

**A TAXONOMIC REVISION OF THE GENUS *JANSONIUS* BALY 1878:
TAXONOMIC CONFUSION AND TRIBAL RECLASSIFICATION
(COLEOPTERA: CHRYSOMELIDAE: EUMOLPINAE)**

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ABSTRACT

The species *Haltica aenea* Blanchard, 1851, described from Chile, is found to be a eumolpine; it has been misidentified by authors variously as a species of *Chaetocnema* (Alticinae), and as two monobasic genera of Eumolpinae.

The genera *Paraulacia* Brèthes, 1928 (Eumolpinae), and *Halticops* Brèthes, 1928 (here removed from synonymy of *Chaetocnema* Stephens), are here placed as junior objective synonyms of *Jansonius* Baly, 1878. *Eumolpus valdivianus* Philippi and Philippi, 1864, *Chaetocnema blanchardi* Baly, 1877, and *Jansonius alternatus* Baly, 1878, are placed as junior subjective synonyms of *Haltica aenea* Blanchard, 1851; *H. aenea* is transferred to *Jansonius* as the senior and valid name, emended to *J. aeneus*. *Jansonius* is removed from the Section Myochroites, in Adoxini, and transferred to Metachromites in Nodinini.

RESUMEN

Se concluye que *Haltica aenea* Blanchard, 1851, especie propia de Chile, es un Eumolpinae, la cual ha sido erróneamente identificada por distintos autores como perteneciente a *Chaetocnema* (Alticinae) y a dos géneros monobásicos de Eumolpinae.

Paraulacia Brèthes, 1928 (Eumolpinae) y *Halticops* Brèthes, 1928 (removido aquí de la sinonimia de *Chaetocnema* Stephens) se consideran sinónimos de *Jansonius* Baly, 1877. *Eumolpus valdivianus* Philippi and Philippi, 1864, *Chaetocnema blanchardi* Baly, 1877 y *Jansonius alternatus* Baly, 1877, son considerados sinónimos de *Haltica aenea* Blanchard, 1851; esta última es ubicada en el género *Jansonius*, debiendo quedar como *J. aeneus*. *Jansonius* es transferido desde Adoxini (Sección Myochromites) a Nodinini (Sección Metachromites).

INTRODUCTION

The Chrysomelidae of Chile are a largely unstudied and highly endemic fauna; despite extensive study of Neotropical chrysomelids by Jan Bechyné, he hardly treated the Chilean fauna at all. Blanchard (1851), Philippi and Philippi (1864) and Brèthes (1928) described most of the species of Eumolpinae known from Chile. As was typical for many decades, authors did not examine type specimens, and/

or described taxa from few specimens, so it comes as no surprise that considerable confusion exists at all taxonomic levels.

The objectives of the present study are to detail the taxonomic problems that have arisen due to misidentification of *Haltica aenea* Blanchard, 1851, described in Alticinae, to revalidate and redescribe *Jansonius aeneus* (Blanchard), and to examine the position of *Jansonius* in Eumolpinae.

MATERIALS AND METHODS

Twenty-seven specimens plus types formed the basis of this paper, borrowed from collections cited in acknowledgements (BMNH, MNHN, CHIL, TMB, CAS, USNM), and from CNC (Biosystematics Research Centre, Agriculture Canada, Ottawa, Ont., Canada); the collection of ISA id identified by the coden ISAC.

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Male genitalia were briefly hydrolyzed in warm potassium hydroxide, rinsed in water, and studied in a glycerine medium. Female genitalia were dissected after the specimen was relaxed in hot acetic alcohol, dehydrated in isopropanol, cleared and studied in cedar oil, and permanently mounted in Canada balsam on a small transparent plate. Drawings were made with a camera lucida.

TAXONOMIC HISTORY AND DISCUSSION

Certain Alticinae (e.g. *Chaetocnema* Stephens), and many Eumolpinae, possess a curious structure on the meso- and metatibiae (Figure 2); these tibiae are somewhat toothed subapically on the dorsolateral margin, following which the tibia is "emarginate"; the edge of this emargination is "ciliate", appearing a little like an antennal cleaner found on the protibiae in many Carabidae. Brèthes referred to this particular structure in descriptions of both *Paraulacia* (in Eumolpinae) and *Halticops* (in Alticinae). No other known Chilean eu-

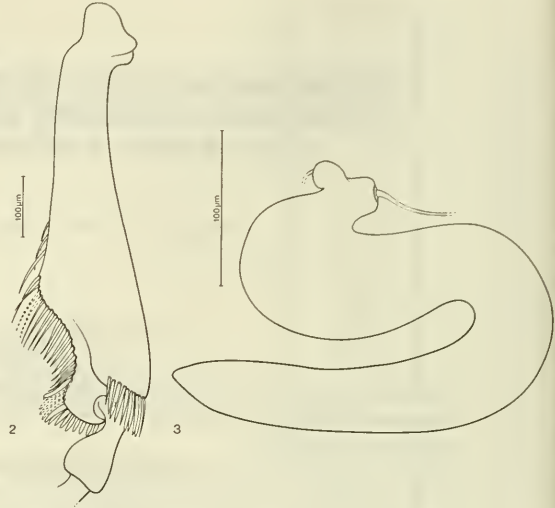


Figure 2. Mesotibia of *Jansonius aeneus*, mesal aspect.

Figure 3. Spermatheca of *Jansonius aeneus*.

molpine has such tibial structure, nor has any other Chilean alticine except *Chaetocnema*. The descriptions presented by Blanchard (1851), for *Holtica aenea*, and by Philippi and Philippi (1864) for *Eumolpus valdivianus*, neglected to mention either tibial structure or unique arrangement of elytral punctures.

Species of *Chaetocnema* (subgenus *Tlanoma* Motschulsky) possess distinctly punctate-striate elytra, and so does *Jansonius* (though some *Chaetocnema* (s. str.) have partially confused strial punctures). Strial puncture arrangement is unique in *Jansonius* in that discal striae are paired in arrangement, with alternating alutaceous and smooth intervals (Figure 1). It is easily understood that authors faced with a punctate-striate flea beetle with emarginate tibiae would place it in *Chaetocnema*. It is therefore no surprise that Baly assigned a small species describes in *Haltica*, with punctate-striate elytra, to *Chaetocnema* also. This appears to be precisely what led Baly (1877) to mistake Blanchard's *H. aenea* for a *Chaetocnema*; Blanchard's *H. aenea*, thus transferred to *Chaetocnema*, became a junior secondary homonym of *Dibolia aenea* Waterhouse (then also in *Chaetocnema*); Baly (1877) therefore replaced *H. aenea* with *C. blanchardi*.

Like Baly, Philippi and Philippi (1864) and Brèthes (1928) must have assumed *H. aenea*



Figure 1. Photograph of *Jansonius aeneus*.

Blanchard to be an alticine. Thus, Philippi and Philippi (1864), unable to assign specimens of a small eumolpine to any known species or genus, but unsure of its generic assignment, described a “?*Eumolpus valdivianus*”. Subsequently, Brèthes (1928) proposed the name *Paraulacia* to take up *E. valdivianus*. Brèthes, evidently unaware of Baly’s treatment of *Haltica aenea* and assignment to *Chaetocnema*, also proposed the name *Halticops* into which *H. aenea* should be placed. Naturally, Scherer (1962) synonymized *Halticops* with *Chaetocnema*, based on Baly’s (1877) incorrect concept of *H. aenea* Blanchard. *Jansonius alternatus* Baly (1878) was unconsidered by Brèthes (1928).

On the basis of examination of type specimens, *Haltica aenea* Blanchard, *Eumolpus valdivianus* Philippi and Philippi and *Jansonius alternatus* Baly are identical, and the genera based on them are therefore synonyms. On the basis of simple seniority, *Halticops* Brèthes and *Paraulacia* Brèthes are junior objective synonyms of *Jansonius* Baly because they are based on the same species. The most senior, and therefore valid, name is *Haltica aenea* Blanchard [not a junior primary homonym of *Altica aenea* Olivier (1808:690)]³.

The two specimens (in BMNH) that Baly had determined as *H. aenea* (and therefore renamed as *Chaetocnema blanchardi*) are truly *Chaetocnema*. The namebearing type of Baly’s *C. blanchardi* is not one of these specimens; rather, it is the type specimen of Blanchard’s *H. aenea* (MNHN), as stated below. Therefore, Baly’s specimens apparently represent an undescribed species.

The revised synonymies pertinent to this genus and its single included member, on the basis of the above discussion, are detailed below. A description is presented in detail for the included species, which applies equally to the genus.

³*Haltica* Illiger is not a junior homonym of *Altica* Fabricius (not *Altica* Geoffroy). *Altica* was intentionally emended as *Haltica* by early authors; it is therefore an unjustified emendation [cf. ICZN Art. 33(b) (iii)], and the names *A. aenea* Olivier and *H. aenea* Blanchard are not primary homonyms, or *E. valdivianus* would be the valid name to be used.

Jansonius Baly (1878:264)

Type species: *Jansonius alternatus* Baly (1878:264), by monotypy.

Paraulacia Brèthes (1928:212). Type species *Eumolpus valdivianus* Philippi and Philippi (1864:388), by monotypy.

NEW SYNONYMY

Halticops Brèthes (1928:219). Type species *Haltica aenea* Blanchard (1851:557), by monotypy (placed in synonymy of *Chaetocnema* by Scherer 1962:538, here removed from synonymy of *Chaetocnema*).

NEW SYNONYMY

Jansonius: Lefèvre (1885:125); Clavareau (1914:133, in Myochroini), Bechyné (1950:290, 1953:263, in Myochroini), Blackwelder (1946:664), Seeno and Wilcox (1982:64, in Myochroites).

Paraulacia: Bechyné (1953:263, in Myochroini), Seeno and Wilcox (1982:64, in Myochroites).

Jansonius aeneus (Blanchard)

NEW STATUS, NEW COMBINATION

Haltica aenea Blanchard (1851:557)

Eumolpus valdivianus Philippi and Philippi (1864:388)

NEW SYNONYMY

Chaetocnema blanchardi Baly (1877:308) (replacement name for *H. aenea* Blanchard).

NEW SYNONYMY

Jansonius alternatus Baly (1878:264) **NEW SYNONYMY**

Jansonius alternatus: Lefèvre (1885:125), Bechyné (1953:263).

Paraulacia valdiviana: Brèthes (1928:212), Bechyné (1953:263).

Halticops aeneus: Brèthes (1928:219).

Halticops blanchardi: Heikertinger and Csiki (1940:249); Blackwelder (1946:700).

Eumolpus valdivianus: Blackwelder (1946:663).

Type specimens: Data of individual labels borne by type specimens are separated by a “/”. The differing determination labels ISA placed on these types reflect changes in understanding of the taxonomic problem as it became resolved.

Haltica aenea Blanchard (1851:557): LECTO-TYPE (sex undetermined), MNHN: “15 43 [whitish disc, green underside] / Muséum Pa-

ris coll générale [greenish, added by N. Berti] / TYPE [red, added by N. Berti] / *Haltica aenea* [handwritten]". ISA added the labels "LECTOTYPE *Haltica aenea* Blanch. design. IS Askevold, 1988 [red]" and "Halticops aenea (Blanchard) det. IS Askevold 1988". The namebearing type of *Chaetocnema blanchardi*, proposed by Baly to replace *Haltica aenea* Blanchard, is the lectotype of *Haltica aenea* Blanchard; the two specimens in BMNH that Baly examined, and which bear a type label, are not types, because *C. blanchardi* is merely a replacement name [cf. ICZN (1985) Article 72e].

Eumolpus valdivianus Philippi and Philippi (1864:388): LECTOYPE (sex undetermined), CHIL: "1085 [handwritten, white] / [blank white label] / Typus [red] / *Eumolp. valdivianus* Ph. (pale blue, penciled) / *Eumolpus valdivianus* Ph. Typus! [Kuschel label] / CHILE M.N.H.N. Tipo No. 3091". ISA added the labels "LECTOTYPE *Eumolpus valdivianus* Phil. and Phil. 1864 design. I.S. Askevold 1989 [red]" and "*Paraulacia aenea* (Blanchard) det. I.S. Askevold 1989". Also in the Philippi collection there are a single paratype (CHIL type #3092), and 3 "Typus" specimens labelled as variations, CHIL types # 3088, 3089 & 3090), all labelled with the same reference number, 1085. These specimens were described as variations of *E. valdivianus*, α , β and γ ; the paratype and the latter three specimens are designated paralectotypes.

Jansonius alternatus Baly (1878:264): HOLOTYPE [sex undetermined], BMNH: "Chili / Type / Type / Type [red trim disc] / *Jansonius alternatus* Baly Chili / *Jansonius alternatus* Baly Chili [Baly's handwriting] / Baly Coll." ISA added the label "*Jansonius aeneus* (Blanchard) det. I.S. Askevold 1989". Baly appears to have described it from a single specimen, so it is the holotype.

Diagnosis: this unusual species is recognized at once by the combination of small size, paired strial punctures with alternating intervals alutaceous, meso- and metatibiae emarginate, with ciliate margin, proepisternum without ocular lobes, pygidium without median furrow, and vertex of head with small, oval fovea.

Description. (Figs. 1-5). **Size:** 3.3 mm.

Colour: dorsum blackish with slight bronzy lustre, antennae brownish with apical 5-6 segments infusate, pygidium, tarsi and tibiae brownish.

Head: uniformly coarsely punctate; clypeus and frons coarsely alutaceous, vertex less so; vertex with oval, deep median fovea; labrum alutaceous, medially partly infusate in some specimens, apical margin slightly and broadly emarginate, at subapical declivity with pair of medial punctures in most specimens, and with one puncture at lateral angle; frontoclypeus broadly emarginate at clypeo-labral suture, about as deeply as labral apex, the surface toward clypeolabral suture more finely and sparsely punctured that toward vertex; apical palpomeres fusiform, infusate. **Antennae:** antennomere 2 curved, mesal surface flat on concave, like basal segment; segments 3-5 gradually shortened, relatively slender and with few setae, 6 slightly enlarged, 7-10 subglobose, slightly longer than wide, and densely pubescent.

Pronotum: coarsely irregularly punctate, surface alutaceous laterally, toward midline more sparsely punctate and less prominently alutaceous, midline broadly impunctate and shiny, non-alutaceous; each side of disc with three small, impunctate areas, two just anterad of midlength and one behind and between these; hypomeron alutaceous, impunctate; anterior pronotal marginal bead prominent and broad laterally, becoming obsolete medially.

Elytra: alutaceous save intervals 2 and 4, the meshes more or less isodiametric over entire surface, coarser and granulate toward apex, but meshes of sutural interval more or less elongate and longitudinal, much less distinct than those of other intervals; striae 1-2, and 3-4 paired, closely placed, striae 5-8 more or less evenly spaced; intervals 2 and 4 slightly wider than intervals 1 and 3, but appearing much wider because the are shiny, without microsculpture; interval 7 with some coarser extranumerary punctures, striae 7-8 therefore appearing a little irregular or even confused in some specimens; stria 9 abbreviated, with only 5-7 punctures extending behind humerus; strial punctures coarse on disc (coarser

than those of pronotum), becoming finer apically (finer than pronotum); all intervals with sparse, seriate to confused punctulae, but those of alternating non-alutaceous intervals minute, punctulae apically with distinct to indistinct, but fine and short setae; apex broadly reddish or yellowish in some specimens.

Legs: femora infusate, with bronzy lustr, like dorsum; tibiae and tarsi reddish-yellow; meso- and metatibiae with apical emargination on outer margin, the margin there densely setose; tarsal claws with short, acute basal tooth; tibiae without apical articulated spur; protarsus of male with basal two tarsomeres somewhat broadened.

Underside: prosternum broad, coarsely and deeply punctate, inconspicuously alutaceous, longer than metasternum (measured from meso- to metacoxa); mesosternum short, punctate, anteriorly alutaceous and impunctate; metasternum medially coarsely and deeply punctate, punctures tending to form transverse rugae, laterally punctures sparse, and surface alutaceous; mesepisternum and meterpisternum alutaceous, impunctate;

abdomen with basal sternite medially sparsely punctate and indistinctly alutaceous, punctures forming rugae in some specimens, remaining sterna more uniformly alutaceous, medial punctures each with long seta; apical sternite at extreme apex impunctate medially, without characters that are sexually dimorphic.

Male genitalia: median lobe (Figs. 4a-e): apical orifice narrow and transverse, far removed from apex; extreme apex blunt (dorsal aspect) and slightly upturned (lateral aspect); basal spur small, poorly developed; basal hood broadened and fully sclerotized, not strongly differentiated from rest of median lobe in degree of sclerotization at point of basal spur, apodemes distinct; tegmen with ventral two sclerites not fused, forming H-shaped structure. **Internal sac:** internal sac with three small sclerites located at extreme base of sac near basal margin of basal hood, one elongate, slender and median sclerite, and two oblique, rectangular, basolateral ones.

Female genitalia: spermatheca (Figure 3): 217 μ long (one specimen examined), receptacle ovoid, pump strongly bent toward, and

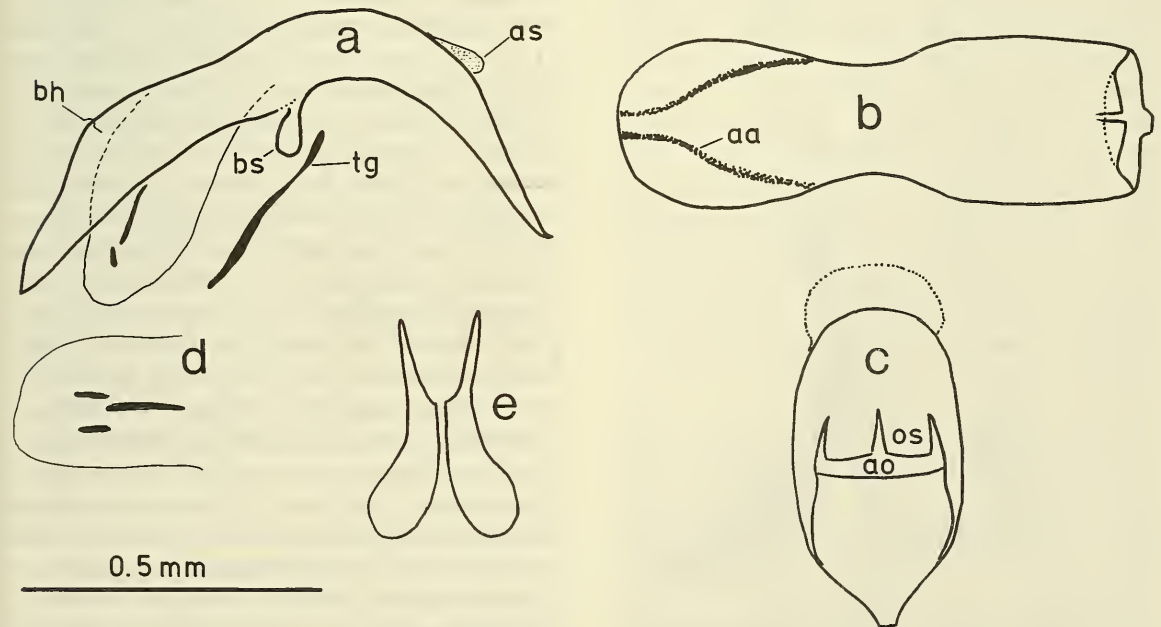


Figure 4. Male genitalia of *Jansonius aeneus*; a, median lobe, lateral aspect; b, median lobe, dorsal aspect; c, median lobe, apical aspect; d, dorsal aspect of internal sac sclerites; e, tegmen. bh = basal hood; tg = tegmen; aa = aedeaga apodeme; bs = basal spur; ao = apical orifice; os = orificial sclerites.

extending beyond, base, without apical process.

Natural history: no collecting data give detailed information about host plants. Data from the TMB specimens (Nr. P-B 300 and Nr. P-B, 49), as detailed by Andrassy *et al.* (1967) indicate "netted from trees and bushes" and "netted on dry meadows", respectively. A single specimen from Rancagua bore the data "from grass at night".

Distribution (Figure 5): *J. valdivianus* is known from few specimens collected from Concón, Valparaíso, south to Corral, Valdivia.

Specimens examined: details of locality data from the 27 specimens examined are as follows (in parenthesis Chilean regions):

(V Región): Concón, 10.X.1965, Mahunka, Nr. P-B 49 (TMB 1, ISAC 1); between Concón and Quintero, 14.XII.1965, Mahunka, Nr. P-B 300 (TMB 2, ISAC 1); El Convento, IX.66 (SMC 2).

(Metropolitana): Sn. J. Maipo, 17.X.1971 (SMC 5, ISAC 2).

(VI Región): Rancagua, II.23.87, R.L. Zuparko, "from grass at night" (CAS 1).

(VIII Región): Fdo. El Pentágono, 30.09.1973, leg. G. Moreno (CHIL 1, ISAC 1); Concepción, no date, E.P. Reed (CAS 1); Fundo Pinares, XI-1964, T. Cekalovic (CNC 1). (IX Región): Angol, 7.XI.1942, M. Cerda G. (E.P. Reed Coll'n) (CAS 1); Villarrica, XII. 53, H. Löffler (USNM 1).

(X Región): Corral, no date, Philippi collection (CHIL 1); Valdivia, no date, Philippi collection (CHIL 1).

Additional material: two specimens labelled only "Chile" (*ex* Bowditch coll., MCZ), and two with no data (*ex* Monrós coll., USNM) were also examined. Blanchard (1851) stated his specimen was probably collected in the environs of Santiago, but was evidently not sure; Philippi and Philippi (1864) gave Valdivia as the locality, while Baly (1878) gave only "Chili".

DISCUSSION OF *DIA PATAGONICA* BOHEMAN

A species described by Boheman (1858:164), *Dia patagonica* (*Dia* Chevrolat = *Colaspidea* Laporte) from "Port Famine", was placed in *Jansonius* by Bechyné (1953:263). Earlier, Bechyné (1950-292) stated that *Eumolpus valdivianus* (which he placed in *Paraulacia*) did not belong in Typophorini, and that *Colaspidea patagonica* without doubt belonged in another genus (not *Colaspidea*). The original description of *D. patagonica* given by Boheman clearly precludes assignment to *Colaspidea*, but does not preclude assignment to *Jansonius*. Boheman's species might be assignable to *J. aeneus* but it is not possible to ascertain this with any certainty because none of the principal distinguishing characters are stated in the original description. The type of Boheman's species is apparently lost or destroyed, as it was not found among other Boheman types, under either the genus *Dia* or *Colaspidea*, where it should logically be found (Persson, personal communication 1990, Lindskog, personal communication 1989). For the present, then, Boheman's species should be left as *incertae*

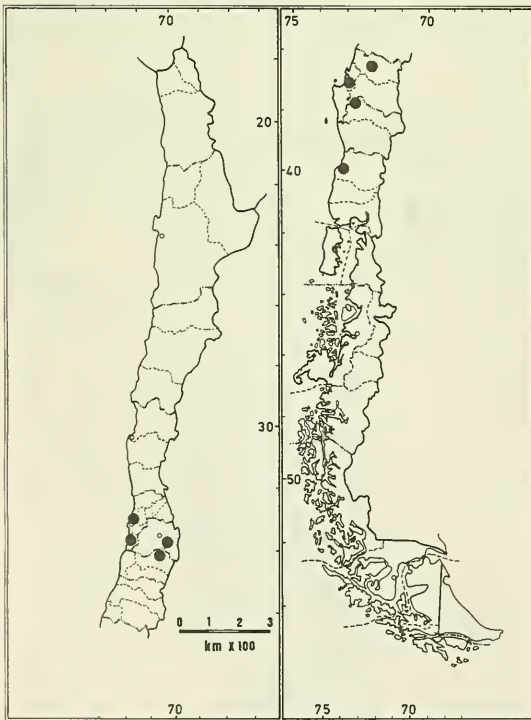


Figure 5. Known distribution of *Jansonius aeneus*, based on specimens examined. Each dot represent one collection record, or group of very close records of collection.

sedis in Eumolpinae, and removed from *Jansonius*.

DISCUSSION OF TRIBAL ASSIGNMENT

Jansonius has been greatly misplaced tribally. Most recently, it has been placed in the tribe Adoxini, section Myochroites (e.g. Seeno and Wilcox 1982), along with a number of other misplaced genera (including *Paraulacia* here synonymized). This tribe appears based on little more than possession of some form of dorsal pubescence. However, as in most groups, pubescence must be regarded as a character of extreme variability, and of limited importance in higher classification. It could be argued that a pronotal structure ("postocular lobes") and an elytral locking mechanism (pygidial furrow with corresponding elytral flange) are two key characters that classification of Eumolpinae could be based on. Both are complex characters consisting of several component characters. On the basis of these characters, four possible grouping can be made, of which three occur in Chile.

1. Elytral lock present and postocular lobes present: *Myochrous* Erichson, "*Dictyneis*" Baly (of authors), *Glyptoscelis* Chevrolat (poorly developed furrow), and an undetermined genus.
2. Elytral lock present but postocular lobes absent: *Spintherophyta* Dejean and *Rhabdoterus* Lefèvre. Authors have used post-ocular lobes as a means fo distiguishing among genera of Eumolpinae, but the proepisternum is only a little explanate in *Spintherophyta*, and does not form a discontinuity of the prosternal and proepisternal margins as it does in members of Groups 1 and 4.
3. Neither elytral lock nor postocular lobes present: *Jansonius*, *Psathyrocerus* Blanchard, *Philippimolpus* Monrós, *Hornius* Fairmaire, *Stenomela* Erichson, and an undetermined genus.
4. Elytral lock absent, but postocular lobes present: no genera of this Group are confirmed to occur in Chile; specimens of *Colaspidea* labelled Chile are known (USNM), but they are not distinguishable from specimens from California and may be mislabelled.

Within Group 3, presence of the "tibial emargination" is a potentially useful character for further grouping taxa. Taxa possessing this character appear to be assigned to the Nodinini (cf. Seeno and Wilcox 1982:51). If all these genera posses the tibial emargination, then this may constitute a good character on which to base recognition of the tribe. Other New World genera of Nodinini possessing the tibial emargination are *Paria*, *Typophorus*, and *Metachroma* (5 others described by Bechyné and Horn are also placed in the tribe, but are unknown to the authors). The remaining genera are Afrotropical, Australasian and Oriental in distribution. Of the three New World genera assigned to Nodinini, only *Metachroma* does not posses postocular lobes, and is assigned to the section Metachromites (Seeno and Wilcox 1982).

We tentatively reasssing *Jansonius* to the Nodinini: Metachromites on the basis of lack of both postocular lobes and elytral locking mechanism, but presence of the tibial emargination.

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ADDENDUM TO JANSONIUS

The catalogue of Neotropical Eumolpinae of Bechyné (1953) is greatly outdated, and retrieval of information from Bechyné's many publications is difficult. Consequently, several additional references to other species described in or assigned to *Jansonius* after 1953 were discovered when the preceding publication was in press, as follows:

Jansonius boggianii (Jacoby) (*sub Paria*); placed in *Periparia* Bechyné by Bechyné (1951:349) (indicated "comb. nov.", 1953:120, also), together with *Paria subaenea* Jacoby; *P. subaenea* placed as *ab. of Periparia boggianii* by Bechyné (1953:121); for distributional data see Bechyné (1953:271-2).

Jansonius pubescens Bechyné (1955:638). Paraguay, San Bernardino; based on at least 1 ♂ and 1 ♀.

Jansonius scolytinus Bechyné and Bechyné (1961a:17). Brasil, Est. Pará, Utinga; based on 1 ♀.

Jansonius vigiensis Bechyné and Bechyné (1961b:17). Brasil, Est. Pará, Vigia; based on 1 ♂.

Bechyné and Bechyné (1961b:17) listed *Jansonius aeneus* (as *J. alternatus*) with the locality data of "Argentina: Neuquén, Boquete, xi. 1955"; I am not able to determine if this specimen(s) were correctly determined.

Bechyné (1955:638) placed *Jansonius* in *Typophorini* near *Paria* (*i.e.* *Typophorini*: *Typophorites* of Seeno and Wilcox 1982); this placement is not in agreement with that decided upon above, based on *J. aeneus*. It is

therefore possible that the species other than *J. alternatus* assigned to *Jansonius* by Bechyné do not belong to this genus, but this is not possible to ascertain at this time.

ADDITIONAL REFERENCES

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