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A journal of world insect systematics

INSECTA MUNDI

0930

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Date of issue: April 29, 2022

Center for Systematic Entomology, Inc., Gainesville, FL

Mondaca J, Beéche M. 2022. A new genus for *Stromatium chilensis* Cerda, 1968 (Coleoptera: Cerambycidae: Cerambycinae: Hesperophanini) from Chile. *Insecta Mundi* 0930: 1–7.

Published on April 29, 2022 by
Center for Systematic Entomology, Inc.
P.O. Box 141874
Gainesville, FL 32614-1874 USA
<http://centerforsystematicentomology.org/>

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Electronic copies (Online ISSN 1942-1354) in PDF format

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A new genus for *Stromatium chilensis* Cerda, 1968 (Coleoptera: Cerambycidae: Cerambycinae: Hesperophanini) from Chile

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Abstract. *Stromatium chilensis* Cerda, 1968, an endemic species from Chile, is placed in *Malcho* Mondaca and Beéche, **new genus** (Coleoptera: Cerambycidae: Cerambycinae: Hesperophanini). The new genus is compared with *Stromatium* Audinet-Serville, included in a previous key to Hesperophanini, and a diagnosis and illustrations of the species are provided.

Key words. Andes, longhorn beetle, *Nothofagus* forests, taxonomy, Subantarctic subregion.

Resumen. *Stromatium chilensis* Cerda, 1968, especie endémica de Chile, es ubicada en *Malcho* Mondaca y Beéche, **nuevo género** (Coleoptera: Cerambycidae: Cerambycinae: Hesperophanini). El nuevo género es comparado con *Stromatium* Audinet-Serville, e incluido en la clave anterior de Hesperophanini. Se aporta una diagnosis e ilustraciones de la especie.

Palabras clave. Andes, cerambycido, bosques de *Nothofagus*, taxonomía, Subantarctic subregion.

ZooBank registration. urn:lsid:zoobank.org:pub:215682BF-4BBD-4C7F-BD30-FCF5285C8DB2

Introduction

The genus *Stromatium* Audinet-Serville, 1834, considered to be one of the most economically significant longhorn beetle genera (due to the species' ability to develop in seasoned timber, and be transported through commerce), includes six species known mainly from Europe, Africa, Asia, Australia, and South America (Martins and Galileo 1999; Jin et al. 2019; Tavakilian and Chevillotte 2021). One species was described from Chile (Cerda 1968). However, it does not belong to the genus *Stromatium* (Martins and Galileo 1999; Jin et al. 2019).

Recently, while we studied specimens of an undetermined cerambycid collected in the Andes and coastal range of Chile, we noticed that they correspond to *Stromatium chilensis* Cerda, 1968. This species, endemic to the *Nothofagus* Blume forests of central-southern Chile is herein transferred to a new taxon. We also include habitus photographs of the species to help with correct identification.

Materials and Methods

Twenty-three specimens (including type specimens) were studied from the following institutional and private collections:

FMNH Field Museum of Natural History, Chicago, IL, USA.

JMEC José Mondaca E. Collection, Villa Alemana, Chile.

MBCC Marcos Beéche C. Collection, Santiago, Chile.

MNNC Museo Nacional de Historia Natural, Santiago, Chile.

Description and diagnosis are based on analyses of external morphological characters. All specimens were examined using a stereomicroscope (Olympus SZX7). The habitus photographs were taken by Stephanie Ware

(FMNH) with a digital camera (Canon EOS 6D with K-2 macro lens) using Helicon Focus automontage and edited with Adobe Photoshop CS6 to obtain a fully sharpened image.

The following definitions and standards were used in the descriptions and diagnoses: color is based on dried, pinned specimens; body length was measured dorsally along the midline from the apex of the clypeus to the elytral apex; body width was measured at the widest point, typically it the middle of the elytra; puncture density was defined as dense if the punctures are nearly confluent, with less than two puncture diameters apart, moderately dense if the punctures are between two to six puncture diameters apart, and sparse if the punctures are separated by more than six puncture diameters. For the description of the morphological structures, we follow the terminology used by Galileo et al. (2014) and Nascimento (2018). Label data are quoted between quotation marks (“ ”). A single slash (/) indicates a break between lines on the same label, and lowercase letters (a, b, c, d, e, f, g, h) indicate different labels. Geographic coordinates of the collecting sites were recorded using Google Earth Pro. The distribution map (Fig. 10) was generated by entering the geographical coordinates on the website www.simplemappr.net.

Results

Based upon our analysis of characters provided in the original description and type and non-type specimens available to us, we conclude that *S. chilensis* does not belong to the genus *Stromatium*, where it was originally placed (see Table 1). This species is transferred to the new and monotypic genus *Malcho* of the tribe Hesperophanini following the tribal concept of Martins and Galileo (1999).

Taxonomy

Malcho Mondaca and Beéche, new genus

Type species. *Stromatium chilensis* Cerda, 1968, here designated.

Description. Medium size (less than 12 mm in the type species). Body long and narrow, dorsally convex. **Head.** Transverse, prognathous, punctate, sparsely setose. Clypeus transversely long and narrow, frontoclypeal suture visible. Eyes large, not divided, coarsely faceted, protruding laterally. Mandibles small, angled and rounded externally, without internal mesal tooth, with apex acute. Maxillary palpi moderately long; last palpomere flattened, subtriangular. Labial palpi short, last palpomere flattened, subtriangular. Antennal tubercles elevated, slightly acuminate distally. Antennae 11-segmented, filiform, with small apical spine on inner side of antennomeres III–V; antennomeres VI–XI unarmed, with erect variably long setae on inner margin; antennomere III not sulcate or carinate dorsally; male with last three apical antennomeres surpassing elytral apex; female with antennae reaching or slightly surpassing elytral apex. Scape elongate, reaching anterior margin of pronotum, gradually widened distally; pedicel cupiform, longer than wide; antennomere III longer than scape and pedicel combined, and longer than antennomere IV. **Prothorax.** Subcylindrical, slightly longer than wide, slightly narrowing anteriorly and posteriorly; sides and dorsal surface with rounded gibbosity, densely punctate and scarcely setose, except smooth anterior region of prosternum; piliferous punctures subcircular, variable in size. Pronotum coarsely punctate, usually glabrous or with a few erect setae; dorsal smooth central area present or absent (variable intraspecifically). Scutellum rounded at apex. **Elytra.** Subparallel-sided, with humeral angles prominent; dorsal surface smooth, nearly glabrous, without integumentary processes and eburneous maculae; coarsely, deeply punctate on basal third, then gradually finer and sparser toward apex; covering abdomen, not exposing pygidium in both sexes; elytral apices truncate, with a small projection on sutural angle. **Legs.** Procoxa spheroidal; procoxal cavities open posteriorly; mesocoxal cavities open. Femora slightly pedunculate-clavate, with metafemoral club not abruptly widened, flattened, broadest near middle; metafemur not surpassing apex of abdomen. Tibial apex with two small spurs. Metatarsomere I longer than II–V combined. **Abdomen.** Ventrites scarcely setose, with some long and erect setae laterally; ventrite I longer than the rest, II–V subequal in length, V truncate apically.

Remarks. *Malcho* new genus can be included in the key from Martins and Galileo (1999), in the alternative of couplet “5” with the genus *Paraliostola* Tavakilian and Monné, 1991. It differs by the smaller body width, and the

Table 1. Morphological differences between the genera *Malcho* and *Stromatium*.

Character	<i>Malcho</i> Mondaca and Beéche	<i>Stromatium</i> Audinet-Serville
Integument color	Testaceous or castaneus	Brown to dark brown
Head	Prognathous	More hypognathous
Male antennae	Long, extend beyond the elytral apices by the last 3 antennomeres	Very long, extend beyond the elytral apices by the last 4 to 5 antennomeres
Antennae spines	Present on the inner side of antennomeres III–V	Absent, all antennomeres unarmed
Maxillary palpi	Moderately long, with last palpomere subtriangular in both sexes	Short, with last palpomere subcylindrical in both sexes
Pronotum	Subcylindrical, longer than wide, with lateral margins slightly gibbose	Subquadrate, subrectangular, or hexagonal, wider than long, with lateral margins crenulate or angulate
Hypomeron	Without concavity and pubescence	With a concavity covered by dense and long golden pubescence
Procoxal cavities	Spheroidal	Oval
Elytral surface	Mostly glabrous, without integumentary processes	Densely setose, costate or granulose
Elytral apices	Truncate	Rounded or spinose

absence of black elytral spots, in addition to the presence of a small spine on the inner apex of the antennomeres III–V.

Tribal classification. The only known species in the genus *Malcho* **new genus** has a small spine on the inner apex of the antennomeres III–V, one of the features that is diagnostic of Elaphidiini (Fig. 1), and a character that also occurs in other Chilean genera of Cerambycidae such as *Apyrauna* Martins, 2005 (Elaphidiini), *Cotyachryson* Martins, 2002 (Achrysonini), and *Xenocompsa* Martins, 1965 (Achrysonini). Therefore, it will be necessary to reevaluate this and other morphological characters that allow establishing with greater certainty a correct tribal assignment.

Based on this morphological incongruity, *Malcho* **new genus** must remain provisionally in the tribe Hesperophanini until more detailed morphological and molecular studies are conducted that confirm or discard its true tribal position.

Etymology. The name *Malcho* is in reference to the “Fundo Malcho”, the locality where the type series of this taxon was collected. Masculine gender.

***Malcho chilensis* (Cerda, 1968), new combination**

(Fig. 1–9)

Stromatium chilensis Cerda 1968: 105; Peña 1974: 264 (type); Monné 1993: 7 (cat.); Monné and Giesbert 1994: 46 (checklist); Martins and Galileo 1999: 71; Monné 2005: 276 (cat.); Galileo et al. 2008: 15; Monné 2021: 432 (cat.); Jin et al. 2019: 142.

Diagnosis. Body testaceous or castaneus, sparsely setose. Pronotum testaceous or reddish brown, dorsally and laterally densely punctate and protuberant. Elytral surface nearly glabrous and densely punctate, with a few fine setae scattered on posterior half (Fig. 2–4, 7–9).

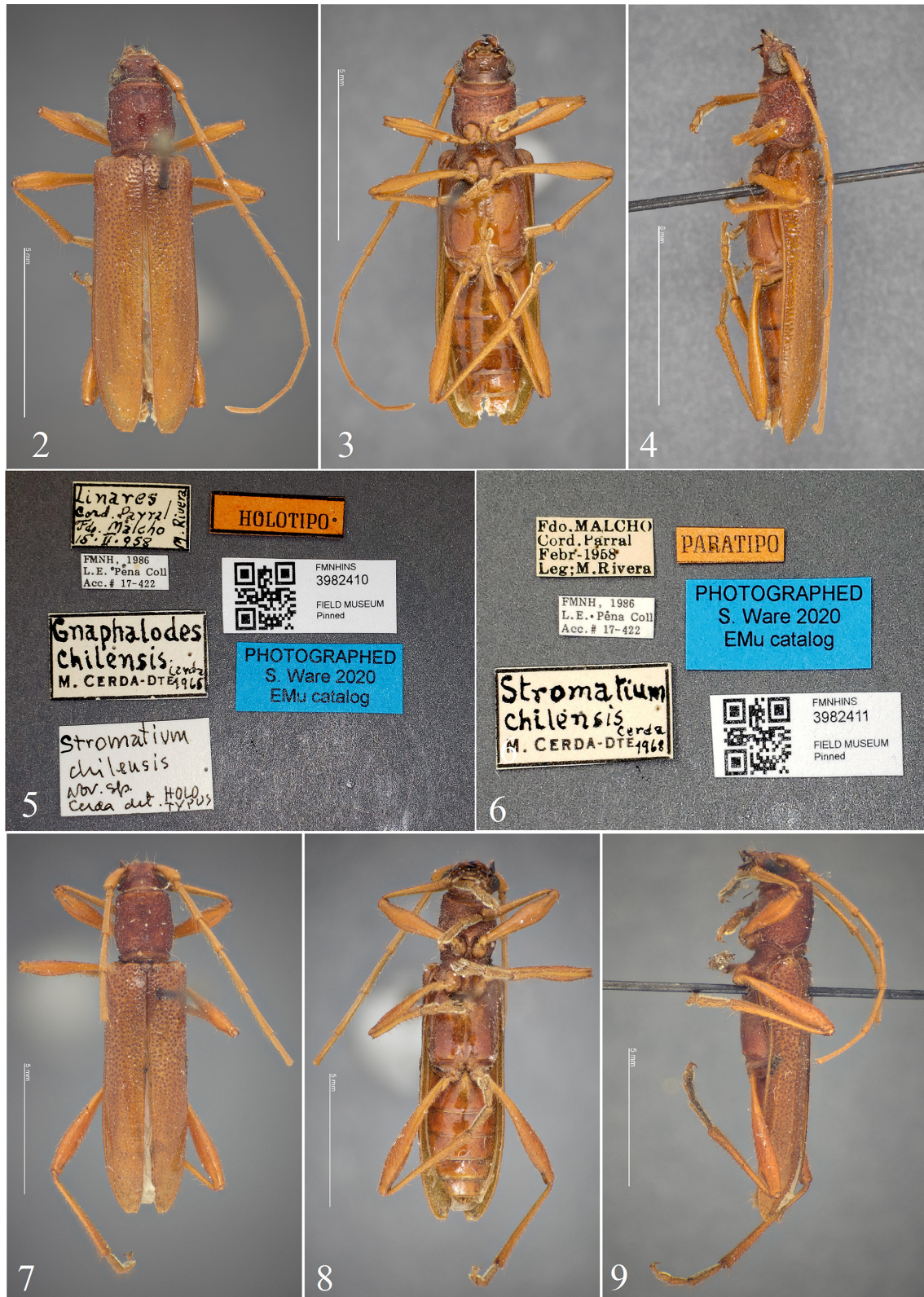
Type material. Male holotype at FMNH from Chile: a) “Linares / Cord. Parral / Fundo Malcho / 15.II.958 / M. Rivera Cordillera de Parral, 700–900 m. alt.”; b) “FMHN, 1986 / L. E. Pena Coll / Acc. # 17-422”; c) “Gnaphalodes / chilensis Cerda / M. CERDA -DTE 1965”; d) “Stromatium / chilensis / nov. sp. / Cerda det. HOLOTYPUS”; e) “HOLOTIPO”; f) “Qr code / FMNHINS / 3982410 / FIELD MUSEUM / pinned”; g) “PHOTOGRAPHED / S. Ware 2020 / EMu catalog”; h) “*Malcho / chilensis* (Cerda, 1968) / Det. J. Mondaca & M. Beéche 2022”. Male paratype at FMHN from: a) “Fdo. MALCHO / Cord. Parral / Febr-1958 / Leg; M. Rivera”; b) “PARATIPO”; c) “FMNH, 1986 / L. E. Pena Coll. / Acc. # 17-422”; d) “Stromatium / chilensis / Cerda / M. CERDA-DTE 1968”;



Figure 1. Right antenna of *Malcho chilensis* showing the spine on the inner side of antennomeres III–V.

e) “PHOTOGRAPHED / S. Ware 2020 / EMu catalog”; f) “Qr code / FMNHINS / 3982411 / FIELD MUSEUM / pinned”; g) “*Malcho / chilensis* (Cerda, 1968) / Det. J. Mondaca & M. Beéche 2022”.

Other material studied. 21 specimens (18 males, 3 females) from CHILE: *Región del Maule*: Vilches Alto, XI-1991, col. R. Pérez de Arce (1 female, MNNC). *Región de Ñuble*: Las Trancas, 12-I-1986, leg. M. Beéche (1 male, MBCC); Los Lleuques, 26-I-2017 (2 males, JMEC, 1 male, MBCC), 13-I-2012 (1 female, MBCC), 6-I-2013 (1 male, MBCC), 16-I-2014 (1 male, MBCC), 13-I-2015 (2 males, MBCC), 6-I-2016 (3 males, MBCC), 8-I-2016 (1 male, MBCC), 18-I-2017 (1 male, MBCC), 27-I-2017 (1 male, MBCC), 28-I-2017 (1 female, MBCC),



Figures 2–9. Type specimens of *Stromatium chilensis* Cerda (= *Malcho chilensis*). 2–4) Holotype male. 2) Dorsal view. 3) Ventral view. 4) Lateral view. 5) Holotype label. 6) Paratype label. 7–9) Paratype male. 7) Dorsal view. 8) Ventral view. 9) Lateral view. Scale bars: 5 mm.

17-I-2018 (1 male, MBCC), 21-I-2018 (1 male, MBCC), 15-I-2020 (1 male, MBCC), leg. M. Beéche. *Región de La Araucanía*: Malleco, P.N. Nahuelbuta, Piedra del Águila, 5-XI-2002, col. A. Marín y E. Benavides (1 male, JMEC).

Distribution and habitat. Maule (Talca and Linares provinces), Ñuble (Diguillín province) and La Araucanía (Malleco province) regions (Fig. 10). Based on these records, *Malcho chilensis* is restricted to central-southern Chile, area of *Nothofagus* forests (Fig. 11, 12), located in the Andes premountain range and in the coastal range. These localities are part of the Subantarctic subregion, Maule province, *sensu* Morrone (2015).

Natural history. Nothing is known about immature stages, life cycles, and host plants. The adults are nocturnal and emerge in late spring and during summer (November to February). Specimens of both sexes have been collected with light trap at night.

Adult activity period. January (19), February (2) and November (2).

Remarks. The original description of *S. chilensis* by Cerda (1968) reported that the male holotype measures 16 mm long and 4 mm wide. However, it actually measures 11.8 mm long and 3 mm wide with the elytra slightly open (Fig. 2).

Acknowledgments

We thank the Collaborative Invertebrate Laboratories at the Field Museum and Dr. Margaret Thayer for use of the imaging equipment (funded by the National Science Foundation grant EF-0531768/subcontract144-439, the Grainger Foundation and The Field Museum). I also thank Stephanie Ware, manager morphology labs, for



Figure 10. Distribution of *Malcho chilensis* (Cerda) in central-southern Chile.



Figures 11–12. Habitat of *Malcho chilensis* in central-southern Chile. **11)** *Nothofagus* forest in Altos de Vilches, Maule Region. **12)** *Nothofagus* forest in Los Lleuques, Ñuble Region.

taking the photos of *Stromatium chilensis*. I specially thank collection manager, Maureen Turcatel from The Field Museum for her help and permission to publish the photographs. We thank Mario Elgueta (MNNC) for allowing the first author to review the specimen of *M. chilensis* deposited at the museum's collection and to Brett Ratcliffe for helping with the English language revision. We very much appreciate the valuable comments and suggestions made by Antonio Santos-Silva and Larry Bezark to improve the manuscript.

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Received February 28, 2022; accepted April 10, 2022.

Review editor Patrick Gorryng.

