

SYSTEMATICS, MORPHOLOGY AND PHYSIOLOGY

A New Species of *Brueelia* Kéler (Phthiraptera: Philopteridae) Parasitic on the Common Diuca-Finch, *Diuca diuca diuca* (Aves: Emberizidae) in ChileARMANDO C CICCHINO¹, DANIEL GONZÁLEZ-ACUÑA²

¹Lab. de Artrópodos, Depto. de Biología, Univ. Nacional de Mar del Plata, Funes 3300, 7600 Mar del Plata, Buenos Aires Province, Argentina, Research Career of the National Council of Scientific and Technical Research (CONICET); cicchino@copetel.com.ar; ²Depto. de Ciencias Pecuarias, Facultad de Medicina Veterinaria, Univ. de Concepción, Chillán, Chile; danigonz@udec.cl

Edited by Roberto A Zucchi – ESALQ/USP

Neotropical Entomology 38(4):504-507 (2009)

Una Nueva Especie de *Brueelia* Kéler (Phthiraptera: Philopteridae) Parásito de *Diuca diuca diuca* (Aves: Emberizidae) en Chile

RESUMEN - Se describe una nueva especie del genero *Brueelia* Kéler parasitando a la diuca, *Diuca diuca diuca*, basado en especimenes de tres localidades de Chile: Punitaqui (Coquimbo Province), La Rinconada (Colchagua Province) y Chillán (Ñuble Province). La especie es descrita e ilustrada comentando sus semejanzas morfológicas con especies afines.

PALABRAS CLAVE: Malofago, piojo de aves, Sudamérica, ectoparásito

ABSTRACT - A new species of the genus *Brueelia* Kéler is described as parasitic on the Common Diuca-Finch, *Diuca diuca diuca*, based on specimens from three localities in Chile: Punitaqui (Coquimbo Province), La Rinconada (Colchagua Province) and Chillán (Ñuble Province). The species is fully described and illustrated, and brief comments on its morphological affinities with allied species are also made.

KEY WORDS: Chewing lice, bird lice, South America, ectoparasite

New species in the genus *Brueelia* Kéler parasitic on South American emberizine finches have been described by Cicchino (1982, 1983), Cicchino & Castro (1980) and Valim & Palma (2006). Those parasitic on blackbirds (Icteridae), a taxon frequently treated as close to Emberizidae, have been dealt with by Cicchino (1980, 2004) and Cicchino & Castro (1996). Many *Brueelia* species parasitic on emblematic Chilean emberizine and icterine bird species still remain undescribed.

In this contribution, it is our purpose to describe and illustrate a new species parasitic on the Common Diuca-Finch. Along with the description, brief comments on its morphological affinities with allied species, and remarks on its host distribution are also given. Actually, there are no species of chewing lice described from *Diuca diuca* (Cicchino y Castro, 1998).

Birds were captured at three localities in Chile: Punitaqui (Coquimbo Province 29°54'S, 71°15'W), La Rinconada (Colchagua Province 34°26'S, 71°43'W) and Chillán (Ñuble Province 36°51'S, 71°20'W) with mist-nets by the junior author. Each netted bird was immediately and carefully searched for lice feather-by-feather, and then liberated. The lice were subsequently slide-mounted in Canada

balsam following the technique described by Palma (1978). Drawings were made using a *camera lucida* attached to a Bausch & Lomb compound microscope.

Setae terminology of the body chaetotaxy follows those in Cicchino & Castro (1996). All measurements were taken from mounted specimens by means of a calibrated eyepiece, all expressed in millimeters and identified by the following abbreviations: HL head length, POW preantennal width, OW maximum width of the head, PL prothorax length, PW prothorax width, PTL pterothorax length, PTW pterothorax width, AL abdominal length, AW maximum width of the abdomen, TL total body length, GL male genitalia length (taken from the apex of the basal plate to the tip of mesosomal complex), GW maximum width of the male genitalia (taken at level of the insertion of paramera to the basal plate). Measurements include ranges and the means and standard deviation within parentheses.

The specimens studied herein are deposited in the following institutions: Museo de La Plata (MLP), La Plata, Buenos Aires Province, Argentina (MLP); and Collection of the Departamento de Ciencias Pecuarias, Universidad de Concepción (UDEC).

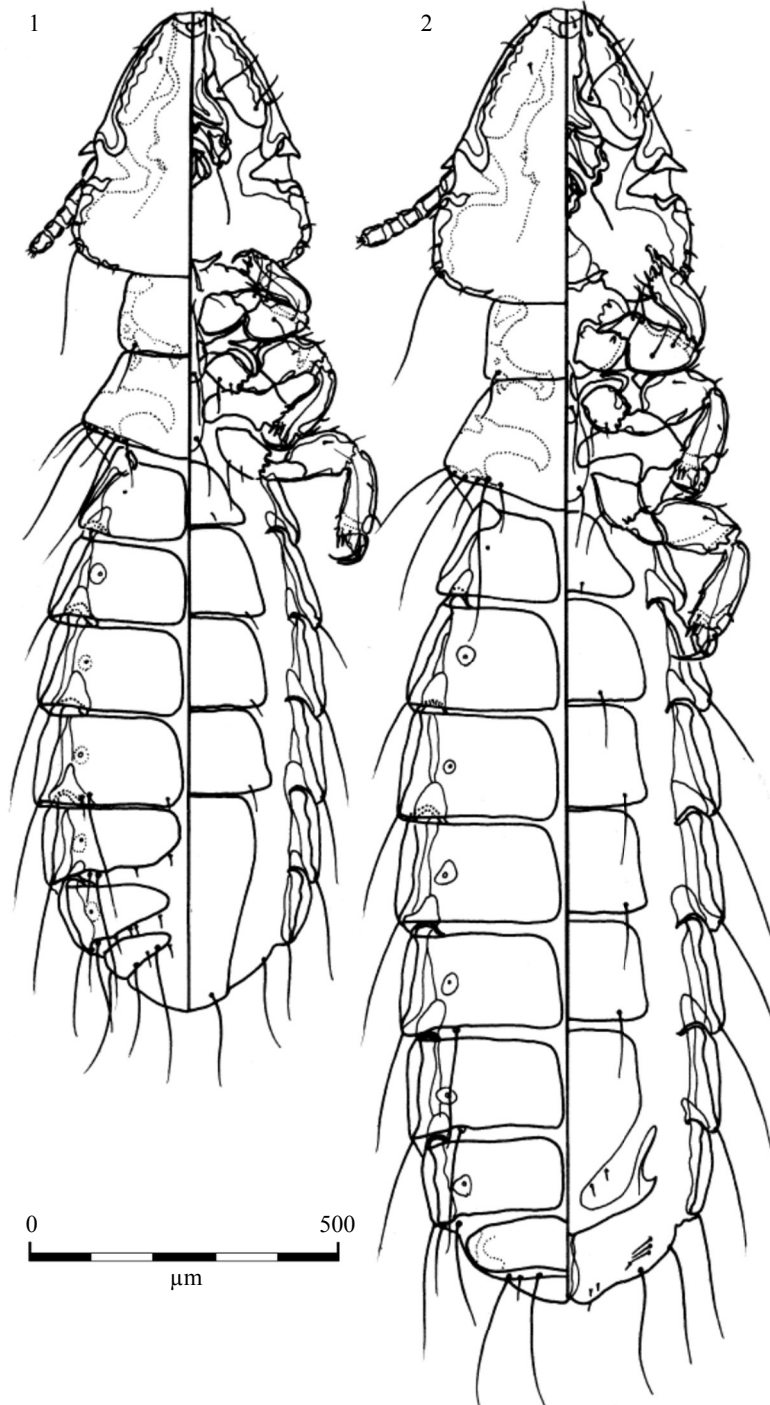
***Brueelia diucae* sp. nov. (Figs 1-7)**

Brueelia sp. nov. Cicchino & Castro 1998: 122.

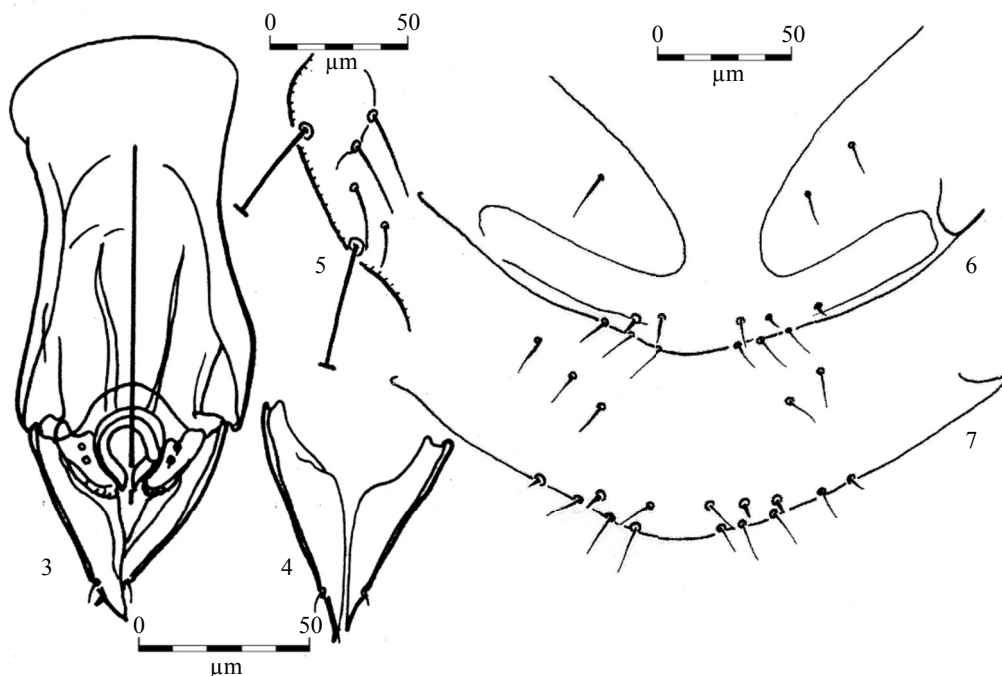
Male. Habitus as in Fig 1. General pigmentation of the body is golden brown, with pleurites and carinae brown; inner margin of the marginal carina is much darker. Head: preantennal margin parabolic is almost uniform, without constriction at the level of

the ventral submarginal setae. Abdomen: paratergal chaetotaxy II 0, III-VII 1 on each side; post-spiracular and an accessory seta is present on tergites V-VII; 1-2 small posterior tergal setae are present on VI-VII on each side, and small sutural setae on V-VII. Genitalia (Figs 3-4): has external edges of parameres which are almost straight (Figs 3-4), and endomeres with a row of 6-7 small tubercles on their posterior margin.

Measurements (n = 7: HL, 0.362, POW, 0.265-0.274



Figs 1-2 *Brueelia diucae* sp. nov. 1 male (dorsal/ventral view); 2 female (dorsal/ventral view).



Figs 3-7 *Brueelia diuca* sp. nov. 3 male external genitalia; 4 idem, parameres of other specimen; 5 female gonapophysis; 6-7 female vulvae of two specimens.

(0.268 ± 0.005); OW, 0.314-0.321 (0.318 ± 0.004); PL, 0.122-0.132 (0.126 ± 0.005); PW, 0.186-0.191 (0.189 ± 0.003); PTL, 0.132-0.157 (0.149 ± 0.012); PTW, 0.284-0.309 (0.294 ± 0.013); AL, 0.862-1.009 (0.895 ± 0.084); AW, 0.353-0.421 (0.393 ± 0.032); GL, 0.157-0.176 (0.169 ± 0.010); GW, 0.059-0.064 (0.062 ± 0.003); TL, 1.455-1.641 (1.527 ± 0.100).

Female (Fig 2). General habitus much as for male, differing in shape, chaetotaxy and terminalia of the abdomen. Long post-spiracular setae are present on tergites VI-VII. Gonapophysis with three setae (Fig 5) and subgenital plate with 1-3 (usually two) setae each side. Vulvar margin (Figs 6-7) with 1-2 spiniform and 3-6 slender and longer setae on each side.

Measurements (n = 10): HL, 0.392-0.397 (0.394 ± 0.003); POW, 0.294; OW, 0.353-0.358 (0.355 ± 0.003); PL, 0.137-0.142 (0.140 ± 0.003); PW, 0.206; PTL, 0.167; PTW, 0.323-0.333 (0.327 ± 0.005); AL, 1.031-1.078 (1.059 ± 0.025); AW, 0.436-0.451 (0.443 ± 0.007); TL, 1.678-1.754 (1.721 ± 0.039).

Etymology. The specific epithet “*diuca*” refers to the host name, *Diuca diuca*.

Remarks. *Brueelia diuca* sp. nov. is reminiscent of some species belonging to the *picturata*-group of Cicchino & Castro (1996), parasitic on blackbirds of the genus *Sturnella*, in particular *B. picturata* (Osborn) and *B. boae* (Cicchino & Castro) by sharing the following features: a) occipital and postoccipital sutures and genal and subgenal areas of the head lacking pigmentation, b) gular plate is entire and almost uniformly pigmented, c) abdominal tergites and subgenital plates of both sexes are uniformly pigmented, and golden brown to yellowish, d) paratergal plates are dark, brownish,

contrasting well with the lighter pigmentation of their respective tergites, and e) parameres of the external male genitalia are longly triangular in shape. It differs of all of them by having a different shape of the head, male and female abdominal chaetotaxy, most of the body measurements and proportions of the features of the male genitalia.

Specimens examined. male holotype, two male and two female paratypes, ex *Diuca diuca diuca*, La Rinconada, Maipú, CHILE, 17.VIII.1972, unknown collector at MLP and UDEC; four male and five female paratypes, ex *D. diuca*, Punitaqui, Coquimbo, CHILE, 30.VI.1981, M.A. Marín coll. at MLP and UDEC; three female paratypes, ex *D. diuca*, Chillán, Ñuble, CHILE, 10.XI.2004 D. González-Acuña coll. at UDEC.

Host information. *Diuca diuca diuca*. Taken at a specific level, this bird inhabits most parts of central and southern Chile and Argentina, reaching the south of Bolivia, east of Uruguay and the southwest of Brazil.

References

- Cicchino A C (1982) Contribución al conocimiento de los malófagos argentinos XII. Cuatro nuevas especies del género *Brueelia* Kéler, 1936 parásitas de Emberizidae y Tersinidae (Aves, Passeriformes). Rev Soc Entomol Argent 41: 279-288.
- Cicchino A C (1983) Especies nuevas o poco conocidas del género *Brueelia* Kéler, 1936 (Mallophaga, Philopteridae) parásitas de Passeriformes, Piciformes y Trogoniformes americanos (Aves). Rev Soc Entomol Argent 36: 283-303.

- Cicchino AC (1990) Contribución al conocimiento de los malófagos argentinos XX. Primera adición a la revisión preliminar de las especies del género *Brueelia* Kéler 1936 (Mallophaga: Philopteridae) parásitas de Icterinae (Aves: Passeriformes: Emberizidae). *Spheniscus* (Bahía Blanca) 8: 21-26.
- Cicchino AC (2004) Adición a la revisión de las especies del género *Brueelia* Kéler, 1936 (Phthiraptera: Philopteridae) parásitas de Icterinae. Las especies parásitas del género *Agelaius* Vieillot, 1816 (Aves: Passeriformes: Fringillidae). *Bol Mus Hist Nat Paraguay* 15: 66-81.
- Cicchino AC, Castro D del C (1980) Contribución al conocimiento de los malófagos argentinos VI. Sobre dos especies del género *Brueelia* Kéler, 1936: *B. parabolocybe* (Carriker, 1903) y *B. embernagrae* sp.nov. (Mallophaga Philopteridae). *Neotrópica* 26: 79-84.
- Cicchino A C, Castro D del C (1996) Revisión preliminar de las especies del género *Brueelia* Kéler, 1936 (Phthiraptera: Philopteridae) parásitas de Icterinae (Aves, Passeriformes, Fringillidae). *Graellsia* 52: 3-30.
- Cicchino A C, Castro D del C (1998) Ischnocera, p.4-124. In Morrone J J, Coscarón S (eds) Biodiversidad de artrópodos argentinos. Buenos Aires, Ediciones Sur, 599p.
- Palma R (1978) Slide-mounting of lice: a detailed description of the canada balsam technique. *N Z Entomol* 6: 432-436.
- Valim M P, Palma R L (2006) A new species of *Brueelia* Kéler, 1936 (Phthiraptera: Ischnocera: Philopteridae) from the blue-black grassquit (Aves: Passeriformes: Emberizidae) in Brazil. *Zootaxa* 1153: 27-32.

Received 19/XII/08. Accepted 27/V/09.
