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A new genus and species of Ischnocera (Insecta, Phthiraptera) off Chimango Caracara *Milvago chimango* from Chile with annotated checklists of chewing lice parasitizing caracaras (Aves, Falconiformes, Falconidae)

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With 10 figures and 1 table

Introduction

The family of the falcons (Falconidae) attains its greatest diversity in the Neotropics. Caracaras, with 10 - 11 species in 4 genera, sometimes placed in their own subfamily (Polyborinae), are familiar and conspicuous birds, on the basis of their foraging habits also known as ›vulture‹ or ›carrion‹ falcons, found in almost all landscape types from southern North America to the southern tip of South America. Their chewing lice fauna remains very poorly known, well illustrated by the annotated checklist at the end of this paper. Yet the caracaras are one avian group that ought to have surprises in store for the mallophagologist, if they can be regarded as an ancient element of Gondwanaland origin, in a parasitophyletic sense, in the Neotropical fauna. So far, of the Ischnocera, only *Falcolipeurus*, *Kelerinirmus*, and *Acutifrons*, only the last with several species, have been identified from caracaras. A small series of a *Degeeriella*-complex chewing lice species taken from a freshly dead Chimango Caracara *Milvago chimango* in the Chilean Andes could add new material to the discussion. We have examined this find most carefully, but still remain unable to say whether this *Degeeriella*-type chewing louse is in fact a straggler to the Chimango Caracara from an avian prey species on which it was feeding. However, the fact that this taxon would, in our opinion, easily fit into the still unclear overall caracara mallophagological picture seems to count against the possibility that we are dealing with a host species other than that given, especially since the find represents, without any question, a genus and species hitherto unknown. Final doubts will only be dismissed when precisely authenticated records of this species are collected.

Material and Methods

The chewing lice are preserved as permanent specimens in Canada balsam. The measurements were carried out as described in MEY (1997). The drawings were made by E.M. using a microscope and camera lucida. The type series unfortunately could not be preserved in a condition permitting all structures to be clearly visible. We hope to be able to describe the characters presented here more precisely when new material is available.

Acknowledgements: Prof. emeritus Dr. Roger PRICE (Fort Smith, Arkansas) was kind enough to check and complete our systematic list even though he did not share our opinion on the validity of some taxa. Dr. Jürgen DECKERT (Museum für Naturkunde, Berlin) sent me »type material« of *Degeeriella titschacki*. For their linguistic advice on the creation of new names we are most grateful to Prof. Dr. Ernst Josef FITTKAU (Icking), Dipl.-Biol. Wolfgang MÜLLER (Neu-Anspach) and Dr. Fritz SCHULZE (Hildesheim). We would like to thank Brian HILLCOAT (Neuss) for translating the manuscript from German to English.

Description

Caracaricola nov. gen.

Type species: *Caracaricola chimangophilus* nov. spec.

Caracaricola, provisionally monotypical, differs clearly from all 25 genera placed by MEY (1993) in the *Degeeriella*-complex by the following character combinations:

1. *Caracaricola* n.g. possesses an almost circular head (apart from the occipital region) with a complete clypeal carina without clypeal suture and so manifests the circumfasciate head type.
2. Ventral carina medially divided, arms seeming to indicate a pterotheca, narrow-

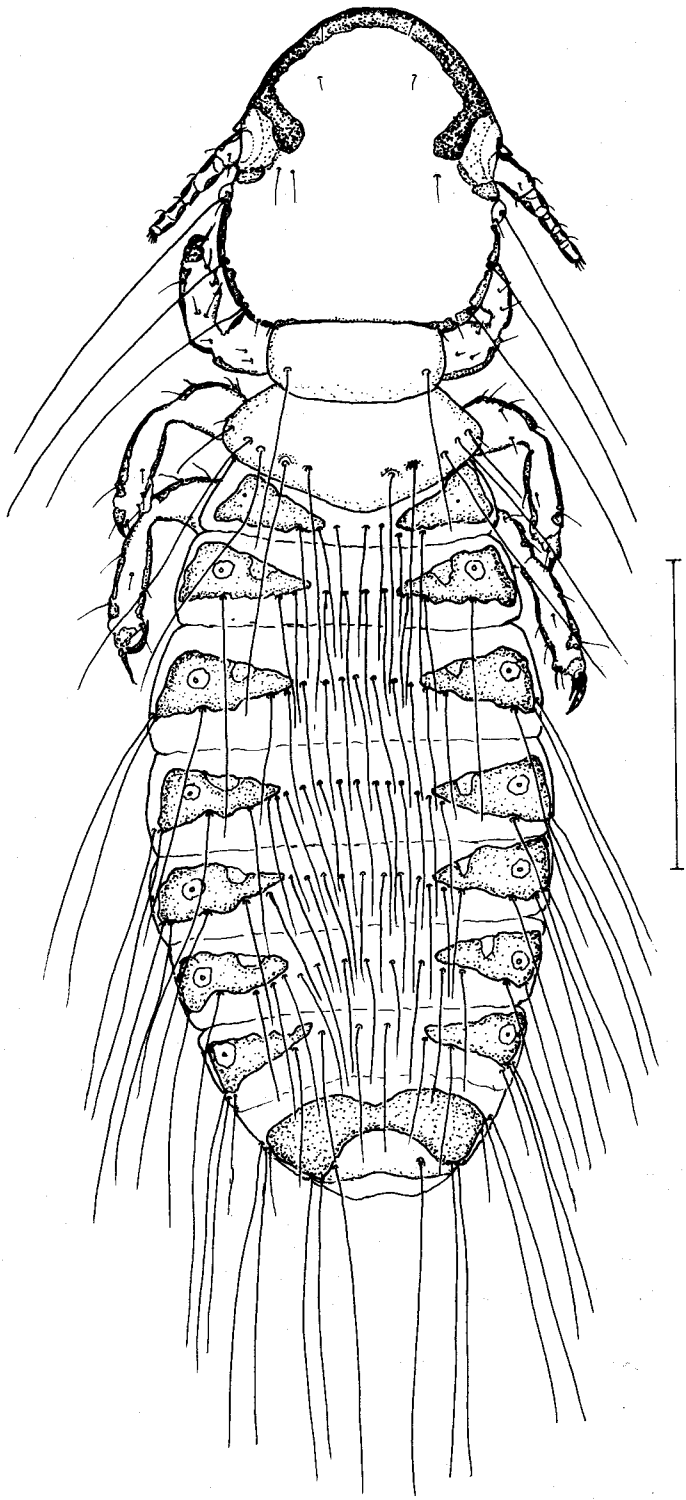


Fig. 1.
Caracaricola chimangophilus n. g. et n. sp., female (dorsal view). Scale 0.5 mm.

ing towards the front, but without showing any trace of a disappearance of the clypeal carina (commonly found in *Kelerinirmus*). Between the ventral carina arms, immediately against the clypeal carina, there is a hardly visible, weakly pigmented plate (= preformation of the ventral clypeal signature?) (Fig. 2).

3. The relative position of the 2 first basal clypeal setae (avs 1 - 2, see Fig. 2) to each other is unusual: they are not close to each other against or on the clypeal carina, as in degeeriellid Ischnocera, but have slightly moved apart, so that the clearly longer avs 2 is inserted more medial and below avs 1 on the edge of the clypeal node.

4. Antennae strongly sexually dimorphic (Figs. 3 - 4). Scapus of male extended to form thickest antennal segment, the proximal posterior margin of which appears to be drawn out ventrally in a cone shape. 4th and 5th antennal segments of male almost completely fused with each other, of female clearly separate. This tendency to the reduction in the number of antennal segments is so far unknown for any avian ischnoceran species.

5. Temporal setae pattern (os, pos, mts 1 - 5; see Fig. 2): ocularis, mts 1 and 3 are macrochaetae, preocularis, mts 2, 4 and 5 are microchaetae.

6. Laterally on abdominal segments ii to viii relatively small wedge-shaped tergopleurites (without pleural thickening). A complete tergopleurite covers only segments ix and x in female, completely lacking there in male. Ventral abdominal sclerites (except in genital region) are absent in both sexes.

7. Male has a heavily sclerotisized ventral subgenital thorn (= caudal end of hypandrium) that projects beyond the rear end of the body.*

8. Male genitalia with relatively long, free parameres attached by articulation to basal plate.

According to habitus, head and thorax structure (including chaetaxic pattern), *Caracaricola* can be assigned to the *Degeeriella*-complex, but occupies within it a very isolated position. At least it cannot be placed at present in any of these genus groups (see MEY 1993), especially not in any of those off the Falconiformes, *Degeeriella*, *Kelerinirmus*, and *Acutifrons*. The following characters of *Caracaricola* n.g. can be interpreted as autapomorphic: **1.** the position of the 2 first basal clypeal setae (avs 1 - 2), **2.** the sexual dimorphism of the antennae, unique among avian Ischnocera, **3.** the slight expression of abdominal plates, and **4.** the apical shaping of the hypandrium to a sturdy subgenital thorn. This last character is found in an analogous form in some lipeurid Ischnocera (e.g. *Eiconolipeurus*, *Epicolinus*, or *Reticulipeurus*). The male genitalia of *Caracaricola* deviate from the apomorphic *Degeeriella*-type by the presence of relatively large parameres, articulating freely in the basal plate, which within the *Degeeriella*-complex is found only in *Tinamotaecola* and *Syrrhaptoecus*.

We have no observations concerning the topographical distribution of Ischnocera species on host caracaras. The habitus of the type host leads us to expect that *Caracaricola* n.g. has its niche on the wings and/or small contour feathers of the body, syntopically with the larger *Kelerinirmus*, while the synhospitalic *Acutifrons chimango* will inhabit mainly the head feathers. However, the question also arises whether the still larger *Craspedorrhynchus* (in the Falconidae found so far only on a few *Falco*) can also be expected there.

Derivatio nominis: ›Caracara‹ (masculine gender) is the hispanisized form of the Carib word ›Karikare‹, which indicated various ›vulture-falcon‹ species (subfamily Polyborinae, *partim*) in Central and South America. In Tupi it means something like ›eagle‹ or ›bird of prey‹. It is joined to the root ›cola‹ (= inhabitant) to give *Caracaricola*.

* Some structures are not clearly recognizable in the type series.

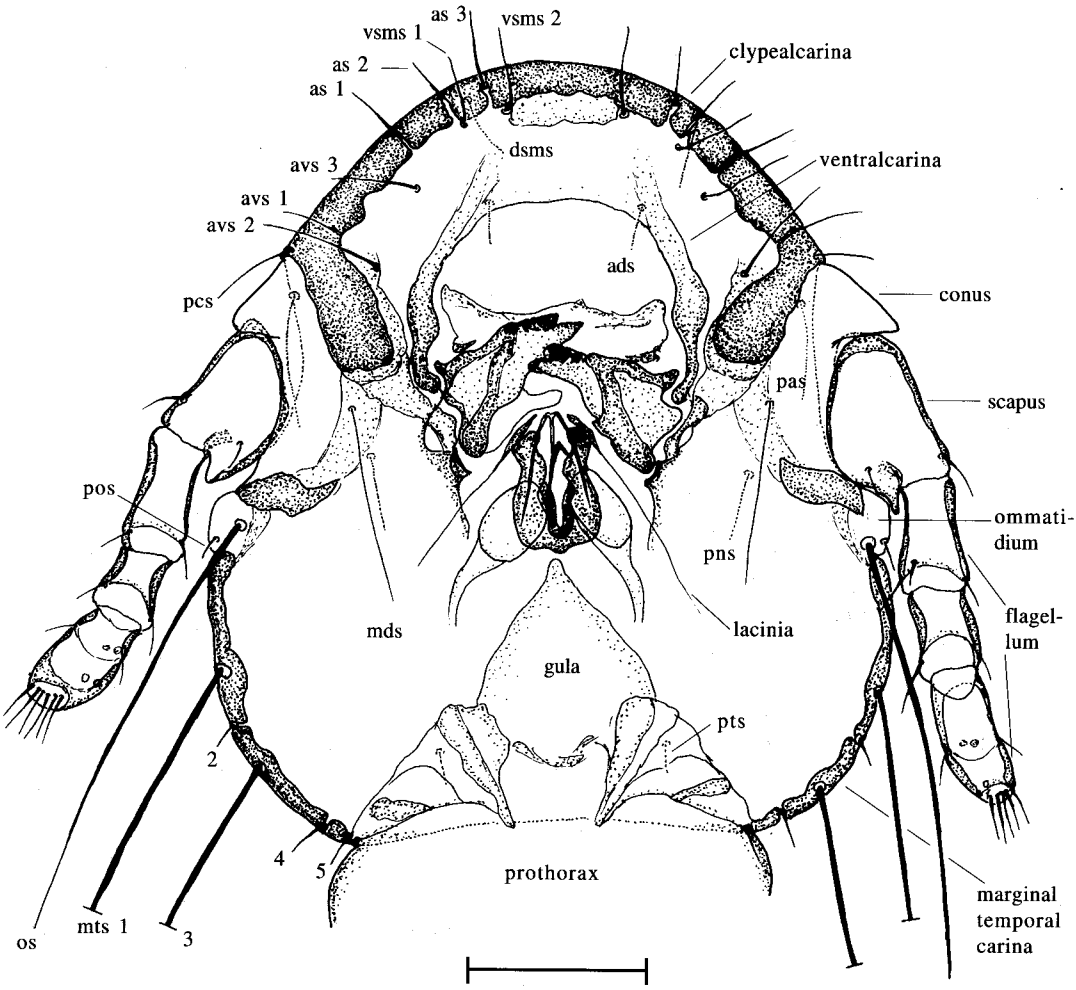


Fig. 2.
Caracaricola chimangophilus n. g. et n. sp., male. Ventral head structures (dorsal setae and structures hatched). - Abbreviations (designation of dorsal setae right, ventral setae left): **ads**, anterior dorsal seta (Gesichtsborste, facial seta); **as 1 - 3**, marginal setae (1 - posterior, 2 - middle, 3 - anterior marginal seta); **avs 1 - 3**, anterior ventral setae (basal clypeal setae); **dsms**, dorsal submarginal seta; **mds**, mandibular seta; **mts 1 - 5**, marginal temporal setae; **os**, ocular seta; **pas**, preantennal seta (Tegosborste); **pcs**, preconal seta (Zapfenborste); **pns**, postnodal seta; **pos**, preocular seta; **pts**, posttemporal seta (1. Hinterhauptsborste); **vsms 1 - 2**, ventral submarginal setae (1 - Chomaborste, 2 - Oscularis). - Scale 0.1 mm.

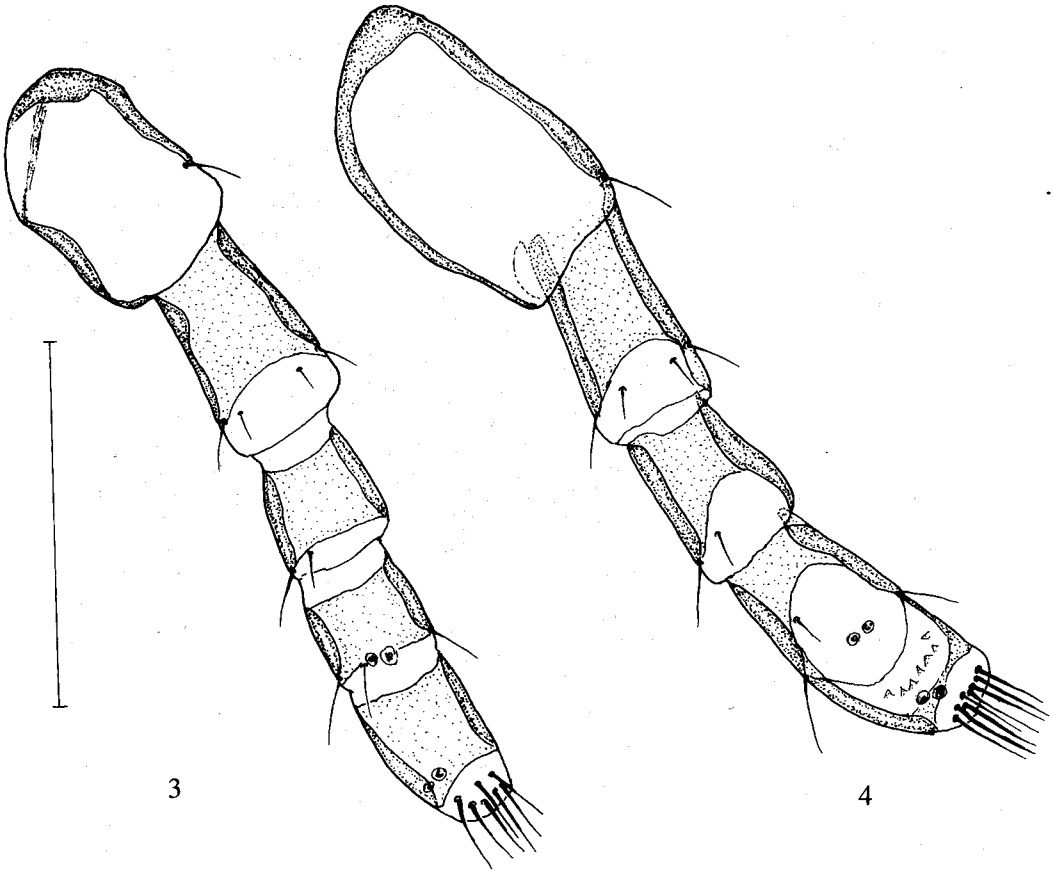
Caracaricola chimangophilus nov. spec.

Figs. 1 - 8

Type host: *Milvago c. chimango* (Vieillot, 1816)*

Material: 4 males, 2 females (M. 4408. a-f) off a freshly dead Chimango Caracara, November 1999, in Chillán/ Chile, *leg.* D. González Acuña.

* Subspecies allocation inferred from location of the collected host, Chillán, north of Concepción. The range of *Milvago chimango temucoensis* W. L. Sclater, 1918 stretches to the south of Concepción, while that of the nominate form lies to the north and includes Chillán (White *et al.* 1994). To what extent both subspecies occur in this area sympatrically, or even have reproductive contact, is not known to us. Therefore the identity of the type host as *M. c. chimango* is given here with reservations.



Figs. 3 - 4.
Caracaricola chimangophilus n. g. et n. sp., antennae (ventral view) of female (3) and male (4). - Scale 0.1 mm.

Holotype (male, 4408. a) and allotype (4408. e) in Naturhistorisches Museum Rudolstadt (Germany), 4 paratypes in Universidad de Concepción, Facultad de Medicina Veterinaria, Campus Chillán (Chile).

M a l e : Weakly pigmented, so overall impression appears more grey than brownish. For body measurements, see Tab. 1. Clearly smaller than female, very similar in habitus (see Fig. 1). Head (ventral view) as in Fig. 2. Preantennal seta (pas) as long as scapus. Clavus relatively small, not even half the size of the first antennal segment. Antennae clearly sexually dimorphic (Figs. 3 - 4). Scapus strongly swollen and with small apical ventral outgrowth. 4th and 5th antennal segments fused. Both segments are connected dorsally by a continuous sclerotisized edge, interrupted ventrally on both sides at the apical setae of the 4th antennal segment. The ocularis is a macrochaeta, the preocularis a tiny short seta; both insert at the ommatidium. Temporal setae (mts 1 - 5) as in Fig. 2. Pro- and mesometathorax without median sternal plate. Prothorax mediosternally without setae. Mesometathorax medio-sternally with 2 pairs of long setae. Mesometanotum with 6-7 setae marginally on each side: 1 spine, 1 hypobothrium, 4 - 5 macrochaetae. Abdominal segments ii-viii with a wedge-shaped tergopleurite, which lacks a pleural thickening, on each side. Tergopleurites iii-viii each with a large unpigmented area around the tracheal opening. A rudimentary spiracle is present on abdominal segment ii. Abdominal setae pattern: tergocentrally (only on the holotype), including postspiracular setae - 9 on segment ii; 11 on iii; 12 each on iv and v;

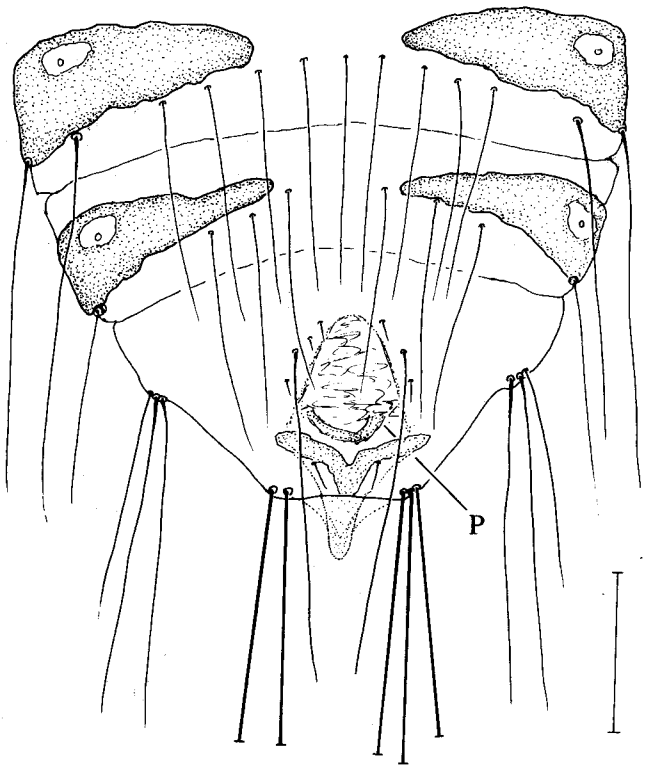
10 - 11 each on vi and vii; 8 on viii; 3 - 4 setae plus one posterior pair of microchaetae (see Fig. 5) on each side of the genital opening on ix. Postspiracular seta as macrochaeta on segments iii-vii, a smaller hypobothrium pleurally on viii. Sternocentrally - 2? on segment ii; 4? on iii; 8 on each of iv-vi. For subgenital region see Fig. 6. Pleurally - ii and iii without setae; 3 each side on iv-ix; 2 - 3 each side on x. For genital opening (dorsal view) see Fig. 5. Total length of genitalia (Fig. 8) 0.29 - 0.32 mm. Basal plate 0.085-0.091 mm broad and 0.19-0.22 mm long. Parameres 0.091-0.10 mm long and 0.08 mm broad.

F e m a l e : Habitus as in Fig. 1. For body measurements see Tab. 1 Antennae with scapus rather larger than 4-segment homonomous flagellum (Figs. 1 and 3). Otherwise head and thorax as male. Abdomen similar to male with sex-specific differences at terminalia (Figs. 1 and 8). The tergopleurite of abdominal segments ix and x is the largest abdominal plate and is undivided. Abdominal setae pattern: tergally as in Fig. 1; sternocentrally - 5 on segment ii; 9 on iii; 10 on iv; 8 - 11 on v; 8 - 10 on vi; 2 setae on vii. Hypogynium as in Fig. 8. Pleurally (on each side) - segments ii and iii without setae; 3 on iv and v; 3 - 4 on vi; 3 on vii; 2 on viii; 3 anteriorly and 2 posteriorly on ix and x (see Figs. 1 and 8). Differential diagnosis: At 1.33 - 1.90 mm one of the smallest Ischnocera so far found off caracaras. On the basis of the characters presented in the generic diagnosis and illustrated in Figs. 1 - 8, *Caracaricola chimangophilus* n.g et n.sp. is unmistakable and easily recognized.

Derivatio nominis: ›Chimango‹ is also an indigenous word for this *Milvago* species. It comes from Quechua, a widely distributed Inca language of the Andes (Colombia to Chile). ›Chimango‹ is here combined with ›phil‹ = loving to give the new epithet.

Table 1.
Body measurements (mm) und head index (head width divided by head length) of *Caracaricola chimangophilus* nov. gen. et nov. spec. ex *Milvago c. chimango.*

	4408.					
	a	**b**	**c**	**d**	**e**	**f**
	holotype	**paratypes**			**allotype**	**paratype**
	males				**females**	
Total length	1.35	1.35	1.34	1.33	1.90	1.72
Head length	0.37	0.39	0.39	0.39	0.46	0.45
Head width	0.36	0.37	0.37	0.36	0.43	0.40
Head index	0.97	0.95	0.95	0.92	0.93	0.89
Prothoracic width	0.22	0.24	0.24	0.24	0.27	0.25
Mesometathoracic width	0.30	0.31	0.33	0.34	0.39	0.36
Abdominal width	0.42	-	-	-	0.60	-



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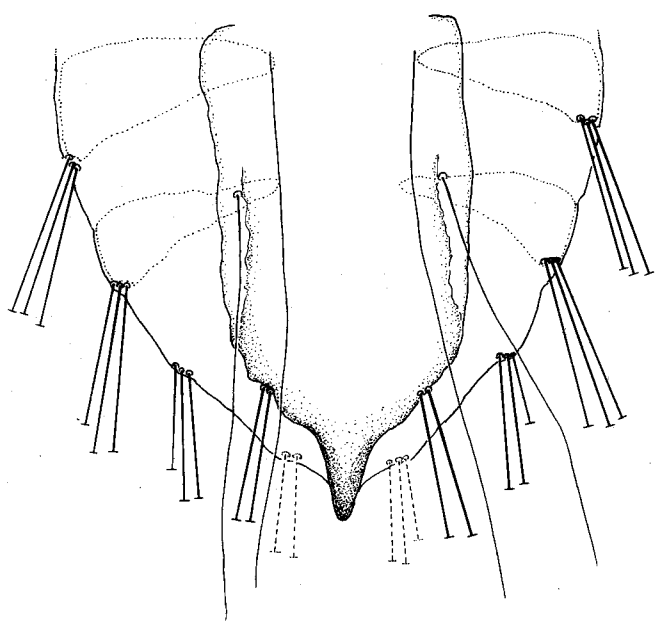

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Figs. 5-6.
Caracaricola chimangophilus n. g. et n. sp., terminalia, male. 5: dorsal (P = tips of parameres are visible at the genital opening); 6: ventral. Scale 0.1 mm.

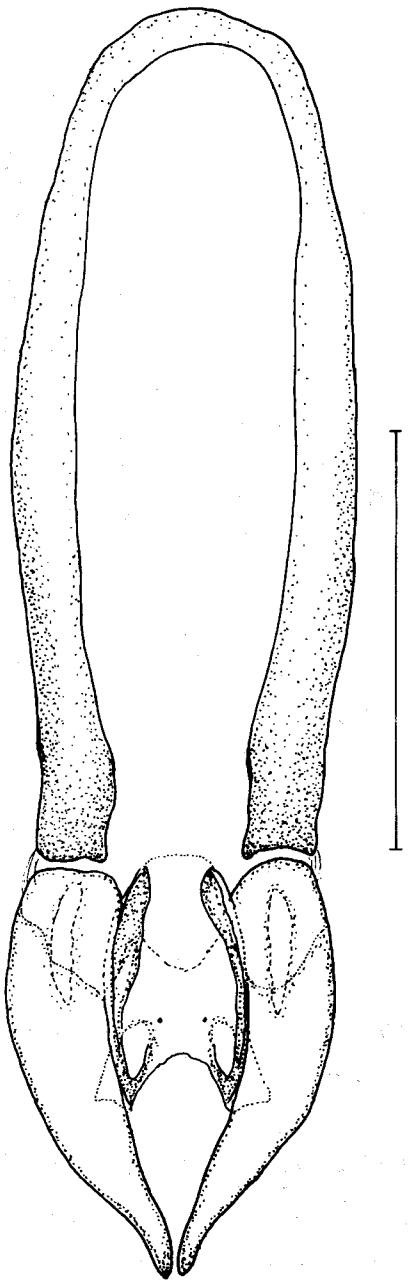

Fig. 7.
Caracaricola chimangophilus n. g. et n. sp., genitalia, male. – Scale 0.1 mm.

Annotated list of the species of chewing lice (Amblycera and Ischnocera) found on caracaras (*Daptrius, Phalcoboenus, Polyborus* and *Milvago* sensu WHITE *et al.* 1994)

See also the systematic checklist of chewing lice below. As the lists shows there are some unsolved taxonomical problems.

1. Black Caracara *Daptrius ater* VIEILLOT

Monotypic.

Aquiligogus ateri (PRICE & BEER, 1964) – Type series from Brazil.

Kurodaia ceciliae (CARRIKER, 1963) – Type material from Venezuela. PRICE & BEER (1964), like CARRIKER (1963), regard this species as a representative of *Colpocephalum*. EMERSON (1967: 71), however, places it in *Kurodaia*.

2. Red-throated Caracara *Daptrius americanus* (BODDAERT)

Monotypic.

Aquiligogus ibicter (EICHLER, 1954) – Type host material from Brazil and Costa Rica. Recognition of the species on the basis of the original description would be virtually impossible. PRICE & BEER (1963: 741 f.) redescribed ›? *ibicter*‹ in *Colpocephalum* sensu lato, with reservations, using material off *Daptrius ater* from Brazil. Later, PRICE & BEER (1964) were able to confirm *ibicter* after studying the type ex *Daptrius americanus*, but not ex *D. ater*.

3. Carunculated Caracara *Phalcoboenus carunculatus* DES MURS

Monotypic.

According to SIBLEY & MONROE (1990), all *Phalcoboenus* species, apart from *P. australis*, belong to the superspecies *megalopterus*.

No finds known?

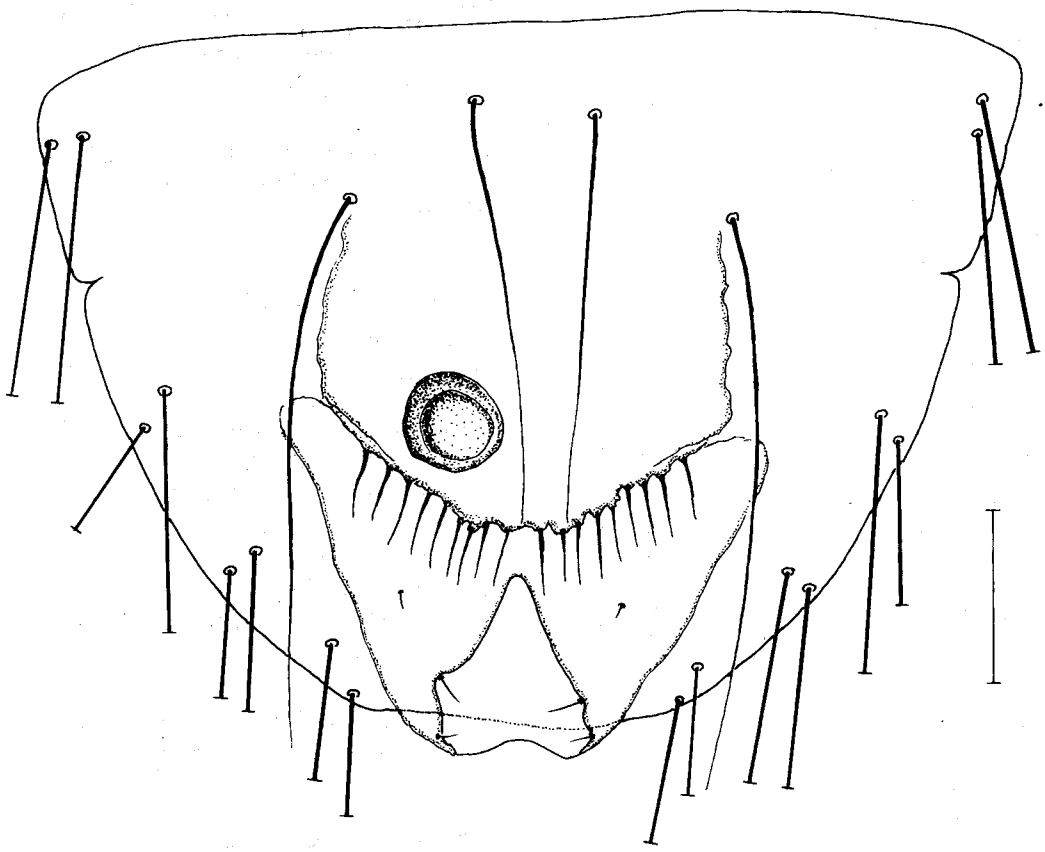

Fig. 8.
Caracaricola chimangophilus n. g. et n. sp., terminalia, female (ventral view). - Scale 0.1 mm.

4. Mountain Caracara *Phalcoboenus megalopterus* (MEYEN)

Monotypic.

Aquiligogus maculatus (PIAGET, 1880) - Type host is *Polyborus p. plancus*. According to PRICE (1967), synhospitalic with *A. megalopterus* (PRICE) on a single host from Peru.

Aquiligogus megalopterus (PRICE, 1967) - Described as *Colpocephalum*, belonging to the *polyborus* species group. Type material from Peru.

Acutifrons megalopterus CARRIKER, 1956 - *Ph. alb[u]gularis megalopterus* (MEYEN) is stated to be type host.

5. White-throated Caracara *Phalcoboenus albogularis* (GOULD)

Monotypic.

Aquiligogus maculatus (PIAGET, 1880) - Type host is *Polyborus p. plancus*. According to PRICE (1964), synhospitalic with *A. phalcoboenus* (PRICE) on a single host from Chile.

Aquiligogus phalcoboenus (PRICE, 1964) - Described as *Colpocephalum*. Type material from Chile. According to PRICE (1964), synhospitalic mit *A. maculatus* (PIAGET) on a single host.

6. Striated Cararara *Phalcoboenus australis* (Gmelin)

Monotypic.

Aquiligogus strangei (Price, 1966) - Described as *Colpocephalum*. Type material from Beauchene Is., Falkland Islands [Islas Malvinas] (U.K, [Argentina]).

Acutifrons australis Emerson & Cicchino, 1986. - Type material from Tierra del Fuego (Argentina).

7. Guadalupe Caracara *Polyborus lutosus* Ridgway, 1876 †

P. lutosus, an endemic form from Guadalupe, has been extinct since *ca.* 1900. This might also be true for its specific chewing lice, especially *A. caracarensis* (see also *Aquiligogus maculatum*). *Lutosus* is regarded by White *et al.* (1994) as a subspecies of *P. plancus*, but the parasitological findings, especially in case of *Acutifrons caracarensis*, seem to refute this. Sibley & Monroe (1990) and Monroe & Sibley (1993), as well as Clements (2000), recognize *lutosus* as a full species, placed by the first named authors in the superspecies *plancus* (see note from AOU Checklist under next host species).

Aquiligogus maculatum (Piaget, 1880) - Type host is *P. p. plancus*. Price & Beer (1963) examined 3 males and 6 females ex *P. lutosus* (no data), which they classified as *Colpocephalum maculatum*.

Acutifrons caracarensis (Kellogg & Mann, 1912) - Type host is ›*Caracara lutosus* (Ridgway)‹ from Guadalupe Island (Mexico). Redescriptions by Emerson (1966 a).

8. Crested Caracara *Polyborus plancus* (J. F. Miller)

Distributed throughout all of Central and South America, 4 subspecies (including *P. lutosus*). Sibley & Monroe (1990) recognize only 2, Clements (2000) 4 subspecies (both exclude *P. lutosus*). But see 42nd Supplement to AOU Checklist, Auk **117** (3), 847-858: *Polyborus plancus* split to *P. plancus* (monotypic) Southern Caracara, and *P. cheriway* Crested Caracara, with races *pallidus* and *audubonii*; this Checklist puts them in genus *Caracara*. The parasitological findings seem to refute this.

Laemobothrion maximum (Scopoli, 1763) *sensu lato* - Kellogg (1906) described *L. caracarensis* ex *Polyborus tharos* (= *P. p. plancus*) from Argentina, which Nelson & Price (1965) regarded as being synonymous with *L. maximum* sensu lato (without a comparison of types?). Also 5 males and 3 females of *Laemobothrion* ex *Polyborus [plancus] cheriway* from USA, British Guiana und Mexico are thought by Nelson & Price l. c. to be ›probable stragglers from *Falco*‹.

Laemobothrion glutinans Nitzsch, in Giebel, 1861 - Nelson & Price (1965) report a female ex ›*Polyporus cheriway*, British Guiana (probably host error)‹.

Aquiligogus polyborus (Rudow, 1869) - Type host is ›*Polyporus tharus*‹ (= *P. p. plancus*). Redescription of *polybori* under *Colpocephalum* sensu lato given by Clay & Hopkins (1955) and Price & Beer (1963), the latter from Texas, Mexico und Lower California. Price & Beer l.c. argue for the *polyborus* species group, which also includes *A. ibicter* (Eichler), *A. maculatus* (Piaget), *A. ateri* (Price & Beer) (all off caracaras) und ›*Colpocephalum trimaculatum* Piaget, 1880‹ (type host: *Platycercus palliceps*, surely an error. Host unknown.).

Aquiligogus maculatus (Piaget, 1880) - Type host is ›*Polyborus (Caracara) brasiliensis* [= *P. p. plancus*] du Jardin Zool. de Rott.[erdam]‹. Price & Beer (1963) first identified the species clearly under *Colpocephalum* sensu lato and report it not only off the type host from Brazil and Chile, but also off *Polyborus lutosus*, *Milvago chimachima cordatus*, *M. chimango*, and also *Micrastur semitorquatus naso* (Lesson) from Mexico; later additionally off *Phalcoboenus albogularis* from Chile (Price 1964).

Kelerinirmus pricei (Emerson, 1966 b) - Type host is ›*Caracara cheriway* (Jacquin)‹ (= *P. plancus cheriway*) from Mexico. *Pricei* was described in *Degeeriella*, but according to the generic diagnosis *sensu* Mey (1997) belongs in *Kelerinirmus*. The male of *K. pricei* has, as does that of *K. mookerjeei* (Clay) (ex *Pernis ptilorhynchus gurneyi* from south-east Asia), a greatly swollen scapus and on the 3rd antennal segment a finger-like outgrowth, while the anntenae of the female appear evenly formed. This sexual dimorphism is, in *Kelerinir-*

mus, so far known only in these two species, and is an exception in the *Degeeriella*-complex (*sensu* MEY 1993). Only two genera, *Colinicola* CARRIKER und *Caracaricola* n. g., of 24 others in this complex have these constantly sexually dimorphic antennae.

Acutifrons titschacki (EICHLER, 1954) – Type host is ›*Caracara plancus plancus* J. F. MILL.‹ from Chile. Status unclear. Cursorily described from a female (= holotype) in the genus *Degeeriella*. The type exists in the Naturkundemuseum Berlin (Natural History Museum); also there are an additional 2 females, badly preserved and unusable without being prepared anew, labelled as paratypes (which, strictly speaking, the original description does not lead us to expect and hence this later labelling is of no nomenclatural significance). *A. titschacki* has a completely round vertex across which runs a broad dorsal clypeal suture like in *A. caracarensis*. The tergopleurites are undivided. That *titschacki* is said to be close to ›*Nirmus splendidus* KELLOGG, 1899‹ (ex ›*Polyporus cheriway*‹) (EICHLER l.c.: 36) is incomprehensible on close examination (see *species incertae sedis*).

? *Acutifrons connectens* CARRIKER, 1956 – Type host is ›*Cararaca p. plancus*‹ from Mato Grosso, Brazil. Redescription by CICCHINO (1979), but perhaps conspecific with *A. titschacki* (EICHLER)!

Acutifrons mexicanus EMERSON, 1966 a – Type host is ›*Caracara [plancus] cheriway* (JACQUIN)‹ from Mexico. CARRIKER (1956) described this species after specimens taken on *P. plancus cheriway* from Venezuela and Columbia as *A. caracarensis* (KELLOGG & MANN). Male genitalia illustrated by EMERSON & CICCHINO (1986).

Falcolipeurus josephi TANDAN & DHANDA, 1963 – Type host is ›*Polyporus plancus brasiliensis* (GMELIN)‹ (= *P. p. plancus*) from Brazil. Further conspecific records from British Guiana and Florida ex *P. p. cheriway*. ›*Lipeurus polybori* RUDOW, 1869‹ is an invalid specific name (see TANDAN & DHANDA 1963: 634).

Fig. 9.
Chimango Caracara *Milvago chimango temucoensis* W. L. SCLATER. Birds from Tierra del Fuego sometimes awarded separate subspecies, *fuegiensis* (WHITE *et al.* 1994). – Photo: D. GONZÁLEZ ACUÑA. Tierra del Fuego, 23 October 1999.

9. Yellow-headed Caracara *Milvago chimachima* (Vieillot)

Two subspecies. According to Sibley & Monroe (1990) monotypic.

Aquiligogus maculatus (Piaget, 1880) - According to Price & Beer (1963) ex *M. c. cordatus* Bangs & Penard from Colombia. Type host is *Polyborus p. plancus* (see there).

Aquiligogus ateri (Price & Beer, 1964) - Tendeiro & Mendes (1994) described *Colpocephalum sinuosum* off *Milvago c. chimachima* in Brazil. But according to Price *et al.* (1997) this is a synonym of *C. ateri* Price & Beer (type host: *Daptrius ater*).

Acutifrons vieirai columbianus Carriker, 1956 - Type host is *M. chimachima cordata* (from El Dificil Magdalena, Columbia), the same of *A. vieirai* Guimarães, 1942 is *Hypomorphus u. urubitinga* (Accipitridae !). *A. vieirai*, the generotype of *Acutifrons*, is said by Guimarães (1942) also to occur on *Milvago c. chimachima* and *Buteo magnirostris magniplumis* (Bertoni).

10. Chimango Caracara *Milvago chimango* (Vieillot)

Two subspecies. According to Sibley & Monroe (1990) monotypic. Fig. 10.

Kurodaia taguatoi Eichler, 1952 - Type host is *M. c. chimango* from Paraguay. Price & Beer (1963 a) say that *taguatoi* (correctly? and without a type comparison), described on the basis of 2 females, is a synonym of *Kurodaia fulvofasciata* (Piaget, 1880) *sensu lato* (type host: *Buteo buteo*).

Aquiligogus maculatus (Piaget, 1880) - According to Price & Beer (1963) ex *M. chimango* from Argentinia and Chile. Type host is *Polyborus p. plancus* (see there). Tendeiro & Mendes (1994) described *Colpocephalum chimangoi* ex *M. c. chimango*, but this is clearly, following Price *et al.* (1997) a synonym of *A. maculatus* (Piaget) (type host: *Polyporus plancus*).

Acutifrons vierai chimango Eichler, 1948 - Type host without details of subspecies or geographical origin. Only subspecies status after Carriker (1956) and Cicchino (1979). Later gives an redescription from *Milvago c. chimango* (Argentinia).

Caracaricola chimangophilus nov. gen. et nov. spec.

Systematic list of chewing lice recorded from caracaras (*Daptius, Phalcoboenus, Polyborus* and *Milvago*)

See also the host-parasite list above.
* = recorded in Chile
T.h. = type host; O.h. = other host species

Amblycera

Menoponidae

Aquiligogus Eichler & Złotorzycka, 1971
We follow here the genus concept of Eichler & Złotorzycka (1971), who split the collective genus *Colpocephalum* Nitzsch, 1818 and *Neocolpocephalum*, forms living on the Falconiformes, into several admittedly morphologically weakly differentiated genera and subgenera, thereby placing the *polyborus* species group in *Aquiligogus*. - Literature: Price (1964, 1966, 1967), Price & Beer (1963 b, 1964), Price *et al.* (1997).

A. ateri (Price & Beer) - T.h.: *Daptrius ater*. O.h.: *Milvago c. chimachima*
A. ibicter (Eichler) - *Daptrius americanus*
**A. maculatus* (Piaget) - T.h.: *Polyborus p. plancus*. O.h.: *P. lutosus* (†), *Phalcoboenus albogularis*, *P. megalopterus*, *Milvago chimango*.
A. megalopterus (Price) - *Phalcoboenus megalopterus*
**A. phalcoboenus* (Price) - *Phalcoboenus albogularis*
A. polyborus (Rudow) - *Polyborus p. plancus*
A. strangei (Price) - *Phalcoboenus australis*

Kurodaia Uchida, 1926
Literature: Price & Beer (1963)

K. ceciliae (Carriker) - *Daptrius ater*.
? *K. taguatoi* Eichler - *Milvago c. chimango*

Laemobothriidae

Laemobothrion NITZSCH, 1818
Literature: KELLOGG (1906), NELSON & PRICE (1965)

L. maximum (SCOPOLI) *s.l.* - *Polyborus p. plancus*
L. glutinans NITZSCH - *Polyborus plancus cheriway*

Ischnocera

Philopteridae *sensu lato*

***Caracaricola* nov. gen.**

C. chimangophilus n. sp. - *Milvago c. chimango*

Acutifrons GUIMARÃES, 1942
Literature: CARRIKER (1956), CICCHINO (1979), CLAY (1957)

A. australis EMERSON & CICCHINO - *Phalcoboenus australis.*
A. caracarensis (KELLOGG & MANN) † - *Polyborus lutosus* (†)
? *A. connectans* CARRIKER (see *A. titschacki*) - *Polyborus p. plancus*
A. mexicanus EMERSON - *Polyborus plancus cheriway*
A. vierai chimango EICHLER - *Milvago chimango*
A. vieira colombianus CARRIKER - *Milvago chimachima*
A. megalopterus CARRIKER - *Phalcoboenus megalopterus*
**A. titschacki* (EICHLER) - *Polyborus p. plancus*

Kelerinirmus EICHLER, 1940
Literature: CLAY (1957), MEY (1997)

K. pricei (EMERSON) - *Polyborus plancus cheriway*

Falcolipeurus BEDFORD, 1931
Literature: TANDAN & DHANDA (1963)

F. josephi TANDAN & DHANDA - *Polyborus p. plancus*

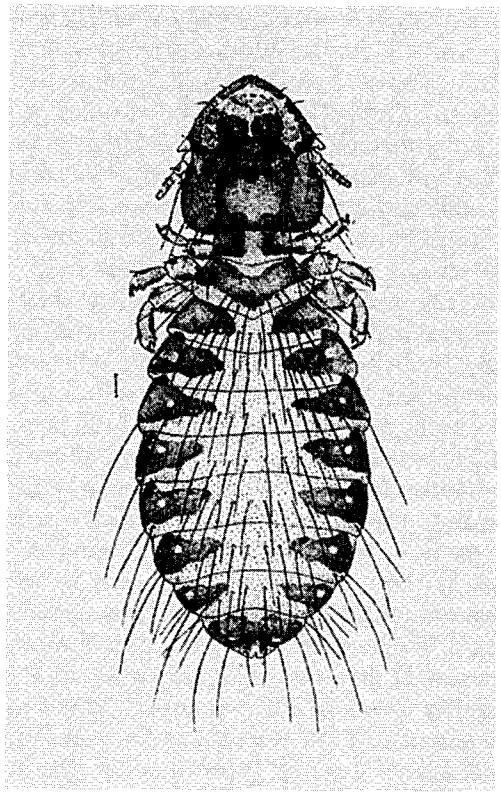

Fig. 10.
›*Nirmus splendidus* KELLOGG, 1899 from the caracara *Polyborus cheriway* (Baja California)‹. From KELLOGG (1899: plate II, fig. 3).

Species incertae sedis

Nirmus splendidus KELLOGG, 1899 (Occ. Pap. Calif. Acad. Sci. **6**, p. 16 - 17, pl. II, figs 3 and 6). Type host: ›*Polyborus cheriway* (from Baja California)‹

In our opinion, the doubts surrounding the actual identity of *splendidus* still remain to be cleared up. They derive from the original statements concerning the host, which does not appear to agree with the later generic assignment of ›*N. splendidus*‹. At any rate, two points of view seem to be competing here without, as far as we are aware, a clear decision having been made on the basis of comparing the type material with the original description. Thus, the opinions of HOPKINS & CLAY (1952) and CLAY (1957: 132) have conventionally

been adopted (EMERSON 1964, 1972). The former classify the species as ›*Cuculicola splendidus* (KELLOGG) ex *Polyborus cheriway* [*audubonii* CASSIN]‹. CLAY l. c. argued convincingly, though for us not convincingly enough, for the placing of *splendidus* in *Cuculicola*, correcting the statement to the effect that she would prefer to have *Geococcyx californiensis* recognized as the actual host. By contrast, CARRIKER (1957: 102), referred to by CLAY l. c., arrives at a different conclusion. He examined the type series (the only person so far to have done so?) and determined a female as the lectotype, as well as several males and females as ›syntypes‹. He states: ›There are three slides of this species, all from *Poliborus cheriway*, from three different localities and one slide with *Geococcyx californiensis* as the host (in very bad condition). This species has been very thoroughly treated by the author in the paper referred to under *N. caracarensis*. There can be no question as to the correctness of the host, while the parasite is apparently an *Acutifrons*, and closely related to *caracarensis*. It will be noted that the figure here presented of the male genitalia of the type is thoroughly typical of the genitalia of *Acutifrons*. The types are in bad condition‹. If one simply has KELLOGG's illustrated original description before one's eyes (Fig. 10) one cannot in good faith assign ›*Nirmus splendidus*‹ either to *Acutifrons* or to *Cuculicola*.

Summary

A new genus and species of Ischnocera (Insecta, Phthiraptera) off Chimango Caracara *Milvago chimango* from Chile with annotated checklists of chewing lice parasitizing caracaras (Aves, Falconiformes, Falconidae)

Caracaricola chimangophilus nov. gen. et nov. sp. (Ischnocera, Philopteridae *sensu lato*) ex Chimango Caracara from central Chile is described. The new form belongs to the *Degeeriella*-complex (or Degeeriellidae *sensu* EICHLER, 1963), within which, on the basis of a series of autapomorphic characters, it appears to occupy a clearly isolated position. It is the first known species of avian Ischnocera in which the antennae of the male have 4 segments (because 3th and 4th segment of flagellum are fushed *partim*). An annotated host-parasite checklist catalogues the species of Ischnocera and Amblycera so far found on caracaras, and an additional systematic list provides an overview. ›*Nirmus splendidus* KELLOGG, 1899‹ is discussed as *species insertae sedis*.

Zusammenfassung

Eine neue Ischnozerengattung und -art (Insecta, Phthiraptera) vom Chimangokarakara *Milvago chimango* (Aves, Falconiformes) aus Chile nebst Checklisten der auf Karakaras nachgewiesenen Federlinge

Caracaricola chimangophilus nov. gen. et nov. sp. (Ischnocera, Philopteridae sensu lato) vom Chimagokarakara aus Mittel-Chile wird beschrieben. Die neue Form gehört zum *Degeeriella*-Komplex (oder Degeeriellidae sensu EICHLER, 1963), innerhalb der sie, nach einer Reihe von autapomorphen Merkmalen zu urteilen, eine deutlich separierte Stellung einzunehmen scheint. Es ist die erste bekannte Art einer Vogel-Ischnozere, bei der die Antennen des Männchens viergliedrig sind (da 3. und 4. Flagellarglied zum Teil miteinander verschmolzen). Eine annotierte Wirts-Parasitenliste verzeichnet bisher auf Carararas nachgewiesene Arten der Ischnocera und Amblycera, die nochmals in einer systematischen Liste zur Übersicht gebracht werden. Dabei werden einige taxonomische Probleme deutlich. »*Nirmus splendidus* KELLOGG, 1899« wird als species insertae sedis diskutiert.

Resumen

Un nuevo genero y especie de Ischnocera (Insecta, Phthiraptera) del Tiuque , *Milvago chimango* (Aves, Falconiformes) en Chile, acompañado de una lista de los malófagos registrados en Caracaras

Es descrito *Caracaricola chimangophilus* n. gen. y n. spec. (Ischnocera, Philopteridae sensu lato) del tiuque en la zona central de Chile. La nueva forma pertenece al grupo de *Degeeriella* (o Degeeriellidae sensu EICHLER, 1963), dentro del cual, después de juzgar una serie de rasgos morfológicos, pareciera ocupar claramente una posición separada. Es la primera especie de Ischnocera de aves en que las antenas de los machos con cuatro segmentos. Se agrega una lista de las especies de Ischnocera y Amblycera descritos para Caracaras, los que nuevamente se llevan a una lista sistemática. »*Nirmus splendidus* KELLOGG, 1899« se discute como una species insertae sedis.

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