



## New synonymies, new combinations and lectotype designations for weevils in the tribe Naupactini (Coleoptera: Curculionidae: Entiminae)

M. GUADALUPE DEL RÍO & ANALÍA A. LANTERI

*División Entomología, Museo de La Plata, FCNyM, Universidad Nacional de La Plata, CONICET. Paseo del Bosque s/n, 1900 La Plata, Argentina. E-mail: gdelrio@fcnym.unlp.edu.ar; alanteri@fcnym.unlp.edu.ar*

### Abstract

We examined the type material of 15 species of *Naupactus* Dejean and related genera (Curculionidae: Entiminae), most of them described by Alphonse Hustache (Museum National d'Histoire Naturelle, Paris) and Carl Boheman (Naturhistoriska Riksmuseet, Stockholm). The information associated with the types was compared with the original descriptions, and large series of specimens were examined in order to analyze the variation of each species throughout its range (sexual dimorphism, other kinds of polymorphism or geographic variation). Based on the results of this study we establish seven new combinations, one new placement and nine new synonymies, we make 21 lectotype designations and provide three new country and state records. *Alceis curtus* (Boh.), *Lanterius leucophaeus* (Boh.), *L. sparsus* (Boh.), *L. sellatus* (Boh.), *Parapantomorus carinirostris* (Hust.), *Symmathetes signatus* (Blanchard) and *Teratopactus acerbus* (Boh.) are new combinations and *T. sulphureoviridis* Hust. is a new placement. The following names are senior synonyms of those between parentheses: *Lanterius inermis* (Hust.) (syn. *Macrostylus ocellatus* Lanteri); *Naupactus auricinctus* Boh. (syn. *N. ruficornis* Boh.); *N. bridgesii* G.R. Waterhouse (syn. *N. angulithorax* Hust.); *N. condecoratus* Boh. (syn. *N. bosqi* Hust.); *N. cyphoides* (Heller) (syn. *N. calamuchitanensis* Hust., *N. viridinitens* Hust., *N. viridulus* Hust.); *N. peregrinus* (Buchanan) (syn. *N. brevicrinatus* Hust.); and *Trichonaupactus densior* Hust. (syn. *T. rexus* Hust.). For each species we provide the following information: synonyms, available data on type specimens (sex, body length, geographic location, kind of type, and repository), complete geographic distribution, pictures of types or specimens compared with types, an explanation about the reasons that justify the nomenclatural acts.

**Key words:** *Naupactus*, type material, Hustache, Boheman, synonymies, new combinations, lectotype designations

### Introduction

The tribe Naupactini Gistel, 1856 (Curculionidae: Entiminae) is one of the most important groups of weevils in the Neotropics, due to its high diversity and the presence of several species of economic importance (Lanteri & del Río 2017a). A large amount of revisionary work needs to be done, especially on the genus *Naupactus* Dejean, 1821 (Lanteri & Marvaldi, 1995; Lanteri & del Río, 2017b), with hundreds of species described in the 19<sup>th</sup> century and the first half of the 20<sup>th</sup> century, and never studied after.

The majority of the nomenclatural changes proposed for species of *Naupactus* were done in the context of catalogs or checklists (e.g. Wibmer & O'Brien, 1986; Morrone, 1999) and only few came from taxonomic revisions (e.g. del Río *et al.*, 2006). In order to accelerate the taxonomic work on the naupactine weevils we propose a series of nomenclatural acts (new combinations and synonymies) and lectotype designations, based on the examination of type material housed at different museums, the comparison of their labels with the information provided in the original descriptions and the study of large series of specimens with a good representation of sexes and geographic distribution.

Most of the species treated herein were described by the entomologists Alphonse Hustache and Carl Boheman and the type material is held at the Muséum National d'Histoire Naturelle (Paris) and at the Naturhistoriska Riksmuseet (Stockholm) respectively; the remaining species were described by E.E. Blanchard, L.L. Buchanan, K.M. Heller and G.R. Waterhouse, and the type material is located in other institutions. The study of large series of specimens from the Charles W. O'Brien collection (USA), Museo de La Plata and Museo Argentino de Ciencias

Naturales (Argentina), Museu de Zoologia da Universidade de São Paulo and Museu Nacional de Rio de Janeiro (Brazil), and United States National Museum (USA), gave us the chance to analyze the variation within each species and to draw conclusions about the necessary nomenclatural acts.

## Materials and methods

The specimens studied come from the following collections:

- CWOB Charles W. O'Brien collection, Green Valley, Arizona (USA).
- MACN Museo Argentino de Ciencias Naturales, Buenos Aires (Argentina).
- MLP Museo de la Plata, La Plata (Argentina).
- ZMB Museum für Naturkunde, Berlin (Germany).
- MNHN Muséum National d'Histoire Naturelle, Paris (France).
- MNRJ Museu Nacional de Rio de Janeiro, Rio de Janeiro (Brazil).
- MZSP Museu de Zoologia da Universidade de São Paulo, São Paulo (Brazil).
- BMNH The Natural History Museum, London (Great Britain).
- NHRS Naturhistoriska Riksmuseet, Stockholm (Sweden).
- MTD Museum für Tierkunde, Dresden (Germany).
- USNM National Museum of Natural History, Washington D.C. (USA).

Characteristics of the type material deposited in the main collections herein studied are summarized below:

**MNHN, Paris:** primary types of species described by A. Hustache are deposited in his collection housed in the MNHN, along with other specimens of the type series and other material obtained by him later. They bear labels as follows: (1) identification labels handwritten by Hustache in black ink on a rectangular white piece of paper, with the signature “m” (“mihi” in latin); (2) the word “type” is printed in red ink on a rectangular white piece of paper; (3) the data of distribution and sex of the specimens are indicated in separate white labels. Only one exemplar of each type series bears the type label. The types of species described by E.E. Blanchard are located in the general collection of the MNHN.

**NHRS, Stockholm:** the types of species described by Carl Boheman are usually in Schoenherr's collection, and in a few cases in Chevrolet's collection or in other European museums, especially in Germany. The NHRS types can be identified by labels of “typus” printed in black ink on a rectangular red piece of cardboard with black frame. The labels of identification are handwritten by the author in black ink on a rectangular white piece of paper. The indication of sex is usually lacking, the only information about geographic distribution is the country (Brasilia for Brazil) and in some cases the state (e.g., Minas Gerais), usually printed on green labels. In the original descriptions published by Boheman (1833, 1840) there is no clear indication about the number of specimens studied by the author; consequently, if there is more than one specimen labeled as typus, we interpret these to be syntypes. Moreover, we provide information about some Boheman syntypes deposited at the NHRS erroneously labeled as holotype, allotype or paratypes by G. Kuschel in 1985.

For each species we provide the following information: synonymy, available data on all type specimens (sex, body length, geographic location, kind of type, repository), complete geographical distribution, pictures of the types or of some specimens compared with types (when we considered that the available photographs of types are not acceptable for publication), and an explanation about the reasons that justify the nomenclatural acts. The original descriptions by Boheman (1833, 1840) lack information about the body length of the specimens; for this reason we consider that it is important to provide this information.

## Results

### New combinations

#### *Alceis* Billberg, 1820

*Alceis* was incorrectly considered a nomen nudum until Buchanan (1939: 4) resurrected it for the type species, *Curculio longimanus* Fabricius, 1775 (not available, a junior primary homonym of *Curculio longimanus* Forster, 1771), currently a synonym of *Siderodactylus ornatus* Pascoe, 1879. In O'Brien & Wibmer (1982: 33) *Alceis* was considered as a senior synonym of *Naupactus* Dejean, 1821, but in Wibmer & O'Brien (1986) both genera were treated as separate and valid. We agree with this decision because *Alceis* shows several characters that allows differentiation from *Naupactus*, among them the presence of a flagellum in pennis of the males.

#### *Alceis curtus* (Boheman, 1833), new combination

*Naupactus curtus* Boheman, 1833: 570–571. Type material: lectotype female herein designated; Brazil; NHRS, col. Schoenherr. Length: 9.5 mm (Fig. 1)

*Naupactus unicolor* Boheman, 1833: 570. Type material: not found. Originally described as variety beta of *N. curtus* (= *N. unicolor* Chevrolat *in litteris*). Wibmer & O'Brien, 1986: 59 included this name (omitted in previous catalogs) in the synonymy of *N. curtus*.

**Geographic distribution:** Brazil (Espírito Santo, Mato Grosso, Minas Gerais, Rio de Janeiro, Santa Catarina and São Paulo).

**Remarks:** We found two female syntypes at the NHRS, one in Schoenherr's collection and another in Chevrolat's collection, the latter erroneously labeled as paratypus. The former is herein designated as lectotype.

Boheman (1840: 11) described three varieties of *N. curtus*: var.  $\beta$  is a male, labeled as typus, whose description does not correspond to *N. curtus* var.  $\beta$  Boheman 1833: (570); var.  $\gamma$  is a female erroneously labeled as allotype; and var.  $\delta$  is a female labeled as typus, from Minas Gerais (this geographic record is not mentioned in the original publication) and probably belongs to another species.

#### *Lanterius* Alonso Zarazaga & Lyal, 1999

The genus name *Lanterius* Alonso–Zarazaga & Lyal (1999) was proposed to include those species that were orphaned when it was recognized that *Mimographus sensu* Lacordaire 1863 and Hustache, 1947 (and in consequence in Wibmer & O'Brien, 1986) was a misidentification of the original *Mimographus* Schoenherr, 1847. The type species of *Lanterius* is *Mimographus amandus* Kirsch, 1868. Lanteri & del Río (2017a) established the new combination *Lanterius micaceus* (Hustache, 1947) and del Río *et al.* (2018), the new combination *Lanterius inermis* (Hustache). Herein we transferred to *Lanterius* other species originally described in *Naupactus* Dejean. Most species included in *Mimographus* by Wibmer & O'Brien (1986: 56) and classified in *Macrostylus* (*Mimographus*) by Bordón (1997), probably belong to this genus, however, they should be studied in detail before adopting any nomenclatural acts.

#### *Lanterius leucophaeus* (Boheman, 1833), new combination

*Naupactus leucophaeus* Boheman, 1833: 600. Type material: lectotype female herein designated; Brazil; NHRS, col. Schoenherr. Length: 7 mm (Fig. 2)

**Geographic distribution:** Brazil (probably Rio de Janeiro).

**Remarks:** The only specimen housed at NHRS bears a label of typus and one additional label of holotypus by G. Kuschel, 1985. We consider that this specimen is a syntype, because the original publication is not clear about the number of specimens studied by the author, and consequently we decided to designate it as lectotype.

### ***Lanterius sparsus* (Boheman, 1840), new combination**

*Naupactus sparsus* Boheman, 1840: 103. Type material: lectotype female herein designated; Brazil, Minas Gerais; NHRS, col. Schoenherr. Length: 8.5 mm (Fig. 3)

**Geographic distribution:** Brazil (Minas Gerais, Paraná, Rio de Janeiro and São Paulo) and Paraguay (Itapúa).

**Remarks:** The only specimen found at NHRS bearing a label of typus and one additional label of holotypus by G. Kuschel 1985, was considered a syntype. The original publication is not clear about the number of specimens studied by the author and consequently we decided to designate it as lectotype.

### ***Lanterius sellatus* (Boheman, 1840), new combination**

*Naupactus sellatus* Boheman 1840: 96–97. Type material: three syntypes from Brazil; ZMUH, Halle, Germany. Not seen.

*Naupactus obliquus* Boheman 1840: 96. Type material: from Brazil, not found at NHRS. Originally described as variety  $\beta$  of *N. sellatus* (= *N. obliquus* Germar in litteris). This name (omitted in previous catalogs) was included in the synonymy of *N. sellatus* by Wibmer & O'Brien (1986: 61).

*Naupactus subvittatus* Boheman 1840: 102. Type material: lectotype male herein designated; Brazil; NHRS, col. Schoenherr. Length: 8 mm. Synonymy by Kuschel 1955: 279. (Fig. 4).

**Geographic distribution:** Brazil (Espírito Santo, Minas Gerais, Paraná, Rio de Janeiro and São Paulo).

**Remarks:** Boheman (1840) made available the name *N. sellatus* Germar in litteris. According to Giebel (1869) the types of Germar are located at the Zoologisches Museum der Universität Halle–Wittenberg, Germany (ZMUH). The only specimen housed in Schoenherr's collection, labeled as typus, is herein designated as the lectotype of *N. subvittatus*.

### ***Parapantomorus* Emden, 1936**

Until now *Parapantomorus* Emden, 1936 (replacement name for *Pseudopantomorus* Heller, 1921, non Champion, 1911) included three species, *P. fluctuosus* (Boheman, 1840) (senior synonym of the type species, *Pseudopantomorus sharpi* Heller 1921), *P. quatuordecimpunctatus* (Hustache, 1923), and *P. fabioi* Campaner, 1990; herein we add another species to the genus and establish the corresponding new combination. The main difference between *Parapantomorus* and *Pantomorus* Schoenherr is the presence of distinctly separated front coxae. This genus occurs in Argentina, Bolivia, Brazil and Paraguay.

### ***Parapantomorus carinirostris* (Hustache, 1947), new combination**

*Pantomorus carinirostris* Hustache, 1947: 134–135. Type material: holotype male; Argentina, Misiones, Bruch col.; MNHN, col. A. Hustache. Length: 6 mm (Fig. 5).

*Naupactus carinirostris*: Morrone, 1999: 158.

**Geographic distribution:** Northeastern Argentina (Misiones).

**Remarks:** Hustache (1947) stated "type, ma collection, (Bruch), N° 54), and based on the original description it is clear that he studied a single specimen. In Hustache's collection we found this single specimen of *P. carinirostris* labeled as type, and we concluded that is the holotype. In Brazil (Goiás, Mato Grosso, Mato Grosso do Sul and Minas Gerais) there is a similar species, probably new.

### ***Symmathetes* Schoenherr, 1847**

*Symmathetes* Schoenherr, 1847: 31, type species *S. kollari* Schoenherr, 1847, has been considered a synonym of *Pantomorus* Schoenherr, 1840 in most catalogs, and it was revalidated by Morrone (1999) and considered valid by

Lanteri *et al.* (2002). This genus is endemic to Brazil and includes several undescribed species. Its main diagnostic character is the expanded (usually indented) metatibial apex, with a broad, squamose corbel. According to Morrone (1999) this genus includes two species *S. kollari* and *S. setulosus* Hustache. The latter shows the typical character of the genus but the metatibial apex is not indented.

### ***Symmalthetes signatus* (Blanchard, 1847), new combination**

*Oxyops signatus* Blanchard, 1847: 201. Type material: lectotype female herein designated; Bolivia, Chiquitos, d'Orbigny, 1834; MNHN. Length: 6.5 mm (Fig. 6).

*Promecops signatus*: Schenkling & Marshall, 1931: 5.

*Pantomorus signatus*: Kuschel, 1986: 65.

*Naupactus signatus*: Morrone, 1999: 161.

**Geographic distribution:** Bolivia (Santa Cruz).

**Remarks:** This species is characterized by the strongly protruding, conical eyes and was probably described based on a single specimen, labeled as type in the general collection of the MNHN. We considered that this specimen is a syntype and herein designated it as the lectotype.

### ***Teratopactus* Heller, 1921**

*Teratopactus* Heller was revised by del Río *et al.* (2006) and included seven species, some of them originally described in *Naupactus*. Herein we transferred two other species from *Naupactus* to *Teratopactus*, one of them previously classified in *Teratopactus* by other specialists. *Teratopactus* occurs in Argentina, Bolivia, Brazil, Paraguay and Uruguay.

### ***Teratopactus acerbus* (Boheman, 1840), new combination**

*Naupactus acerbus* Boheman, 1840: 31. Type material: lectotype female herein designated; Brazil; NHRS, col. Schoenherr. Length: 11 mm (Fig. 7).

**Geographic distribution:** Brazil (probably Minas Gerais).

**Remarks:** *Teratopactus acerbus* shows dentate humeri and separate front coxae like the other species of *Teratopactus*. The only specimen labeled as typus was herein designated as the lectotype.

### ***Teratopactus sulphureoviridis* Hustache, 1938, new placement**

*Teratopactus sulphureoviridis* Hustache, 1938: 276. Type material: lectotype female herein designated; Paraguay, K Fiebrig, coll Kraatz; MNHN, col. A. Hustache. Length: 10 mm (Figs. 8–9).

*Naupactus sulphureoviridis*: Emden & Emden, 1939: 320; Hustache 1947:63; Wibmer & O'Brien, 1986: 62.

**Geographic distribution:** Paraguay. According to Wibmer & O'Brien (1986: 62) this species also occurs in Argentina and Brazil, but we could not confirm its presence in these countries.

**Remarks:** *Teratopactus sulphureoviridis* was described based on two specimens from the same locality and is very scarce in entomological collections. The single female found at the MNHN and labeled as type is herein designated as the lectotype.

## New synonymies

### *Lanterius inermis* (Hustache, 1947), new synonymy

*Naupactus inermis* Hustache, 1947: 86–87. Type material: lectotype female herein designated; Paraguay, H. Paraná, Hohenau, Jacob; MNHN, col. A. Hustache. Length: 7 mm.

*Naupactus inermis* var. *paraguayanus* Hustache, 1947: 87–88 (infrasubspecific rank).

*Macrostylus* (*Mimographus*) *ocellatus* Lanteri, 1985: 4–5. Type material: holotype female and allotype male, Argentina, Misiones, Colonia El Soberbio, X–1947, Viana col.; at MLP. Length: 8 mm. Five paratypes with same data as the holotype and 10 paratypes from Brazil, Santa Catarina, Nova Teutonia. Length: 8mm. (Fig. 10). **New synonymy.**

*Mimographus ocellatus*: Marvaldi & Loíacono, 1994: 461 (description of first instar larva).

*Lanterius inermis*: del Río *et al.*. 2018: 13.

**Geographic distribution:** Northeastern Argentina (Misiones), Southern Brazil (Paraná, Rio Grande do Sul and Santa Catarina) and Paraguay (Itapúa). Hohenau is currently in Itapúa department, not in Alto Paraná (= H. Paraná).

**Remarks:** Lanteri (1985) described the new species *Macrostylus* (*Mimographus*) *ocellatus*, with two morphotypes, the *ocellatus* morphotype is completely squamose and corresponds to the type of *N. inermis*, and the *denudatus* morphotype is mostly naked (lacking scales) except for two longitudinal stripes along the margins of the pronotum and elytra, and along the dorsum of the pronotum and anterior third of the 4th elytral interval (see Lanteri 1985:5) and corresponds to the type of *N. inermis* var. *paraguayanus*. Morphotypes (or phenotypes) coexist in the same localities. *Naupactus inermis* was described based on two syntypes, female and male, the former herein designated as lectotype. Moreover, in Hustache's collection in the MNHN there are 16 females (Paraguay, H. Paraná, Hohenau) of *N. inermis* var. *paraguayanus* labeled as types. In the case of *N. inermis* var. *paraguayanus* it is obvious that the author did not want to describe a subspecies, because the material studied comes from the same locality as the type of *N. inermis*.

### *Naupactus auricinctus* Boheman, 1833

*Naupactus auricinctus* Boheman, 1833: 584–585. Type material: lectotype female herein designated; Brazil; NHRS, col. Schoenherr. Length: 12.5 mm (Fig. 11).

*Naupactus ruficornis* Boheman, 1840: 40. Type material: lectotype male herein designated; Brazil; NHRS, col. Schoenherr. Length: 13 mm (Fig. 12). **New synonymy.**

*Naupactus chloris* Hustache, 1947: 82. Type material: lectotype female herein designated; Argentina, Misiones, Río Paraná; MNHN, col. Hustache. Length: 13 mm. Synonymy by Kuschel 1955: 279.

**Geographic distribution:** Northern Argentina (Chaco, Misiones and Santiago del Estero), Bolivia (Santa Cruz), Brazil (Minas Gerais, Rio Grande do Sul, Santa Catarina and São Paulo), and Paraguay (Central, Cordillera, Guairá, Itapúa and Paraguari). **Bolivia is a new country record** (one female from Santa Cruz, Ichilo, Buena Vista, II-1950, A. Martínez MZSP).

**Remarks:** Herein we establish the synonymy of *N. auricinctus* (female syntypes) with *N. ruficornis* (male type) because their morphological differences are due to sexual dimorphism. In Schoenherr's collection we found two specimens labeled as typus of *N. auricinctus*, one of them with an additional label of holotypus, G. Kuschel 1985. In Chevrolat's collection we found two other females labeled as paratypes, which are probably not part of the type series. We consider that the holotypus and paratypes labels are not correct because all the specimens are syntypes, consequently, we designated the female that bears the label of holotypus as lectotype.

The type series of *N. chloris* includes one female labeled as type and 23 females from Argentina (Misiones, Chaco and Santiago del Estero provinces) and Paraguay (Hohenau, Itapúa department) mentioned in the original description as part of the type series. We designated the specimen that bears the label of type as the lectotype. In the females from Argentina and Paraguay (= type of *N. chloris*) the pronotum is slightly wider than in those from Brazil (type of *N. auricinctus*); in the males (= type of *N. ruficornis*) the pronotum is more convex than in the females.

### ***Naupactus bridgesii* G.R. Waterhouse, 1844**

*Naupactus bridgesii* G.R. Waterhouse, 1844: 54. Type material: lectotype male herein designated; Argentina, Mendoza, Uspallata; NHM, London. Length: 13mm. (Fig. 13).

*Naupactus angulithorax* Hustache, 1947: 64–65. Type material: lectotype female herein designated; Argentina, San Juan, Carpintería, 15–I–1907; MNHN, col. A. Hustache. Length: 14 mm (Fig. 14). **New synonymy.**

**Geographic distribution:** Argentina (Catamarca, Formosa, La Rioja, Mendoza, Río Negro, Salta, San Juan, San Luis and Tucumán), Bolivia (Cochabamba, Potosí, Santa Cruz and Sucre) and Paraguay (Paraguarí). **Paraguay is a new country record** (two females and two males from Paraguarí, Sapucaí, III-1902, BMNH).

**Remarks:** The only specimen at NHM labeled as holotype of *N. bridgesii* is herein designated lectotype, because the original publication is not clear about the number of specimens studied by the author. *Naupactus angulithorax* was described based on two specimens, one female from San Juan and one male from Tucumán, V–1907, C. Bruch, both labeled as types in Hustache's collection. The former is herein designated as lectotype and the latter is a paralectotype.

### ***Naupactus condecoratus* Boheman, 1840**

*Naupactus condecoratus* Boheman, 1840: 38–39. Type material: lectotype female herein designated; Brazil; NHRS, col. Schoenherr. Length: 12 mm (Fig. 15).

*Naupactus bosqi* Hustache, 1947: 80–81. Type material: holotype male; Argentina, Corrientes, Santo Tomé, X–1925; NMNH, col. Hustache. Length: 12 mm (Fig. 16). **New synonymy.**

**Geographic distribution:** Northeastern Argentina (Misiones and Corrientes), Brazil (Paraná, Rio de Janeiro, Santa Catarina and São Paulo) and Paraguay (Itapúa).

**Remarks:** The morphological differences between *N. condecoratus* (type female) and *N. bosqi* (type male) are due to sexual dimorphism and color variation. In the type of *N. condecoratus* the scaly vestiture is green and in the variety  $\beta$  is purple to copper-colored, same as in the type of *N. bosqi*. The females from Argentina and Paraguay show a slightly wider pronotum than those from Brazil.

### ***Naupactus cyphoides* (Heller, 1921)**

*Archopactus cyphoides* Heller, 1921: 24. Type material: lectotype female herein designated; Argentina, Tucumán, XI–1899, Bruch leg; SMT, Dresden. Length: 12 mm; grey and brownish vestiture (Fig. 17).

*Archopactus griseomaculatus* Hustache, 1923: 280 (originally described as a variety of *A. cyphoides*). Type material: lectotype female herein designated; Argentina, Chaco de Santiago, Río Salado; MNHN, col. Hustache. Length: 12 mm; grey and brownish vestiture.

*Naupactus cyphoides*: Dalla Torre, Emden & Emden, 1936: 18; Wibmer & O'Brien, 1986: 59.

*Naupactus prasimus* Hustache, 1947: 44, 65 (originally described as a variety of *N. cyphoides*). Type material: holotype female; Argentina, Chaco de Santiago, Río Salado, C. Bruch; NMNH, col. Hustache. Length: 10 mm; green, scaly vestiture not uniform.

*Naupactus viridimarginalis* Hustache, 1947: 43, 65 (originally described as a variety of *N. cyphoides*). Type material: lectotype female herein designated; Argentina, Chaco de Santiago, Río Salado; MNHN, col. Hustache. Length: 13 mm; almost naked (lacking scales), with pair of green marginal stripes along sides of pronotum and elytra.

*Naupactus calamuchitanensis* Hustache, 1947: 65–66. Type material: lectotype male herein designated; Argentina, Córdoba, El Sauce, Dto. Calamuchita, XII–1938, MJ Viana; at MNHN, col. Hustache. Length: 8.5 mm; naked (lacking scales) except for two pairs of green stripes (dorsal and marginal) along pronotum and elytra (Fig. 18). **New synonymy.**

*Naupactus viridinitens* Hustache, 1947: 66. Type material: lectotype female herein designated; Argentina, Chaco de Santiago, Río Salado; MNHN, col. Hustache. Length: 13.5 mm; uniformly green, with pinkish stain on dorsum of pronotum, legs and venter (Fig. 19). **New synonymy.**

*Naupactus viridulus* Hustache, 1947: 66. Type material: lectotype female herein designated; Argentina, Chaco de Santiago, Río Salado; MNHN, col. Hustache. Length: 9 mm, vestiture sparse, with two pairs of green stripes (dorsal and marginal) along pronotum and elytra (Fig. 20). **New synonymy.**

**Geographic distribution:** North–Central Argentina (Buenos Aires, Córdoba, Chaco, Formosa, La Rioja, Rio

Negro, San Luis, Santa Fe, Santiago del Estero and Tucumán), Bolivia (Tarija), Paraguay (Capital and Presidente Hayes) and Uruguay (Río Negro). **Paraguay is a new country record.** (female from Asunción, IX-1922 to IV-1923, EG Kent, BMNH).

**Remarks:** *Naupactus cyphoides* shows several morphotypes that occur in sympatry in north-central Argentina, especially in Santiago del Estero province (Chaco de Santiago *sensu* Hustache), along the gallery forest of the Río Salado. Males are more slender and smaller than females, and they are absent or scarce in some populations. Herein we establish three new synonymies and we designated five lectotypes (for *N. griseomaculatus*, *N. viridimarginalis*, *N. calamuchitanensis*, *N. viridinitens* and *N. viridulus*). The only specimen labeled as type, within the type series of each nominal species, was selected as lectotype and the remaining specimens of the series are paralectotypes. Moreover, there are paralectotypes in two Argentinean collections, MLP (*Naupactus viridimarginalis*, see Morrone & Loíacono, 1992) and MACN (*Naupactus cyphoides* and *N. griseomaculatus*, see Bachmann & Lanteri, 2013).

### ***Naupactus peregrinus* (Buchanan, 1939)**

*Pantomorus* (*Graphognathus*) *peregrinus* Buchanan, 1939: 14. Type material: holotype female; USA, Mississippi, Gulfport, 3-IX-1937, Gladney and Padget; USNM, Washington DC. Length: 8.5 mm.

*Graphognathus peregrinus*: Buchanan, 1947: 19; Warner 1975: 856; O'Brien & Wibmer 1982: 29; Wibmer & O'Brien 1986: 63.

*Naupactus peregrinus*: Lanteri & Marvaldi, 1995: 222.

*Naupactus brevicrinitus* Hustache, 1947: 103. Type material: holotype female; Argentina, Chaco de Santiago del Estero, Río Salado; MNHN, col. Hustache. Length: 8 mm. **New synonymy.**

**Geographic distribution:** Argentina (Chaco, Entre Ríos, Misiones, Santa Fe and Santiago del Estero), Southern Brazil (Rio Grande do Sul), Paraguay (Central) and Uruguay (Paysandú); introduced in the USA and the Açores Is. (Portugal) (Alonso-Zarazaga *et al.*, 2017).

**Remarks:** *Naupactus brevicrinitus* was described based on a single specimen from Argentina, Santiago del Estero province, and *N. peregrinus* was based on material from the USA, where the species was introduced from South America. There are paratypes of *N. peregrinus* in the USNM, MLP and MACN (see Morrone & Loíacono, 1992 and Bachmann & Lanteri, 2013).

The closely related species *N. minor* (Buchanan, 1942), was also described based on material from the USA, and has a junior synonym, *N. breviscapus* Hustache, 1947, from Argentina (Buenos Aires and Corrientes provinces) and Uruguay (Montevideo).

### ***Trichonaupactus densior* Hustache, 1939**

*Trichonaupactus densius* Hustache, 1939: 46 (incorrect original spelling). Type material: lectotype female herein designated; Argentina, La Pampa, General Pico, IV-1934, JM Bosq; MNHN, col. Hustache. Length: 12 mm.

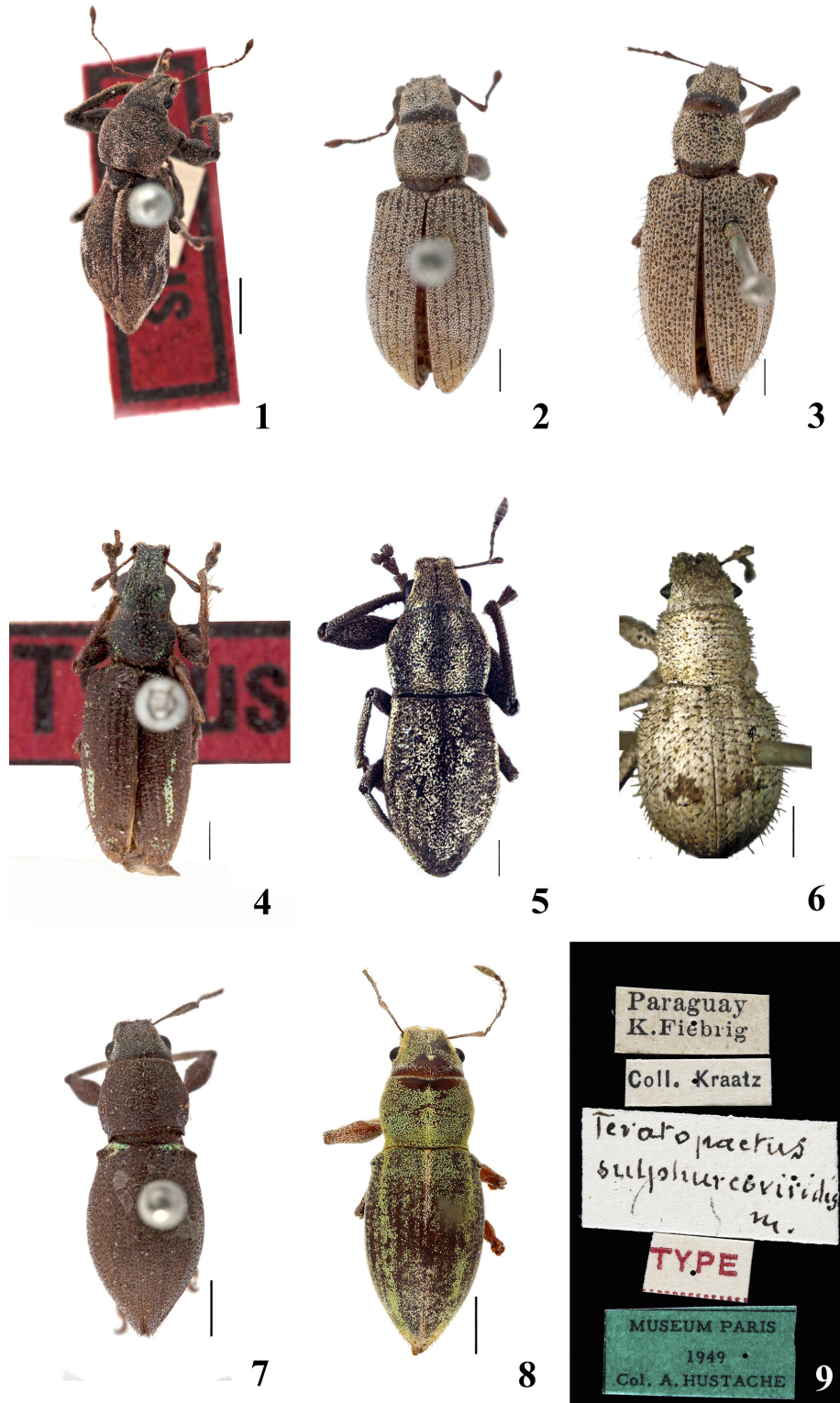
*Trichonaupactus densius* var. *albescens* Hustache, 1939: 47 (infrasubspecific rank).

*Trichonaupactus rexus* Hustache, 1939: 47. Type material: holotype female; Uruguay, Montevideo, J. Tremoleras; MNHN, col. Hustache. Length: 15 mm (Fig. 21). **New synonymy.**

**Geographic distribution:** Argentina (Buenos Aires and La Pampa) and Uruguay (Montevideo).

**Remarks:** We established the synonymy of the only two species of the genus *Trichonaupactus* Hustache, 1939, *T. densius* (replaced by *T. densior* in Alonso-Zarazaga & Lyal 1999, because the original spelling was incorrect) and *T. rexus*, because we consider that the characters used to distinguish these species correspond to geographic variation. The only female of *T. densior* that bears the type label is herein designated as lectotype. There are paralectotypes with same data as the lectotype in the Hustache collection in MNHN (three females) and in MLP, Argentina (10 females and two males) (see Morrone & Loíacono, 1992). Moreover, in MNHN there is a female from Argentina, La Pampa. General Pico, IV-1934, JM Bosq, labeled as type of *T. densius* var. *albescens*. The material of this variety comes from the same locality as the type of *T. densior*, consequently this variety should be not treated as subspecific but as infrasubspecific.





**FIGURES 1–9.** Habitus photographs of the species of Naupactini treated herein. 1, *Alceis curtus* (Boheman) (new comb. for *Naupactus curtus*), lectotype female NHRS. 2, *Lanterius leucophaeus* (Boheman) (new comb. for *Naupactus leucophaeus*), lectotype female NHRS. 3, *Lanterius sparsus* (Boheman) (new comb. for *Naupactus sparsus*), lectotype female NHRS. 4, *Lanterius sellatus* (Boheman), lectotype male of the junior synonym *Naupactus subvittatus* Boheman NHRS. 5, *Parapantomorus carinirostris* (Hustache) (new comb. for *Naupactus carinirostris*), holotype male MNHN. 6, *Symmathetes signatus* (Blanchard) (new comb. for *Pantomorus signatus*), lectotype female MNHN. 7, *Teratopactus acerbus* (Boheman) (new comb. for *Naupactus acerbus*), lectotype female NHRS. 8, *Teratopactus sulphureoviridis* Hustache, lectotype female MNHN. 9, labels of *Teratopactus sulphureoviridis* Hustache, lectotype female MNHN. Figures 2–6 scales = 1 mm. Figures 1, 7–8 scales = 2 mm.



**FIGURES 10–20.** Habitus photographs of the species of Naupactini treated herein. 10, *Lanterius inermis* (Hustache) (senior syn. of *Mimographus ocellatus* (Lanteri), female MLP). 11, *Naupactus auricinctus* Boheman, lectotype female NHRS. 12, *Naupactus ruficornis* Boheman (junior syn of *N. auricinctus*), lectotype male NHRS. 13, *Naupactus bridgesii* Waterhouse, lectotype male NHM. 14, *Naupactus angulithorax* Hustache (junior syn. of *N. bridgesii*), lectotype female MNHN. 15, *Naupactus condecoratus* Boheman, lectotype female NHRS. 16, *Naupactus bosqi* Hustache (junior syn of *N. condecoratus*), holotype male NMNH. 17, *Naupactus cyphoides* (Heller), female. 18, *Naupactus calamuchitanensis* Hustache (junior syn of *N. cyphoides*), male. 19, *Naupactus viridinitens* Hustache (junior syn of *N. cyphoides*), female. 20, *Naupactus viridulus* Hustache (junior syn of *N. cyphoides*), paralectotype male MNHN. 21, *Trichonaupactus rexus* Hustache (junior syn of *T. densior* Hustache), holotype female MNHN. Figure 10 scale= 1 mm. Figures 11–20 scales= 2 mm.

## Acknowledgement

We wish to express our appreciation to all the curators that facilitated the examination of types and other specimens during our visits to their institutions, Hélène Perrin and Antoine Mantilleri (MNHN), Max Barclay and Christopher Lyal (NHM), Johannes Bergsten (NHRS), Olaf Jaeger (SMT), Jens Prena and David Furth (USNM), Sergio Vanin (MZSP), Marcela and Miguel Monné (MNRJ) and Charles O'Brien (CWOB); to Karla Schneider (ZMUH) for sending us the information about the types deposited in the Zoologisches Museum der Universität Halle-Wittenberg (Germany) and to Antoine Mantilleri for taking quality pictures of some types deposited at the MNHN. To Paulina Hernández for her technical support, to Guillermo Wibmer, for the critical reading and checking the English language and to the reviewers and editor that helped to improve the manuscript. To the “Consejo Nacional de Investigaciones Científicas y Técnicas” (CONICET), the “Universidad Nacional de La Plata” (11/N852) and the “Agencia Nacional de Promoción Científica y Tecnológica” (PICT 2016-2798), for their continuous financial support.

## References

- Alonso Zarazaga, M.A. & Lyal, C.H.C. (1999) *A world catalogue of families and genera of Curculionoidea (Insecta: Coleoptera)* (excepting Scolytidae and Platypodidae). Entomopraxis SC, Barcelona, Spain, 316 pp.
- Alonso-Zarazaga, M.A., Barrios, H., Borovec, R., Bouchard, P., Caldara, R., Colonnelli, E., Gültekin, L., Hlaváč, P., Korotyaev, B., Lyal, C.H.C., Machado, A., Meregalli, M., Pierotti, H., Ren, L., Sánchez-Ruiz, M., Sforzi, A., Silfverberg, H., Skuhrovec, J., Trýzna, M., Velázquez de Castro, A.J. & Yunakov, N.N. (2017) *Cooperative Catalogue of Palaearctic Coleoptera Curculionoidea*. Monografías Electrónicas SEA 8. 1–729 pp. Available from: [http://sea-entomologia.org/PDF/MeSEA\\_8\\_Catalogue\\_Palaeartic\\_Curculionoidea.pdf](http://sea-entomologia.org/PDF/MeSEA_8_Catalogue_Palaeartic_Curculionoidea.pdf) (Accessed 16 Oct. 2018)
- Bachmann, A. & Lanteri, A.A. (2013) A catalog of the types of Curculionoidea (Insecta, Coleoptera) deposited at the Museo Argentino de Ciencias Naturales. *Revista del Museo Argentino de Ciencias Naturales*, 15 (2), 209–280.
- Blanchard, E. (1847) In: d'Orbigny, A., *Voyage dans l'Amérique méridionale: (le Brésil, la république orientale de l'Uruguay, la République argentine, la Patagonie, la république du Chili, la république de Bolivie, la république du Pérou), exécuté pendant les années 1826, 1827, 1828, 1829, 1830, 1831, 1832, et 1833*. Bertrand, Paris, Levrault, Strasbourg, Vol. 6, part 2 (Insectes), 1837–43 (1847), 222 pp, illus. [Curc. 201–204].
- Boheman, C.H. (1833) In: Schoenherr, C.J., *Genera et species curculionidum cum synonymia hujus familiae*. Vol 1, part 2; Roret, Paris; Fleischer, Lipsiae, pp. 383–685.
- Boheman, C.H. (1840) In: Schoenherr, C.J., *Genera et species curculionidum cum synonymia hujus familiae*. Vol 6, part 1, Roret, Paris, Fleischer, Lipsiae, pp. 1–474.
- Bordón, C. (1997) El género *Naupactus* Dejean (Coleoptera: Curculionidae) en Venezuela. *Acta Biológica Venezolana*, 17 (2), 11–51.
- Buchanan, L.L. (1939) The species of *Pantomorus* of America north of Mexico. *United States Department of Agriculture, Miscellaneous Publications*, 341, 1–39.
- Buchanan, L.L. (1942) Four new species of white-fringed beetles (subgenus *Graphognathus*) from the southeastern part of the United States (Coleoptera: Curculionidae). *Bulletin of the Brooklyn Entomological Society*, 37 (3), 107–110.
- Buchanan, L.L. (1947) A correction and two new races in *Graphognathus* (white-fringed beetles) (Coleoptera: Curculionidae). *Journal of Washington Academy of Sciences*, 37 (1), 9–22.
- Dalla Torre, K.W. von, Emden, M. van & Emden, F. van (1936) Curculionidae: Brachyderinae I. In: Schenkling, S. (ed.) *Coleopterorum catalogus*, auspiciis et auxilio W Junk, 's-Gravenhage, pars 153, pp. 1–134.
- del Río, M.G., Lanteri, A.A. & Guedes, J.V.C. (2006) Taxonomic revision and cladistic analysis of *Teratopactus* Heller (Coleoptera, Curculionidae). *Invertebrate Systematics*, 20 (5), 585–602.
- del Río, M.G., Rodriguero, M.S., Confalonieri, V.A. & Lanteri, A.A. (2018). Molecular and morphological phylogenetic analysis of *Naupactus* Dejean (Curculionidae: Entiminae) and allied genera: the dilemma of classification. *Diversity*, 10 (3), 59.  
10.3390/d10030059.
- Emden, M. van & Emden, F. van (1939) Curculionidae: Brachyderinae III. In: Schenkling, S. (Ed.) *Coleopterorum catalogus*, auspiciis et auxilio W Junk, 's-Gravenhage, pars 164, pp. 197–327.
- Giebel, C.G.A. (1869) *Verzeichniss der im Zoologischen Museum der Universität Halle-Wittenberg aufgestellten Rüsselkäfen*. Halle, Ploetz, 120 pp.
- Heller, K.M. (1921) Nuevos curculionidos de la Argentina. *Anales de la Sociedad Científica Argentina*, 91, 19–35.
- Hustache, A. (1923) Curculionides de l'exploration Lizer-Delétang au Chaco bolivien. *Anales de la Sociedad Científica Argentina*, 96, 278–300.
- Hustache, A. (1938) Curculionides nouveaux de l'Amérique méridionale, qui se trouvent dans le Deutsches Entomologisches

- Institut (2° note). *Arbeiten über morphologische und taxonomische Entomologie aus Berlin-Dahlem*, 5 (3), 265–288.
- Hustache, A. (1939) Curculionides nouveaux de l'Argentine et autres régions Sud-Américaines. *Anales de la Sociedad Científica Argentina*, 128, 38–64.
- Hustache, A. (1947) Naupactini de l'Argentine et des régions limitrophes (Col. Curculion.). *Revista de la Sociedad Entomológica Argentina*, 13 (1–5), 3–146.
- Kuschel, G. (1955) Nuevas sinonimias y anotaciones sobre Curculionoidea (Coleoptera). *Revista chilena de Entomología*, 4, 261–312.
- Kuschel, G. (1986) In: Wibmer, G.J. & O'Brien, C.W., Annotated checklist of the weevils (Curculionidae sensu lato) of South America (Coleoptera: Curculionoidea). *Memoirs of the American Entomological Institute*, 39, 1–563.
- Lanteri, A.A. (1985) Revisión de las especies argentinas del género *Macrostylus* Boheman, subgénero *Mimographus* Schoenherr (Coleoptera: Curculionidae). *CIPFE-CED Orione Contribuciones Biológicas*, 12, 1–6.
- Lanteri, A.A. & del Río, M.G. (2017a) Phylogeny of the tribe Naupactini (Coleoptera: Curculionidae) based on morphological characters. *Systematic Entomology*, 42 (2), 429–447.
- Lanteri, A.A. & del Río, M.G. (2017b) *Naupactus xanthographus* (Germar) species group (Curculionidae: Entiminae: Naupactini): a comprehensive taxonomic treatment. *Journal of Natural History*, 51 (27–28), 1557–1587.
- Lanteri, A.A. & Marvaldi, A.E. (1995) *Graphognathus* Buchanan, a new synonym of *Naupactus* Dejean, and systematics of the *N. leucoloma* species group (Coleoptera: Curculionidae). *The Coleopterists Bulletin*, 49 (3), 206–228.
- Lanteri, A.A., Guedes, J.C.V. & Parra, J.R.P. (2002) Weevils Injurious for Roots of Citrus in São Paulo State, Brazil. *Neotropical Entomology*, 31 (4), 561–569.
- Marvaldi, A.E. & Loíacono, M.S. (1994) First instar larvae in the tribe Naupactini (Coleoptera: Curculionidae). *Revista brasileira de Entomologia*, 38 (2), 453–466.
- Morrone, J.J. (1999) The species of Entiminae (Coleoptera: Curculionidae) ranged in America south of United States. *Anales del Instituto de Biología, UNAM, Serie Zoología*, 70 (2), 99–168.
- Morrone, J.J. & Loíacono, M.S. (1992) Los ejemplares tipo de Curculionidae sensu lato (Coleoptera: Curculionoidea) depositados en la colección del Museo de La Plata. *Revista del Museo de La Plata, Serie Técnica y Didáctica*, 15, 1–41.
- O'Brien, C.W. & Wibmer, G.J. (1982) Annotated checklist of the weevils (Curculionidae sensu lato) of North America, Central America, and the West Indies (Coleoptera: Curculionoidea). *Memoirs of the American Entomological Institute*, 34, 1–382.
- Schenkling, S. & Marshall, G.A.K. (1931) Curculionidae: Eremninae, Leptopinae, Tanyrrhynchinae, Cylindrorrhinae, Thecesternidae (suppl.), Rhytirrhinae (suppl.), Rhyparosominae (suppl.), In: Junk, W. & Schenkling, S. (Eds.) *Coleopterorum catalogus*, auspiciis et auxilio W Junk, Berlin, pars 114, 1–162.
- Schoenherr, C.J. (1847) Mantissa secunda familiae curculionidum seu descriptiones novorum quorundam generum curculionidum. Typis Norstedt et filii, Holmiae, I + 86 pp.
- Warner, R.E. (1975) New Synonyms, Key and Distribution of *Graphognathus*, Whitefringed Beetles (Coleoptera: Curculionidae) in North America. *United States Department of Agriculture, Cooperation Economic Institute Report*, 25 (44), 855–860.
- Waterhouse, G.R. (1844) Contributions to the entomology of the southern portions of South America. *Annals and Magazine of Natural History*, 13, 41–55.
- Wibmer, G.J. & O'Brien, C.W. (1986) Annotated checklist of the weevils (Curculionidae sensu lato) of South America (Coleoptera: Curculionoidea). *Memoirs of the American Entomological Institute*, 39, 1–563.