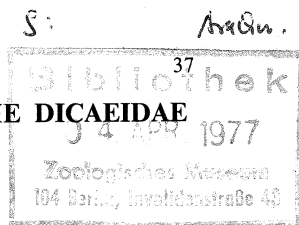


ANALGOID MITES (PROCTOPHYLLODIDAE) FROM THE DICAETIDAE  
(AVES: PASSERIFORMES)†

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Abstract

Four species of *Monojoubertia* Radford, 1950 (Proctophyllodidae, Proctophyllodinae) are (re)described: *M. securigera* (Trouessart, 1885) [= *Proctophyllodes (Alloptes) securiger*] from *Dicaeum hirundinaceum*, Australia; *M. parvisecurigera*, sp. n., from *D. hirundinaceum*, Australia; *M. marquardti*, sp. n., from *D. concolor*, Thailand and *D. cruentatum*, Indochina; *M. cristata*, sp. n., from *D. celebicum*, Celebes.

The Dicaetidae, or flowerpeckers, are a family of fifty-four species occurring in Australia, southeast Asia, the Philippine Islands, and east to the Solomon Islands. The species are somewhat gregarious and nonmigratory. In the limited collections of feather mites from these birds I have four species of *Monojoubertia* Radford, 1950. These species form a small species complex in which the males are robust, have distinct pregenital apodemes, and have setae  $d_5$  small and inserted marginally or ventrally, and the females have the pregenital apodeme semicircular and extended beyond setae  $c_2$  (chaetotaxal signatures follow Atyeo and Gaud, 1966; for generic diagnosis see Atyeo and Gaud, 1971).

Two mite species on *Dicaeum hirundinaceum* in Australia are practically indistinguishable except for the genital regions of the males. Two other species, taken from different species of *Dicaeum* and in different geographical regions, are also extremely similar to each other; again, the primary differences between them are the male genital regions. The phenomenon of two similar species on different hosts of the same genus is not unusual, but to find two almost indistinguishable species on one host is rare. The two *Monojoubertia* species from *Dicaeum hirundinaceum* have not been collected on the same host individual.

*Monojoubertia securigera* (Trouessart) comb. n.  
Figs. 1-4, 7-9

*Proctophyllodes (Alloptes) securiger* Trouessart, 1885, *Bull. Soc. Étud. sci. Angers* 14: 65.  
*Alloptes securiger*: Canestrini and Kramer, 1899, *Tierreich* 7: 110; Radford, 1953, *Parasitol* 43 (3, 4): 213; Radford, 1958, *Revta. bras. Ent.* 8: 158.

*Type data*.—From *Dicaeum* (= *Microchelidon*) *hirundinaceum*, Australia; location of type: unknown.

*Neotype designation*.—Male from *Dicaeum h. hirundinaceum*, Oenpelli, NORTH-EARN TERRITORY, Australia, April 17, 1948, H. G. Deignan; the neotype is deposited in the U.S. National Museum of Natural History, Washington, D.C., U.S.A.

The type specimens of *Proctophyllodes (Alloptes) securiger* are apparently lost and Trouessart's (1885) description of the species could refer to any of the four species included in this study. Pertinent phrases of the original description are:

"... chaque lobe terminé par une feuille transparente sécuriforme ... croisée avec celle du côté opposé; un poil grêle est inséré sur cette feuille même. ... Organe genital [= genital sheath] grand, pyriforme, surmonté d'un pénis grêle, long et flagelliforme, rabattu en arrière. ... Sur *Microchelidon hirundinacea* d'Australie."

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*Male*

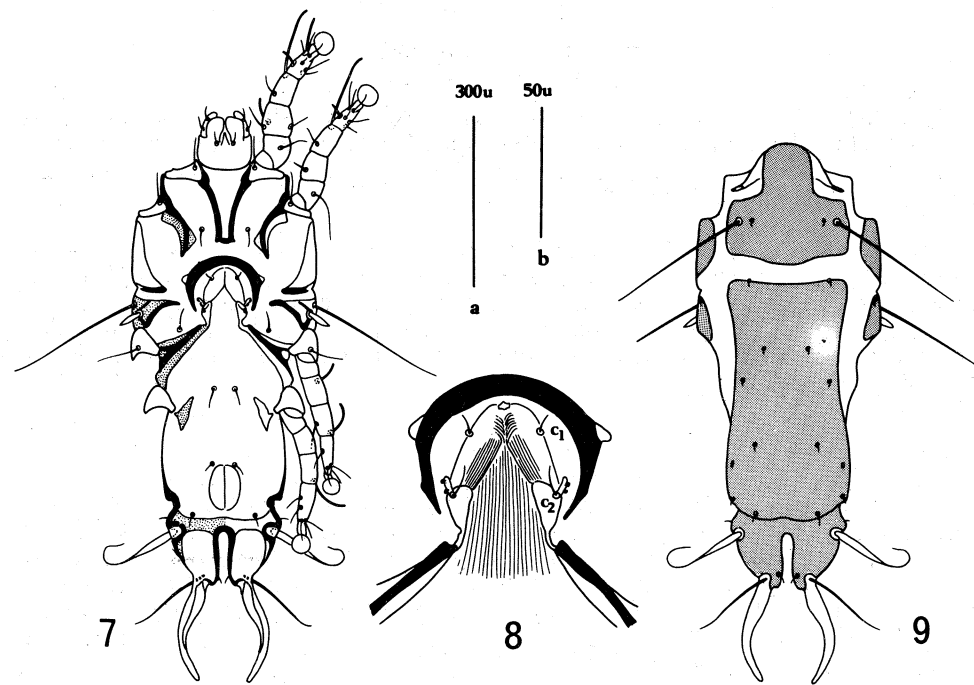
Length, including gnathosoma and lamellae, 337 $\mu$ ; width, 193 $\mu$ . Idiosoma with hysterosomal shield tapering to setae  $l_5$ ; series of protruding lateral plates posterior to legs IV; crossed terminal lamellae bearing setae  $pai$  and  $d_4$  dorsally and reduced  $d_5$  ventrally; epimerites I U-shaped, weakly connected; genital organ 92 $\mu$  in length, extending to adanal discs; setae  $d_3$  and  $a$  in trapezoidal arrangement and inserted on weakly joined subgenital (opisthogastric) shields. Legs 5-segmented although genua and femora of legs III-IV appear partially fused; tarsus IV with apicoventral claw and 3 setae.

*Female*

Length, excluding terminal appendages, 383 $\mu$ ; width, 154 $\mu$ . Idiosomal dorsum typical of *Proctophylodes* species with setae  $d_4$  inserted on anterior hysterosomal shield away from midline; epimerites I as in  $\sigma$ ; large, semi-circular pregenital apodeme surrounding setae  $c_{1-2}$ , genital discs, and oviporus; epimerites IIIa + IV well developed and weakly connecting latigynial plates posterior to terminations of pregenital apodeme; epimerites IVa large; terminal cleft rectangular, approximately 50 $\mu$   $\times$  7 $\mu$ .

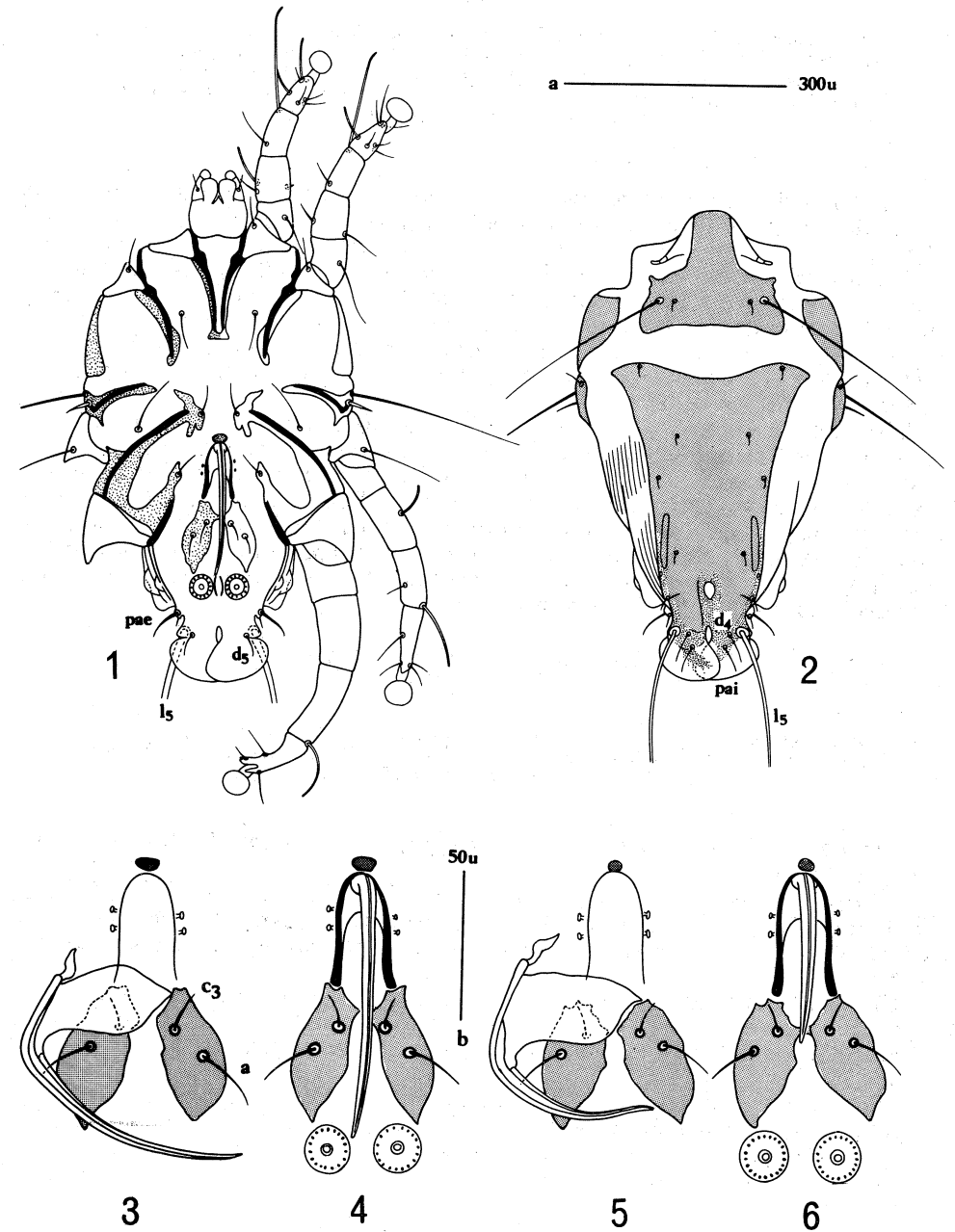
*Comments*

Five males and five females were available for study from the type host from Queensland or New South Wales (incomplete collecting data) and from Northern Territory (neotype data). Even though the Trouessart Collection and other collections have been personally examined, the designation of a neotype may be premature. However as two closely related species occur on the same host, it seems practical to stabilize the name *securigera*.



Figs. 7-9.—*Monojoubertia securigera* (Trouessart): (7, 9) ventral and dorsal aspects of female; (8) enlarged oviporus region.

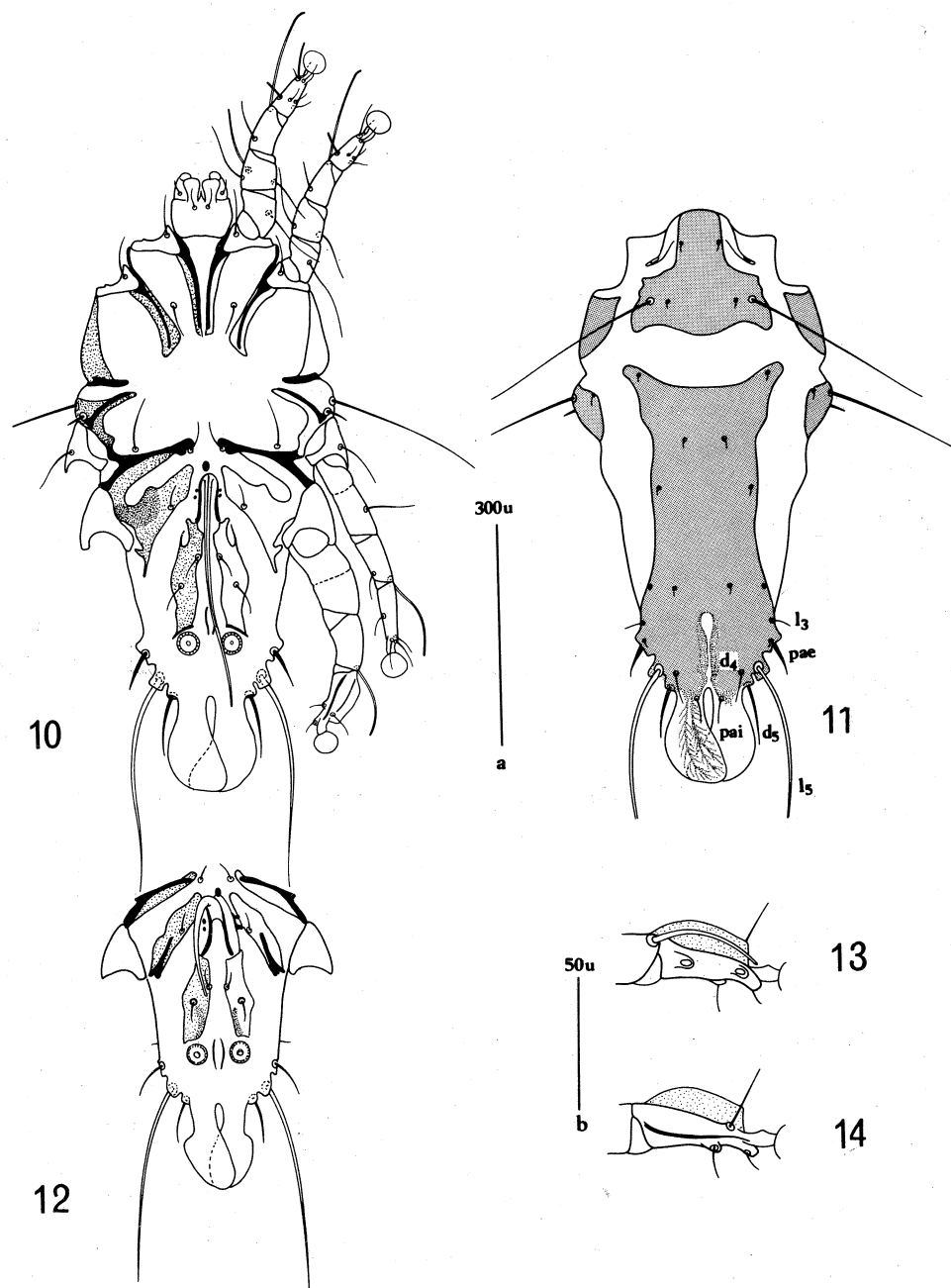
The species selected to represent the name *securiger* agrees with Trouessart's description to a greater degree than do the other three species: the male has axe-shaped lamellae (*securiform*), long setae inserted at the sides of the lamellae ( $l_5$ ), the genital sheath (=genital organ of Trouessart) long and pyriform, the penis long and flagelliform. The species occurs on the type host, *Dicaeum* (= *Microchelidon*) *hirundinaceum*, Australia.



Figs. 1-6.—(1-4) *Monojoubertia securigera* (Trouessart): (1, 2) ventral and dorsal aspects of male; (3, 4) enlarged genital region. (5, 6) *Monojoubertia parvisecurigera*, sp. n., enlarged genital region. Setal designations:  $a$ , anal;  $c_3$ , central;  $l_5$ , lateral hysterosomal;  $pae$ ,  $pai$ , external and internal postanal.

## Comments

A male of this species is in the Trouessart Collection from *Dicaeum cruentatum*, Indochina. This species is named *marquardti* for Mr. Jack F. Marquardt, reference librarian at the Smithsonian Institution, who has given invaluable assistance in our continuing search for pertinent literature.



FIGS. 10-14.—(10, 11, 13, 14) *Monojoubertia marquardti*, sp. n.: (10, 11) ventral and dorsal aspects of male; (13, 14) enlargement of tarsus IV—(13) paraxial aspect, (14) antaxial aspect. (12) *Monojoubertia cristata*, sp. n.: ventral hysterosoma of male. Scale *a*: 10-12; *b*, 13, 14. Setal designations:  $d_{4-5}$ , dorsal hysterosomals;  $l_{3-5}$ , lateral hysterosomals; *pae*, *pai*, external and internal postanals.

*Monojoubertia parvisecurigera* sp.n.  
Figs. 5, 6

*Type data*.—From *Dicaeum h. hirundinaceum*: ♂ holotype, 5♀♀ paratypes, Port Darwin, NORTHERN TERRITORY, Australia, November 7, 1920, C. M. Hoy. The holotype is deposited in the U.S. National Museum of Natural History; paratypes are deposited in the Australian National Insect Collection and the University of Georgia.

The males of *Monojoubertia securigera* and *M. parvisecurigera* have similarly shaped and short terminal lamellae, lack crests or carinae on tarsi IV, have setae  $d_5$  inserted on the ventral idiosoma at the bases of the lamellae, and occur on the same species of bird. Compared with the following two species, *M. securigera* and *M. parvisecurigera* have shorter opisthosomata. Thus, the subgenital shields are shorter, the distance between the genital arch and adanal discs is less and the general shape of the hysterosoma is changed. Although the females are inseparable, the males of *M. parvisecurigera* and *M. securigera* may be differentiated as follows: the genital organ of the former species is short ( $\sim 65\mu$ ) and bent ventrad at the apex and in *M. securigera* the genital organ is long ( $\sim 90\mu$ ) and is not bent at the apex (compare Figs. 3, 5).

*Male*

Length, including gnathosoma and lamellae,  $386\mu$ ; width,  $207\mu$ . Idiosoma and legs as in *M. securigera* except genital region; genital organ  $65\mu$  in length, extending to level of setae  $c_3$  or *a*.

*Female*

Indistinguishable from other females listed in this paper.

*Monojoubertia marquardti* sp.n.  
Figs. 10, 11, 13, 14

*Type data*.—From *Dicaeum concolor*: ♂ holotype, 2♂♂ and 2♀♀ paratypes, Khao Soi Dao Tai, Chanthaburi, THAILAND, April 5, 1966; the holotype is deposited in the U.S. National Museum of Natural History and the secondary types are deposited at the University of Georgia.

The two new species, *Monojoubertia marquardti* and *M. cristata*, are similar in having two, long subgenital shields, long terminal lamellae, each tarsus IV with a prominent crest or carina, and setae  $d_5$  short and inserted marginally. The species described here has a flagelliform genital organ extending to the bases of the lamellae whereas in *M. cristata* the genital organ does not extend to the posterior limits of the subgenital shields.

*Male*

Length, including gnathosoma, excluding lamellae,  $363\mu$ ; lamellar length,  $72\mu$ ; idiosomal width,  $183\mu$ . Idiosoma with hysterosomal shield widened anteriorly and posteriorly; lateral margins posterior to legs IV without projections; terminal lamellae regular, leaflike, with only setae *pai* inserted at bases; setae  $d_5$  inserted on idiosomal margin midway between lamellae and protuberances bearing setae  $l_5$ ; epimerites U-shaped, weakly connected; genital organ  $157\mu$  in length and extending to bases of lamellae; setae  $c_3$  and *a* in trapezoidal arrangement and borne on long, divided subgenital shields. Legs I-II 5-segmented, legs III-IV with genua and femora fused; tarsus IV with prominent carina, 1 dorsal and 2 ventral setae (Figs. 13, 14).

*Female*

Indistinguishable from females of other species listed in this paper.

***Monojoubertia cristata* sp. n.**

Fig. 12

*Type data.*—From *Dicaeum celebicum*: ♂ *holotype*, 3♀♀ *paratypes*, CELEBES, August 2, 1917, H. C. Raven; 1♂ *paratype*, same data as holotype except collected August 22, 1917. The types are deposited at the University of Georgia.

The differences and similarities of this species to those previously described have been stated. The crested posterior tarsi and the moderate length of the genital organ are sufficient to distinguish *Monojoubertia cristata*.

*Male*

Length, including gnathosoma, excluding lamellae, 297 $\mu$ ; lamellar length, 55 $\mu$ ; idiosomal width, 159 $\mu$ . Idiosoma and legs similar to *marquardti* except slightly smaller, terminal lamellae irregular, genital organ 60 $\mu$  in length and extending to setae *a*.

*Female*

Indistinguishable from females of other species listed in this paper.

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The differences and similarities of this species to those previously described have been stated. The crested posterior tarsi and the moderate length of the genital organ are sufficient to distinguish *Monojoubertia cristata*.

*Male*

Length, including gnathosoma, excluding lamellae, 297 $\mu$ ; lamellar length, 55 $\mu$ ; idiosomal width, 159 $\mu$ . Idiosoma and legs similar to *marquardtii* except slightly smaller, terminal lamellae irregular, genital organ 60 $\mu$  in length and extending to setae *a*.

*Female*

Indistinguishable from females of other species listed in this paper.

## REFERENCES

- ATYEO, WARREN T. and GAUD, J. (1966).—The chaetotaxy of sarcoptiform feather mites. (Acarina: Analgoidea). *J. Kansas ent. Soc.* **39** (2): 337-346.
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