

***Craspedorrhynchus linardii*, a new species of chewing louse
(Phthiraptera: Ischnocera: Philopteridae) from the Gray-headed
Kite (Aves: Falconiformes: Accipitridae)**

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Abstract

A new species of the genus *Craspedorrhynchus* Kéler, 1938 (Phthiraptera: Ischnocera: Philopteridae) is described and illustrated based on specimens from a Gray-headed Kite, *Leptodon cayanensis* (Latham, 1790) (Aves: Falconiformes: Accipitridae), collected in Fazenda Água Limpa, Brasília-DF, Brazil. This is the first species of chewing louse described from the Gray-headed Kite.

Key words. *Craspedorrhynchus linardii*; new species; chewing lice; Philopteridae; ectoparasite; *Leptodon cayanensis*

Introduction

The chewing louse genus *Craspedorrhynchus* Kéler, 1938 (Phthiraptera: Ischnocera: Philopteridae) comprises 40 valid species restricted to the avian order Falconiformes, with a worldwide distribution. Thirty-five species are parasitic on birds of the family Accipitridae, three on the Falconidae and two have uncertain hosts (Price *et al.*, 2003). The family Accipitridae comprises 237 species, of which less than 10% have been recorded as harbouring *Craspedorrhynchus*. Mey (2001) published an annotated list of the valid species, and documented some morphological characters. Partial taxonomic revisions are available for some areas such as those of Carriker (1956) for neotropical species; Emerson (1960) for North American species; Pérez and Martin-Mateo (1995) for species that occur in Spain; and Złotorzycka (1977) for those from Poland. *Craspedorrhynchus* spp. are typically restricted to a single host species (Mey, 2001), and are usually located in the head plumage.

Considering (1) the morphological differences between studied specimens and previously described species; (2) the high degree of specificity found in this genus; and (3) that

no species of *Craspedorrhynchus* has been recorded from *Leptodon cayanensis* (Latham, 1790), the Gray-headed Kite, (Price *et al.*, 2003), the description of a new species of *Craspedorrhynchus* is presented.

Materials and Methods

Specimens were stored in 70% alcohol and subsequently cleared in 10% potassium hydroxide solution. The specimens were then mounted on slides in Canada Balsam following Palma's technique (1978). Host names follow Sick (1997) and chewing lice nomenclature and classification follow Price *et al.* (2003).

Abbreviations of measured characters are: HL—Head length; FW—Front width; TW—Temporal width; CI—Cephalic index (HL/TW); POW—Prothorax width; PEW—Pterothorax width; AW—Abdomen width; GL—Genitalia length; GW—Genitalia width; EWG—External width of genital chamber; IWG—Internal width of genital chamber; TL—Total length; TI—Total index (TL/AW). Measurements in millimeters are means followed by ranges in parentheses.

The material examined will be deposited in the entomological collection held at the Instituto Oswaldo Cruz, Fiocruz, Rio de Janeiro, Brazil (PHTPHI 0005-0013).

Systematics

Craspedorrhynchus Kéler, 1938

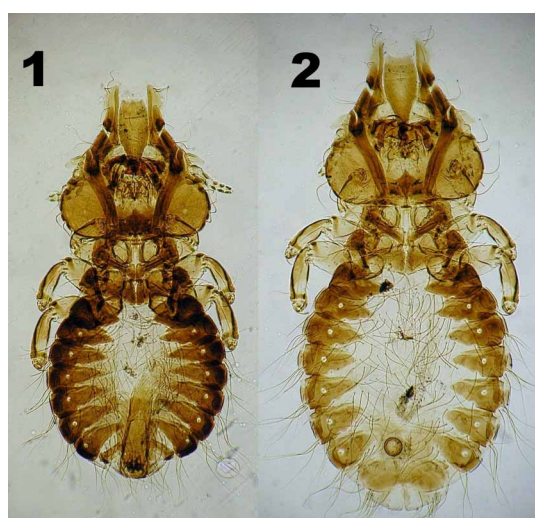
The genus *Craspedorrhynchus* is characterized by the following features: premarginal and ventral carinae of the forehead surpassing the anterior dorsal plate; clavi well developed (a true trabecula is absent); there are only six marginal postantennal setae on each side—not seven as in most philopterids—because the marginal temporal seta 5 (mts 5) is absent. The shape of the male genitalia is typical. These features are diagnostic for *Craspedorrhynchus*, and allow the genus to be distinguished from other philopterid genera according to Emerson (1960) and Mey (2001).

Craspedorrhynchus linardii Valim, new species (Figs. 1–10)

Type host. *Leptodon cayanensis* (Latham, 1790), the Gray-headed Kite (Accipitridae).

Type material. Holotype male from *Leptodon cayanensis*: BRAZIL, Brasília, Distrito Federal: Fazenda Água Limpa (15° 57'S, 47° 56'W), 05/IX/2002, Mieko F. Kanegae coll. Paratypes: 4 males, 3 females and 2 nymphs from the same host specimen, same date and locality as the holotype.

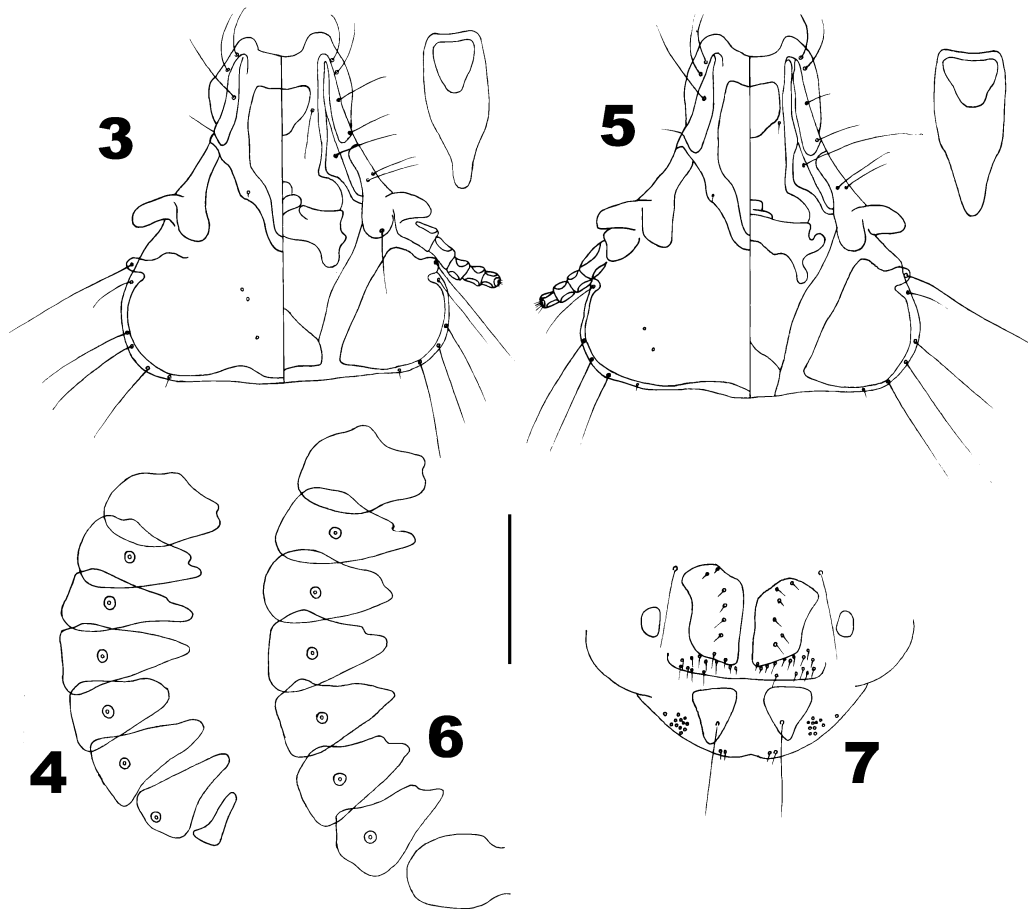
Male. Whole specimen as in Fig. 1. Paired pteronotal plates with 4–5 postero-medial setae, 2 postero-lateral setae and 1 lateral seta on each side. Head as shown in Fig. 3, longer than wide (CI 1.05). Tergal plates as shown in Fig. 4, often with slight bifurcations on tergites III. Number of tergoventral abdominal setae (including postspiracular seta): II 10–13; III 14–15; IV 13–16; V–VI 15–14; VII 18–20; VIII 14–16. Number of sternocentral abdominal setae II 6–8; III 11–12; IV 11–16; V 13–16; VI 9–16. Number of pleural setae II 0; III 1; IV 7–8; V 7; VI 7–8; VIII 5 and IX 4. Measurements: HL 0.91 (0.89–0.95); FW 0.50 (0.49–0.52); TW 0.87 (0.85–0.89); CI 1.05 (1.02–1.07); POW 0.51 (0.50–0.52); PEW 0.67 (0.65–0.68); AW 1.09 (1.08–1.09); GL 0.57 (0.55–0.60); GW 0.17 (0.16–0.20); TL 2.29 (2.25–2.33); TI 2.11 (2.08–2.14).



FIGURES 1–2. *Craspedorrhynchus linardii* sp.n.: 1, male. 2, female.

Female. Larger than male, whole specimen as in Fig. 2. Paired pteronotal plates with 4–6 postero-medial setae, 2 postero-lateral setae and 1 lateral seta on each side. Head as in Fig. 5. Tergal plates as in Fig. 6. Vulvar region as in Fig. 7. Number of tergoventral abdominal setae (including postspiracular seta): II 14; III 16–17; IV 12–17; V 11–12; VI 12; VII 12–13; VIII 10–11. Number of sternocentral abdominal setae II 8–9; III 10–11; IV–V 11–12; VI 12–13. Number of pleural seta II 0, III 1; IV 7–8; V–VI 6–7; VII 5; IX 4. The number of setae on the edge of the vulvar opening is 10–11, insertions depicted in Fig. 7. Measurements: HL 0.95 (0.95); FW 0.52 (0.52); TW 0.89 (0.89); CI 1.07 (1.07); POW 0.53 (0.53); PEW 0.70 (0.70); AW 1.17 (1.17); TL 2.66 (2.62–2.70); TI 2.28 (2.24–2.31); EWG 0.10 (0.10); IWG 0.05 (0.04–0.05).

Etymology. This species is named after Dr Pedro Marcos Linardi (Department of Parasitology, Universidade Federal de Minas Gerais, Brazil) in recognition of his great contribution to Medical Entomology, especially his studies of fleas and sucking lice of the Brazilian fauna.



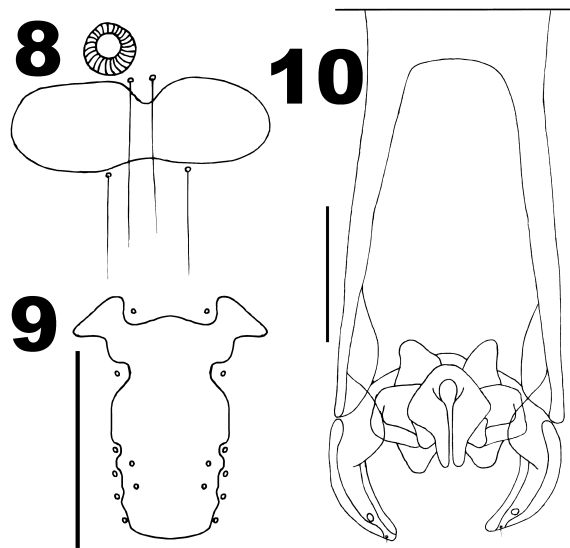
FIGURES 3–7. *Craspedorrhynchus linardii* sp.n.: 3, dorso-ventral views of head of male. 4, male tergites. 5, dorso-ventral views of the head of the female. 6, female tergites 7, female vulvar area (setae on the edge of the vulvar opening not drawn) (Bar = 0.4mm).

Discussion

Craspedorrhynchus linardii sp. n. can be distinguished from all the species described by [Carriker \(1956\)](#) by the shape of its male genital plate which has lateral “wings”. Although the shape of the genitalia is not a good character for separation of the species of *Craspedorrhynchus* (see [Mey, 2001](#)), the shape of the endomeral plate of *C. linardii* sp.n. is very different from those described by [Carriker \(1956\)](#). Regarding total body length, *C. linardii* sp.n. (male total length 2.29mm; female total length 2.66mm) is similar to *C. obscurus* ([Giebel, 1874](#)) (male total length 2.12mm; female total length 2.68mm) and *C. spathulatus* from *Milvus migrans* ([Boddaert, 1783](#)) (male total length 2.18mm; female total length 2.61mm). The Neotropical species described by [Carriker \(1956\)](#) are much smaller than the

new species described here (the biggest is *C. brevicapitis* Carriker, 1956, males: 1.82 and female: 2.37).

Females of *C. linardii* resemble *C. nisus* (Denny, 1842) and *C. insolitus* Kéler, 1938, in having two anterior setae on tergite IX, but can be distinguished from both in lacking a pair of rudimentary sclerites on the posterior margin of this tergite (Fig. 8). The shape of those sclerites approaches that of *C. nisus*, but the presence of a medial invagination in the anterior edge, differentiates this species from the others.



FIGURES 8–10. *Craspedorrhynchus linardii* sp.n.: 8, female IX tergite. 9, male subgenital plate (Bar = 0.4mm). 10, male genitalia (Bar = 0.1mm).

The clypeal plates of both sexes (Figs. 3 and 5) resemble those of *C. spathulatus* (Giebel, 1874), in having concave anterior edges and slightly convex lateral edges. The lateral “wings” of the male genital plate are as in *C. spathulatus*, well developed and wide, but the genital plate of *C. linardii* sp.n. (Fig. 9) is different from that of *C. spathulatus* in the position and number of setae. The male genitalia of these two species also differ in the shape of the endomer plates and by the absence of a fissure in the basal apodeme of *C. linardii* sp.n. (Fig. 10). In females of *C. spathulatus* and *C. linardii* sp.n., the number of setae on the edge of the vulvar opening is the same (10–11) on each side. However, females can be distinguished by the chaetotaxy of tergite IX, because *C. spathulatus* has neither a pair of anterior setae, nor the medio-anterior invagination that is present in *C. linardii* sp.n. (Fig. 8).

The hyaline margin of the head in *C. linardii* sp.n. is similar to that in *C. insolitus*, in having a deep antero-medial depression. However, the general shape of the head is longer

than wide in *C. linardii* sp.n. (CI 1.02-1.07), while in *C. insolitus* is wider than long (CI 0.94-0.95).

Leptodon cayanensis occurs from Mexico to Argentina, including all the forested areas of Brazil (Sick, 1997). It is assumed that the distribution of *Craspedorrhynchus linardii* sp.n. is the same as that of the host.

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