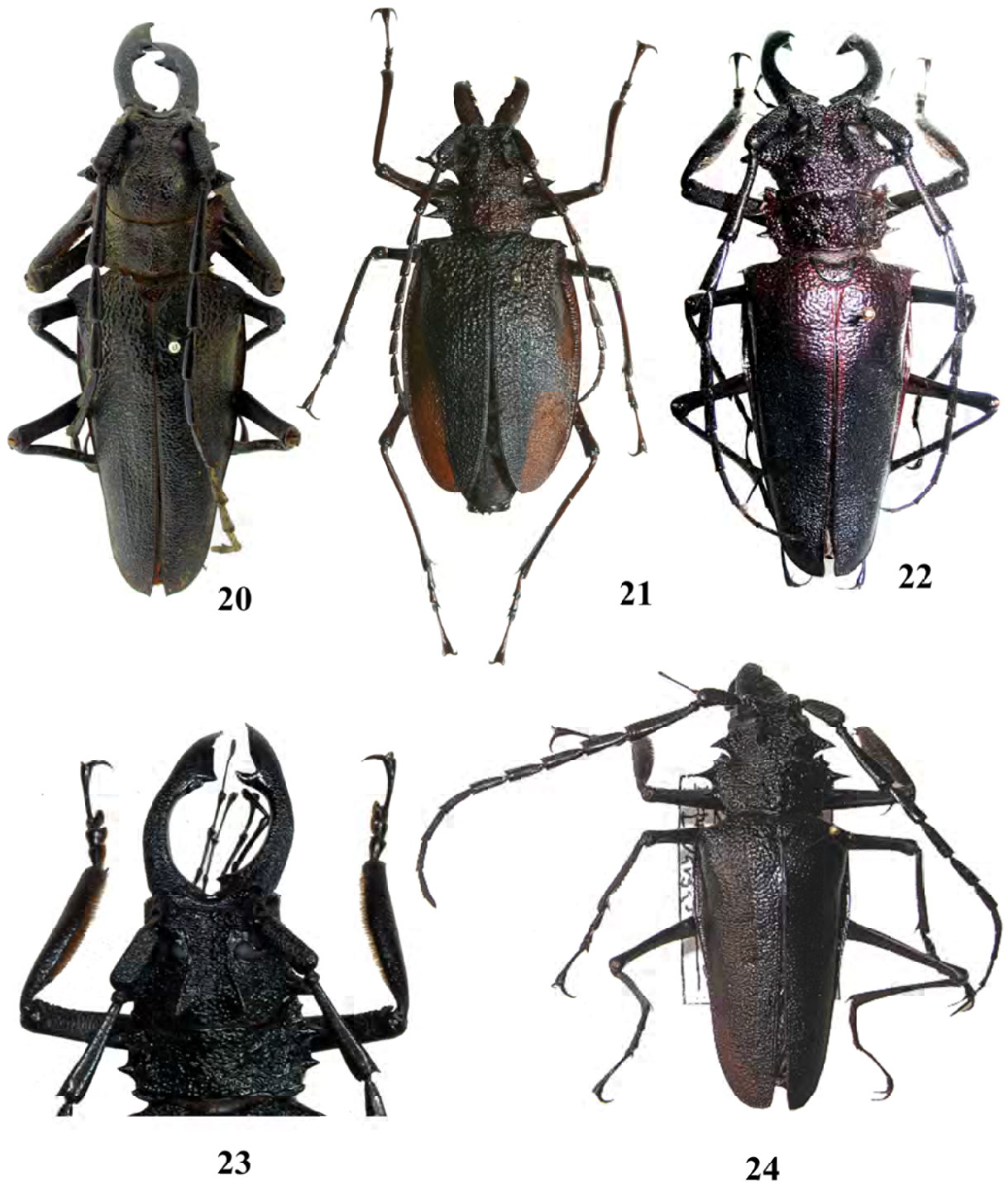


**Figure 8-13.** Dorsal habitus. **8)** *Psalidognathus erythrocerus*, neotype male. **9)** *P. erythrocerus*, male from MNHN. **10)** *P. erythrocerus*, female. **11)** *P. onorei*, holotype male. **12)** *P. onorei*, male. **13)** *P. onorei*, female. Photos 8 and 9 from Eugenio Nearn. Photo 12 by Ivo Jeniš.



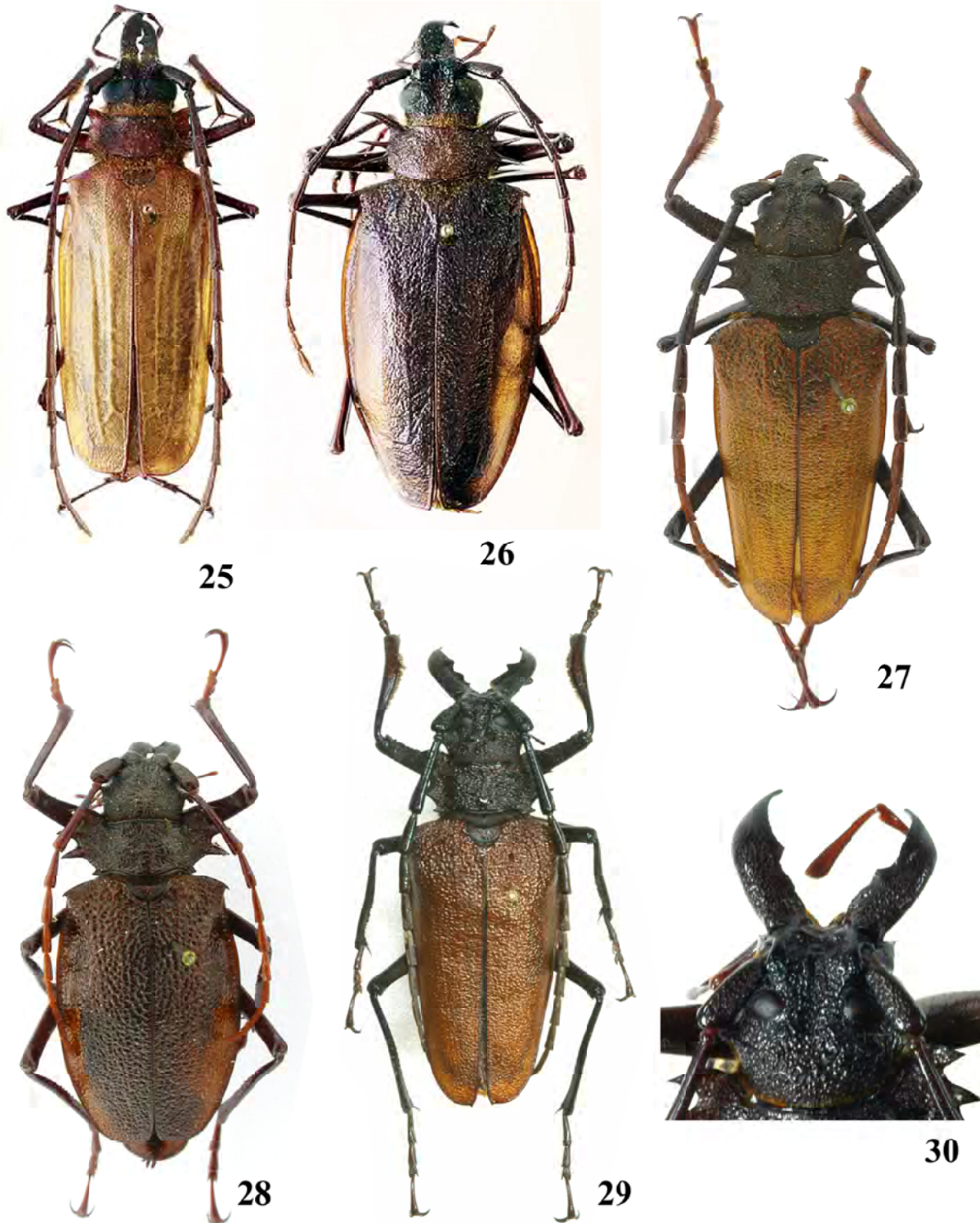


**Figure 14-19.** Dorsal habitus. 14) *Psalidognathus reichei*, holotype male. 15) *P. reichei*, paratype male. 16) *P. reichei*, paratype female. 17) *P. reichei*, female. 18) *P. pubescens*, holotype male. 19) *P. pubescens*, paratype female. Photos 14, 18, 19 by Eugenio Nearn. Photos 15 and 16 by Noël Mal.



**Figure 20-24.** *Psalidognathus modestus*, dorsal habitus. **20)** Male. **21)** Female. **22)** *P. colombianus*, holotype male. **23)** Male, head. **24)** *P. modestus chocoensis*, holotype male (?). Photo 22 by Michael Balke. Photo 24 by Erika Valentina Vergara Navarro.





**Figure 25-30.** Dorsal habitus. **25)** *Psalidognathus rufescens*, holotype male. **26)** *P. rufescens*, female. **27)** *P. cerberus* **sp. nov.**, holotype male. **28)** *P. cerberus* **sp. nov.**, paratype female. **29)** *P. cerberus* **sp. nov.**, paratype male. **30)** *P. cerberus* **sp. nov.**, paratype male, head. Photos 25 and 26 by Ivo Jeniš.