

Pehuencoris, a New Genus of Cardiastethini (Heteroptera: Anthocoridae) from Southern Argentina and Chile (Patagonia)

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We describe the new genus *Pehuencoris* to include *P. gurguliophagus* n. sp. from southern Argentina and Chile (Patagonia). We illustrate the dorsal habitus and male genitalia, provide a complete description of the ostiolar peritreme and its microsculpture, and show a distributional map. We include comments on the biology and habits of the new species, and discuss relationships of the new genus to other genera of Cardiastethini.

Key words: *Pehuencoris*, new genus, Cardiastethini, Heteroptera, Anthocoridae, Argentina, Chile, Patagonia

INTRODUCTION

The Cardiastethini Carayon, 1972 is probably the most homogeneous group among the Anthocoridae (*sensu* Carayon, 1972). This tribe is characterized by the undeveloped ovipositor of females. Often the females present variable paragenital structures, including ectospermalege represented by an omphalum, two copulatory tubes, or mesodermal structures (sometimes lacking), whereas males sometimes present a genital capsule with specialized structures. Males bear a row of teeth on the anterior legs (except in *Dufouriellus* Kirkaldy, 1906). There is a line of short, decumbent hairs (postocular hairs) behind the posterior line of eyes. The ostiolar peritreme is always continued by a carina arising from the anterior margin of the metapleura.

As a result of research we conducted on world Cardiastethini, we identified several new taxa, including a peculiar new species assignable to a new genus that we found in Patagonia and which we describe herein.

All the material studied was collected in the Maule province, Subantarctic subregion, Andean region (Morrone, 2001), from fallen male cones of the pehuen (*Araucaria araucana* (Mol.) Koch.). Until now, all but a few species of Cardiastethini have been characterized as living in soil (Carayon, 1972).

MATERIALS AND METHODS

The holotype and paratypes from Argentina are deposited in the collections of the Museo de La Plata (LPM), and paratypes from Chile in the Museo Nacional de Historia Natural de Chile (MNHN). Scanning electron micrographs were made from a specimen mounted on a stub, sputter-coated with gold-palladium alloy, and examined under a JEOL T-100 SEM. Illustrations were made using a Wild M-5 stereomicroscope with a drawing tube. Measurements

are given in millimeters.

RESULTS

Pehuencoris, new genus

Diagnosis

Pehuencoris resembles *Dufouriellus* in habitus, but differs from this genus by its larger size, pronotum without median longitudinal furrow, wider and longer ostiolar peritreme, and wider and shorter left paramere; also, only macropterous forms are known. *Pehuencoris* differs from other genera of the tribe by the oval, dorso-ventrally flattened body; shape of the ostiolar peritreme; and fossula spongiosa well developed on the anterior tibiae of males, more weakly developed on the median and posterior tibiae, and poorly developed in females. In addition, the geographic distribution of the new species is restricted to that of the plant host of its prey.

Description of male

Morphology: Macropterous. Body oval, dorso-ventrally flattened. Head wider than long, smooth, shiny. Eyes large, oval in lateral view, eye length two-thirds of head length and eye height almost equal to head height, with some setae between the ommatidia, distant from pronotum by a length subequal to thickness of antennal segment II. Posterior margin slightly concave in dorsal view. Vertex broad. Ocelli small. With three cephalic trichobotria near eyes, the smallest behind posterior margin of the eyes, the longest situated slightly posterior to the anterior border of the eye, and the third at posterior margin of eye. Postocular setae somewhat irregularly aligned. Antennae long and thin. Segments II, III, and IV slightly fusiform, bearing setae shorter than segment width. Rostrum thin, hardly reaching beyond procoxae.

Thorax: Pronotum shiny, without transverse sulci, anterior pronotal lobe smooth and protuberant, posterior pronotal lobe rough, slightly depressed behind the disc; collar absent, lateral margin slightly sinuate, carinate, more noticeably in the anterior half; posterior margin broadly concave. Homo-

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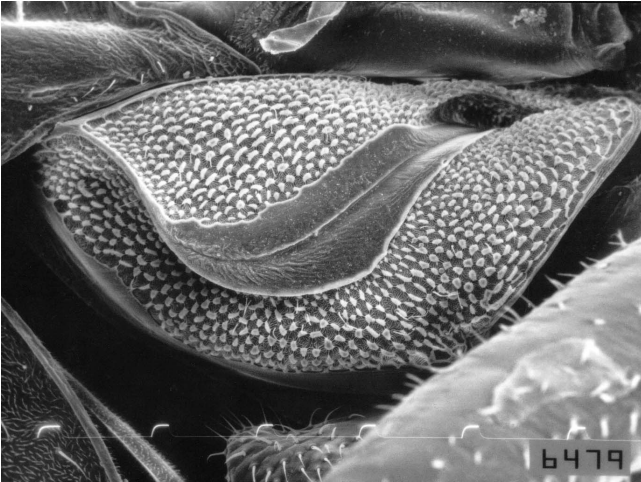


Fig. 1. *Pehuencoris gurguliophagus* n. sp.: Metapleura ($\times 200$).

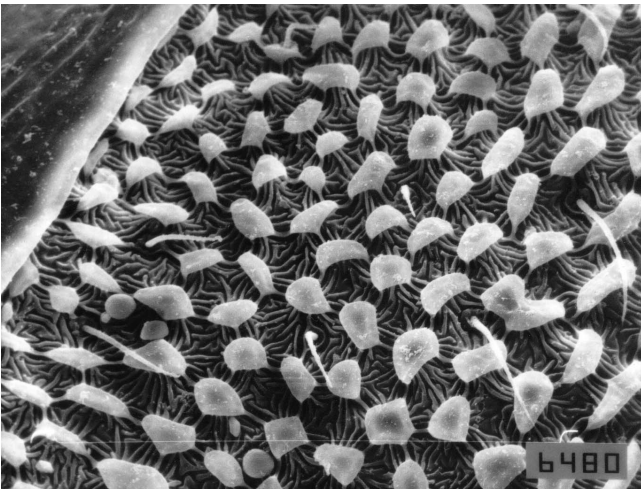


Fig. 2. *Pehuencoris gurguliophagus* n. sp.: Evaporatorium ($\times 1000$).

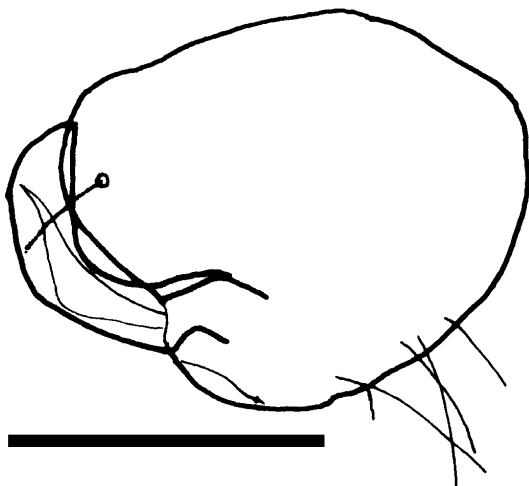


Fig. 3. *Pehuencoris gurguliophagus* n. sp.: Male genitalia. Scale: 0.25 mm.

generously distributed short and semierect hairs on dorsum; with a long hair at midpoint on the lateral margin of anterior pronotal lobe. Scutellum shiny, finely punctured, with one hair issuing from each puncture. Punctiform fossettes absent. Metasternum (Fig. 1) without sulci, posterior margin almost straight. Metapleural sulci large, slightly protruding, curved anteriorly, with a short carina reaching the anterior margin of metapleura. Central groove elongate and reaching the carina; with oblique canaliculi on dorsal area. Supra-coxal and subdorsal areas restricted to margin of metapleura. Evaporatorium (Fig. 2) with alveoli delimited by 4-5 quadrangular hats, lacking bridges and with numerous trabeculae.

Legs: long, thin, with short, scattered hairs, profemora weakly flattened, inner margin of distal half of protibiae bearing a row of teeth; fossula spongiosa large, well developed, similar in the length to tarsum, tibiae II and III with fossula spongiosa less developed and with a comb of variably thick

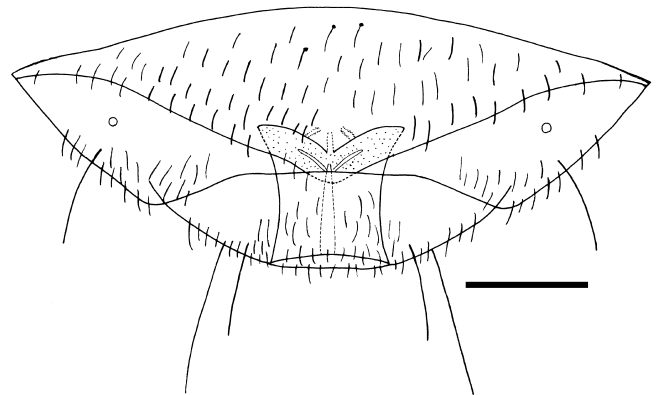


Fig. 4. *Pehuencoris gurguliophagus* n. sp.: Female genitalia. Scale: 0.25 mm.



Fig. 5. *Pehuencoris gurguliophagus* n. sp.: Habitus.

bristles at apex. Hemelytra smooth, dull, hardly reaching beyond apex of abdomen, with scattered short, decumbent hairs (more dense on the lateral margin).

Wings: Hindwing without hamus. Median vein (M) beginning at median-cubital vein (MCu). Forewing ratio of apex of exocorium, between costal and subcostal veins (C and Sc), to endocorium, between Sc and claval suture, 1:2.55. Sc short, one-third length of radial (R) +M. Cuneal fracture conspicuous. Membrane dull, with four subparallel veins almost reaching the apical margin. Stub long, well delimited.

Abdomen: With short scattered decumbent hairs. Short macrotrichiae on lateral margins of segments VII and VIII.

Genitalia (Fig. 3): Pygophore rhomboid, without special structures. Left paramere well developed, curved, wider and shorter than in *Dufouriellus*.

Female

Morphology: Macropterous. Similar to male in size; fore

tibiae with less-developed fossula spongiosa and lacking teeth. Median and fore tibiae as in male.

Genitalia vestigial (Fig. 4), without meso- or ectodermal structures.

Etymology

Gender masculine. The generic name is derived from the Araucariaceae called "Pehuen" (*Araucaria araucana* (Mol.) Koch.), the dominant species in the flora of Maule biogeographic province.

Pehuencoris gurguliophagus, new species

Material examined

HOLOTYPE: 1 ♂ (pinned), Neuquen, Rio Maleco, Argentina, P(arque) N(acional) Lanin, III-1954 Coll. by Gentili. PARATYPES: ARGENTINA: 1 ♀ (pinned), San Martín de los Andes, III-1955 Coll. by Gentili. 3 ♂, 9 ♀ (pinned), La Angostura, Lago Aluminé, XII-1997 Coll. by P. Posadas. 1 ♂, 3 ♀

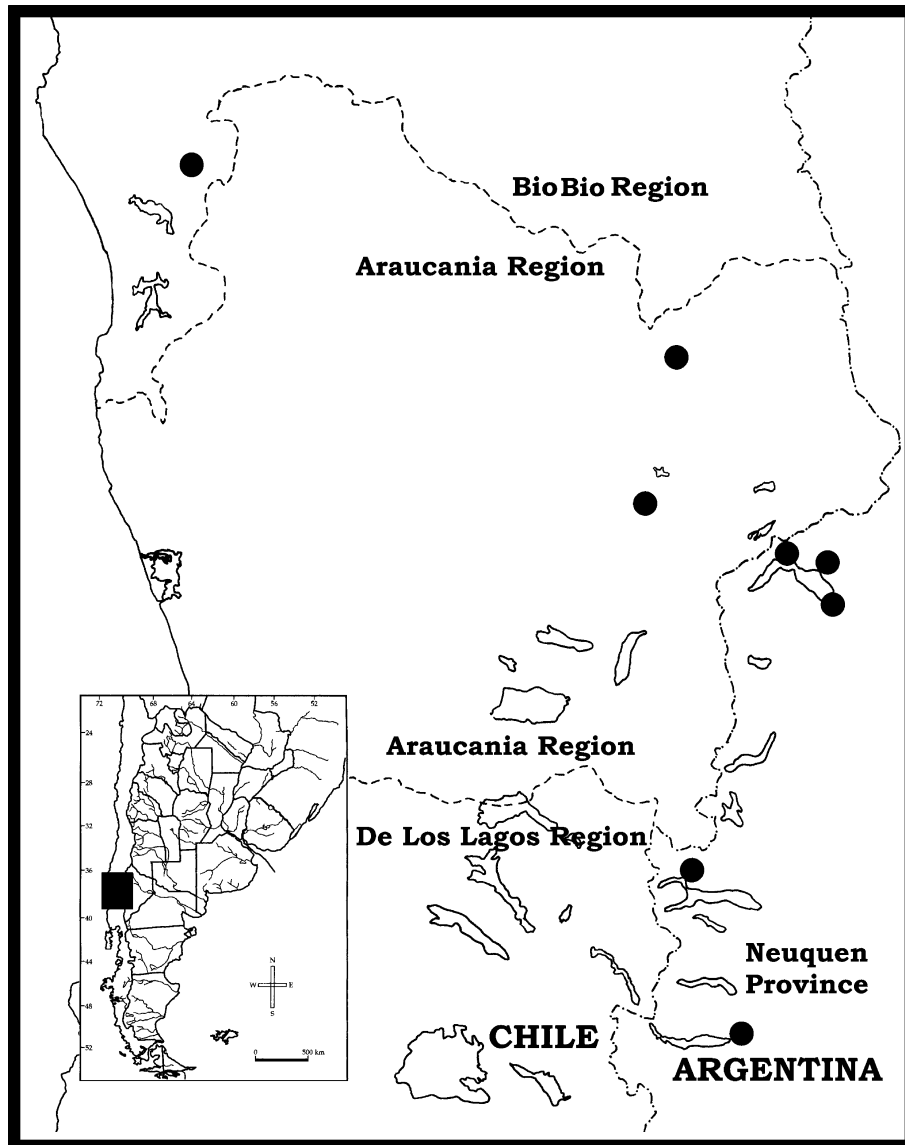


Fig. 6. Map showing the distribution of *Pehuencoris gurguliophagus* n. sp., with the localities where the species was collected indicated by filled circles.

(pinned), Boca Lago Aluminé XII-1997 Coll. by P. Posadas. 1 ♂, 7 ♀ (pinned) Lago Aluminé, II-1998 Coll. by P. Posadas, sobre Pehuen. 2 ♂, 3 ♀ (pinned) Lago Aluminé, 10 Km S (ur de) Villa). Pehuenia, XII-1997 Coll. by F. Ocampo, s (obre)/cono masculino de Pehuen. CHILE: 3 ♂, 4 ♀ (pinned), Arauco, Volcán. Llaima, Los Paraguas, 1,450 m., 28-XII-1992, on *Araucaria araucana*; 4 ♂, 2 ♀ (pinned), 1 ♂, 1 ♀ (permanent slide) Volcán Llaima, Los Paraguas, 15-II-1993. 1 ♂, 1 ♀ (pinned), Malleco, Nahuelbuta, 2-II-2000 Coll. by J. E. Barriga; 1 ♂ (pinned), Malleco, Nahuelbuta, 24-I-2001 Coll. by J. E. Barriga; 2 ♀ (pinned) Parque Nacional Nahuelbuta, 38 km West of Angol 4,300 feet, 13-II-1968, female cone of *Araucaria araucana*, Coll. by L. and C. W. O'Brien; 1 ♂ (pinned) Volcán Llonquimay, 1,400 m., 22-XII-1994 Coll. by J. E. Barriga.

Etymology

The species name is from the Latin *gurgúlio* (weevil) and refers to the new species' habit of feeding on cohabiting weevils (Coleoptera: Curculionidae).

Description of male

Measurements: Total length, 4.65. Maximum width, 1.82. Head length, 0.67; width, 0.72; vertex, 0.31. Antennal segment lengths, I, 0.25; II, 0.72; III, 0.35; IV, 0.35.

Coloration: Black in dorsal view. Antennal segment II pale brown, except for darker apex; rostrum pale brown except for darker apical half of segment IV; forelegs, exocorium, and lateral margin of embolium pale brown. Ventrally black.

Genitalia: Paramere curved, wide, short grooved, acute at apex.

Female

Measurements: Total length, 4.45. Maximum width, 1.75. Head length, 0.69; width, 0.71; vertex, 0.36. Antennal segment lengths, I, 0.24; II, 0.7; III, 0.32; IV, 0.32. Pronotum length, 0.6; width at base, 1.5.

Coloration: Similar to male.

Distribution

Restricted to pehuen forests, Maule biogeographic province, Patagonic subregion, Andean region (Morrone, 2001); between 37°27' S and 40°03' S latitudes (Fig. 6), Neuquén

Province, Argentina and Bio Bio and Araucania regions, Chile.

DISCUSSION

Pehuencoris is the first endemic genus of the tribe, due to the close and specific interaction between its prey and the endemic plant that hosts the prey. The host plant, *Araucaria araucana*, is restricted to Maule biogeographic province and exhibits a disjunct distributional pattern: it occurs in one main area in the Andean cordillera, and in a second area in the Nahuelbuta coastal cordillera (Chile). *Pehuencoris* was found in both areas.

Pehuencoris gurguliophagus occurs in large populations in fallen male pehuen cones. The imaginal and pre-imaginal forms coexist, feeding on the diverse curculionoid larvae that also live there, particularly *Araucarietus viridans* Kuschel (Curculionidae). Because the new species has been found in different locations within the noticeably restricted distributional area of the pehuen, the authors assume that the distributional area of this anthocorid species is similar to the geographical range of the plant that hosts its prey.

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