

## Research Article

**First zygotine weevil from Chile (Coleoptera: Curculionidae)**

Primer gorgojo zygotino de Chile (Coleoptera: Curculionidae)

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**Abstract.** The new genus *Chileops* (Curculionidae: Curculioninae), belonging to the subequatorial tribe Zygopini, extends the distribution of the group to Chile, where it is found in association with *Nothofagus* (Nothofagaceae). The type species is *Chileops barrigai* **sp. nov.**, occurring south of the geographical latitude of 35° in Curicó Province on the foothills of the Andes.

**Key words:** Chile, Curicó, *Nothofagus*, Zygopini.

**Resumen.** El nuevo género *Chileops* (Curculionidae: Curculioninae), perteneciente a la tribu subecuatorial Zygopini, extiende la distribución del grupo a Chile, donde se encuentra asociado a *Nothofagus* (Nothofagaceae). La especie tipo es *Chileops barrigai* **nov. sp.**, presente en 35° S, en la precordillera de la Provincia de Curicó.

**Palabras clave:** Chile, Curicó, *Nothofagus*, Zygopini.

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## Introduction

By sampling of the canopy fauna of beetles in Chile using a mild pyrethrum spray, the keen coleopterist Juan Enrique Barriga from Curicó, Chile, unexpectedly collected the first representative of the tribe Zygopini (formerly subfamily Zygopininae in the literature) in Chile. The taxon is readily recognized by its ascending mesepimera and large, dorsally approximate eyes with small, flattish ommatidia. The weevils are largely diurnal, have extremely sharp eyesight and take to flight very rapidly, metres away from potential danger or, when beaten from a plant, before hitting the beating sheet.

## Materials and Methods

The study is based on specimens captured between November 2003 and January 2004 by fogging trees of *Nothofagus dombeyi* and *N. obliqua* (Nothofagaceae). The specimens studied were deposited in the following institutions and collections: Juan Enrique Barriga collection, Curicó, Chile (JEBC); Museo Nacional de Historia Natural de Santiago, Santiago, Chile (MNHC) and New Zealand Arthropod Collection, Auckland, New Zealand (NZAC).

## Results

*Chileops* **gen. nov.**

**Type species:** *Chileops barrigai* **sp. nov.**

**Diagnosis.** Zygopine genus with deep, cylindrical body, no teeth on underside and apex of femora, no latero-external carina on femora, no distinct sclerolepidia, no ascending comb on

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hind tibiae, no rostral furrow on meso- and metasternum and no tooth on procoxae; surface of vertex undifferentiated from remainder of head, neither raised nor smooth nor finely strigose across. Species associated with *Nothofagus* (Nothofagaceae) in Chile.

**Description.** Head across top evenly convex, uniformly punctate, lacking a smooth or strigose surface on middle of vertex. Eyes finely faceted, elongate, rather narrowed anteriorly, distant from gular angle as much as a length of antennal scape, separated dorsally by one or two rows of scales at least distance of forehead. Rostrum shorter than prothorax, in repose underside extending to middle of mesocoxae, moderately curved, narrowest at antennal insertions, from here gradually widening apicad and basad. Antennae postmedian; scape curved, clavate at apex, thicker and slightly longer than segment 1 of funicle, this first segment distinctly longer than following segments; club elongate-elliptic, nearly flat or straight on inner side, curved or convex on outer side, with basal segment distinctly longer than remainder. Prothorax: about as long as wide, moderately rounded at sides, weakly bisinuate at base, with shallow median sinus at apex; dorsally convex, lacking a median carina, slightly depressed to a shallow furrow medially on proximal half; ocular lobes absent. Scutellum distinct, level with elytral surface. Elytra: slightly converging from humeral callus to apical third, jointly concavely curved at base, separately rounded at apex; basal margin not lifted, blunt, apical declivity shallow though distinct; all striae distinct, deeply sulcate, strongly sculptured with large, deep, subquadrate puncta, these without obvious setae except for scales in stria 1 at base; interstriae at most as broad as striae, mostly with two rows of scales. Rostral canal not extending beyond hind margin of procoxae, prosternal part sharply margined, procoxae separated by width of rostrum, lacking distinct tooth; bottom of canal level with postcoxal area and mesosternum, lacking impression on descending mesosternal process; mesepimera not or only slightly ascending; metasternum in lateral view convex; metepisterna largely parallel-sided, suture lacking distinct sclerolepidia. Ventrite 2 slightly shorter than following two ventrites combined, suture between first two ventrites distinct throughout, deeper at sides, suture 3 straight, not curved apicad at lateral angles; last three ventrites with deep, wide transverse furrow at base. Femora not pedunculate, metafemora lineal, all femora lacking ventral and apical teeth, with apical margin on either side of articulation evenly rounded; tibiae straight, with dorsoapical uncus, with ventroapical tuft of setae, no premucro, no ascending comb; claws small, slender, diverging. Tergites: pigmented all the way across to membranous sides, tergites 5 to 7 with wing-folding patches; tergite 7 in both sexes broader than long, longitudinally and transversely convex, rather densely, coarsely punctate on apical two-thirds, with short, stiff hair in punctation; tergite 8 completely concealed under 7 in both sexes. Hind wings twice as long as elytra, 3.3x longer than wide, weakly darkened with dense microtrichia, finely, rather inconspicuously ciliate on hind margin, with about seven stigmal short setae and a few proximal short setae on fore margin, area at stigma against apical membranes slightly incurved; anal lobe, separated by a deep sinus, anal lobe and sinus not ciliate. Venation almost identical to that in figure 171 of *Drepanoscelus* Marshall, 1838 (Tychiini: Ochyromerina) drawn by Zherikhin and Gratshev (1995) although genera not closely related.

**Male** (Figs. 1-2): Tergite 8 elongate, subparallel, truncate, with spiracle on either side (Fig. 7); sternite 8 with two broad, contiguous plates (Fig. 7); sternite 9 simply a firm bar, without arms or lobes. Tegmen dorsally weakly pigmented. Aedeagus about as long as last four ventrites combined, pale reddish brown on sides, strongly bent downwards at apex; apodemes inserting at sides, and in lateral view continuous in straight line, aedeagal body; internal sac exposed, extending to about middle of apodemes, with fine wall vestiture, lacking a basal sclerite (Figs. 5-6).

**Female** (Figs. 3-4): Tergite 8 broadly rounded at apex, lacking spiracles; sternite 8 as in Fig. 9, broadly membranous on midline; genitalia as in Fig. 10; gonocoxites firm though weakly pigmented, with slender apical stylus; bursa large, nearly as long as vagina; spermatheca crescent-shaped; spermathecal duct short, fine, originating on basal inner angle of

spermatheca, inserting ventrally close to oviduct; spermathecal gland large, about twice as long as spermatheca, inserting some distance away from duct on dorsal surface; no duct or gland extensions.

**Distribution.** Chile, Maule Region, Curicó Province (latitude 35° S)

**Host plant.** *Nothofagus* (Nothofagaceae), larva boring in dead twigs.

**Etymology.** The name of the genus is derived from the name “Chile” and the ending -ops of “*Zygops*”, used as a suffix; gender masculine.

**Remarks.** It is hard to say to which zygopine genera *Chileops* is closely related. Using Heller’s publication (1895), the new genus would key out to *Cylindrocopturus* Heller because of the presence of a large basal segment in the antennal club, the lack of a lateral carina and of ventral and apical teeth on the femora as well as the lack of sclerolepidia, the absence of an ascending comb on the upper edge of the mesotibiae, the elytra with a distinct apical declivity and completely rounded femora at the femoro-tibial articulation. *Eulechriops lizeri* Hustache, 1939 from San Luis in Argentina might be the geographically closest and morphologically most similar weevil to *Chileops*, but it differs in having the rostral canal extended to beyond the mesosternum, an ascending comb on the metatibiae, and no distinct apical declivity on the elytra. *E. lizeri* does not belong to *Eulechriops* Faust, 1896 as the species of this genus have conspicuous sclerolepidia, which are absent in the San Luis species. *Chileops* contains one species in Chile with a distinctive and sexually dimorphic pale colour pattern.

*Chileops barrigai* sp. nov.  
(Figs. 1-10)

**Description.** Integument dull black except for reddish-brown scape, base of funicle, whole tibiae and tarsi; scaling dorsally and laterally dull black with pale, sexually characteristic pattern as apparent particularly on prothorax (Figs. 1-4); anterior half of forehead and base of rostrum densely squamose, with white and ochreous scales covering derm completely in male, exposing part of derm, especially a median carinule, in female under white, smaller scales; side of prothorax with a conspicuous longitudinal white stripe (Fig. 3) in male, which visible narrowly also in dorsal view (Fig. 1), without such stripe in female but with a lateroapical patch of sparse, loose scales (Fig. 4); dorsally, besides the prothoracic patch and a dot on interstriae 8 slightly behind middle of elytra, with a striking image of a Christian cross partly white and ochreous in male, the prothoracic part narrower; arms of cross at base between scutellum and striae 7, the scutellum in the centre darker, with few small scales; whole body and extremities without obvious pubescence or pilosity. Other characters as in the generic description above. Length 2.0-3.1 mm.

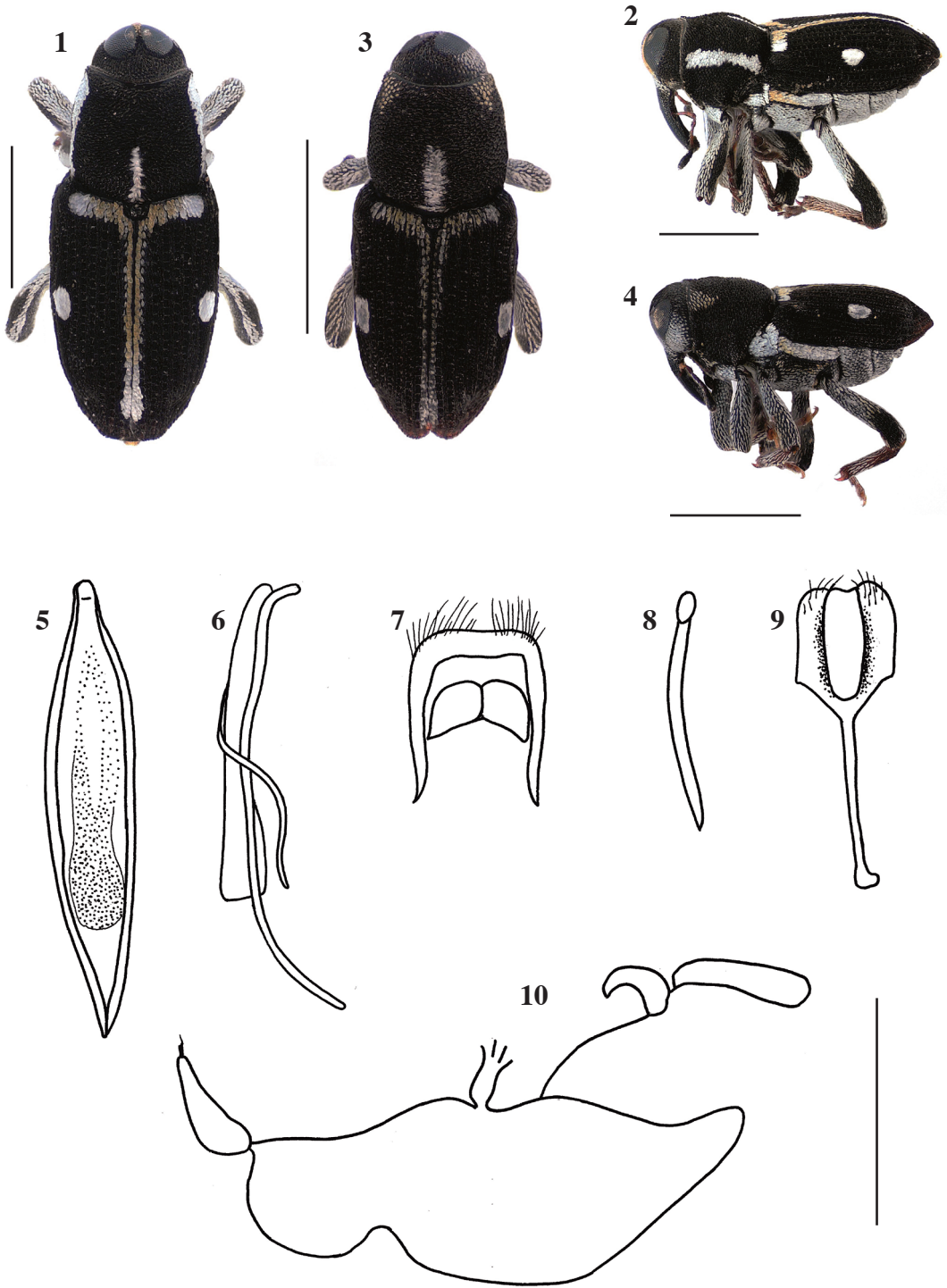
**Distribution.** Chile, Province Curicó, up to 20 km east of Potrero Grande (El Relvo, Puente Morongo).

**Type material.** Holotype male, 2.7 x 1.0 mm, 15 km E of Potrero Grande, 8 Nov 2003, fogging *Nothofagus*, coll. J.E. Barriga Tuñón (MNNC); paratypes in JEBC (1♂, 2♀), MNNC (1♂, 1♀) and NZAC (1♂, 2♀).

**Host plant.** *Nothofagus dombeyi* and *N. obliqua* (Nothofagaceae).

**Etymology.** Cordially named for the collector of this interesting species, Juan Enrique Barriga.

**Remarks.** There is an additional population in the Cordillera de Nahuelbuta, Province of Arauco (Juan Enrique Barriga Tuñón, priv. inf.) which seems to be similar if not the same to this species, as is the case with a number of other weevil species.



**Figs. 1-10.** Habitus and genitalia of *Chileops barrigai* Kuschel **nov. sp.**, Chile, Curicó, Potrero Grande. 1-2. Male, dorsal and lateral view. 3-4. Female, dorsal and lateral view. Scale: 1 mm. 5-6. Aedeagus, dorsal and lateral view. 7. 8<sup>th</sup> tergite and sternite of male. 8. Sternite 9 of male, lateral view. 9. Sternite 8 of female, ventral view. 10. Female genitalia. Scale: 0.5 mm.

### Acknowledgements

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