A Contribution to the Ectoparasite Fauna of Bats in Thailand
II. Blood-Sucking Acari (Argasidae, Spinturnicidae
and Macronyssidae)

Kimito UCHIKAWA and Tsuneaki KOBAYASHI

Abstract

_Arugas pusillus KOHLS*, Ornithodoros batuensis HIRST*, Spinturnix chiengmai PRASAD, Anicytro-
pus ceylonensis DELFINADO and BAKER*, Anicytropsis taphrobaion (TURK)*, Meristaspis lateralis
(KOLENATTI)*, Eynholuenia euryalis (CANESTRINI) (s. lat.)*, Paraperiligibis chinolophinus (Koch)
Paraperiligibis analis PAN and TENG, Bewsella fidermaus DOMROW, Macronyssus tient
(GROKHOVSKAYA and NGUYEN-HUAN-HOE)*, Macronyssus sp. (protonymph), Steatonyssus faini
DELFINADO*, Steatonyssus sp. 1 (male and protonymph). sp. 2 (protonymph) and sp. 3 (proto-
nymph) are recorded as the blood-sucking parasites in this paper. The asterisked species
are already listed in HILL and McNEELY (1975).

The host animals examined in the present study had been collected by the junior
author in his faunal survey of Thai mammals carried out in 1975. The first report
on the taxonomic results (UCHIKAWA and KOBAYASHI in press), in which were dealt
with 12 species of fur-mites belonging to the family Myobiidae, was also based on the
same host sample.

The present report is restricted only to the blood-sucking acari. As in the previous
paper, some specimens might be found on aberrant hosts, because a number of bat
individuals of different species had been preserved together in only the three containers.

Synoptic List of the Parasites Collected
I. Argasidae (Ixodoidea)

1. **Argas** (Carios) _pusillus KOHLS, 1950_
   _Material examined:_ 16 larvae, ex _Scotophilus kuhlii_, Yala, Thailand.

2. **Ornithodoros** (Reticulinasus) _batuensis HIRST, 1929_
   _Material examined:_ 3 larvae, ex _Roussetus leschenaulti_, Saraburi, Thailand.

II. Spinturnicidae (Mesostigmata)

1. **Spinturnix chiengmai** PRASAD, 1969

The original description of this species was based on 7 females and a nymph from

---

1) This survey was supported financially by the Center for Southeast Asian Studies of Kyoto University
   and co-operative with the Applied Scientific Research Corporation of Thailand.
uncertain bats taken at Huai, Mae Sanam, Hod, Chiengmai (Prasad, 1969).

Material examined: 2 females, ex Scotophilus kuhlii, Yala, Thailand.

2. Ancystropus eonycteris Delfinado and Baker, 1963

Only a single female specimen, the holotype, from Eonycteris robusta from Mindanao represented this species in the original description. Recently, Hill and McNeely (1975) recorded the mite from Thai Cynopterus sphinx agulatus and Eonycteris spelaea.

This least known species resembles Ancystropus zeloborii Kolenati, which is recorded from Uganda, Cyprus, Egypt, India, Philippines, Thailand, Vietnam, Malaya, Laos, New Guinea and Solomon Islands (Rudnick, 1960; Baker and Delfinado, 1964;...
with antero-lateral projections followed by shallow lateral depressions and more weakly sclerotized, marginal parts.

**Material examined:** 1 female, ex *Eonycteris spelaea*, data uncertain.

3. **Ancystropus taprobanius (Turk, 1950)**

   *Ancystropus indicus* Hiregaudar and Bal, 1955, from Indian *Rousettus leschenaultii*, which had been suggested to be identical with *A. taprobanius* by Rudnick (1960), and *Ancystropus rudniki* Baker and Delfinado, 1964, from *Rosettus*, *Cynopterus* and unidentified bats (Baker and Delfinado, 1964; Prasad, 1969) were synonymized as *A. taprobanius* by Domrow (1972).

   **Material examined:** 2 females, ex *Rousettus leschenaultii*, Sarabri, Thailand; 1 female, ex *Scotophilus kuhlii*, Yala, Thailand.

4. **Meristaspis lateralis (Kolenati, 1856)**

   Prasad (1969) recorded this mite from *Rousettus amplexicaudatus* in Thailand.

   **Material examined:** 1 male, ex *Rousettus leschenaultii*, Saraburi, Thailand; 2 males and 1 female, ex *Eonycteris spelaea*, data uncertain; 1 male free in alcohol in the container.

---

![Fig. 2. Ancystropus eonycteris. Presternal and sternal areas: A; holotype female, B; Thai female.](image)

5. **Meristaspis mindanaoensis Delfinado and Baker, 1963**

   Sternal shield of male is large and flask-shaped, and bears only 3 pairs of setae. Metasternal and genital setae are situated very close to but clearly off the shield.

   **Material examined:** 2 males and 4 deutonymphs, ex *Rousettus leschenaultii*, Saraburi, Thailand; 1 male, ex *Eonycteris spelaea*, data uncertain; 1 male and 1 deutonymph free in alcohol in the host container.

6. **Eyndhovenia euryalis (Canestrini, 1884) (s. lat.)**

   Only a single male was examined. It was very small-sized specimen, and its all measurements fell within the range of those for Domrow’s *Eyndhovenia* mites parasitic on *Rhinolophus megaphyllus* in New South Wales.
Material examined: 1 male, ex *Hipposideros lavatus*, Tam Tur Toa, Thailand, September 1, 1975.

7. **Paraperiglischrus rhinolophinus** (C.L. Koch, 1841)


8. **Paraperiglischrus analis** Pan and Teng, 1973

   Paraperiglischrus *hipposideros* Baker and Delfinado, 1964, has been recorded as the parasite of *Hipposideros armiger armiger* (Hill and McGeeley, 1965) and *Hipposideros* sp. (Prasad, 1969) from Thiland. The status of *P. hipposideros* Baker and Delfinado is obscure as discussed in Uchikawa (in press), and all the Thai specimens are tentatively identified as *P. analis* Pan and Teng.

   Material examined: 1 male and 1 female, ex *Hipposideros lavatus*, Muang Ngai, Thailand, September 2, 1975; 1 female, ex *Hipposideros armiger*, Muang Ngai, September 2, 1975; 1 female, ex *Cynopterus sphinx*, Cheing Mai, September 10, 1975; 1 male and 1 female free in alcohol in the host container.

III. Macronyssidae (Mesostigmata)

1. **Bewsiella feldermaus** Domrow, 1958


2. **Macronyssus tieni** (Grokhovskaya et Nguyen-Huan-Hoe, 1945)

   The type host of this mite is *Hipposideros armiger* from Vietnam.


3. **Macronyssus sp.** (Protonymph)

   Idiosoma 340–370 μ long by 205–223 μ wide at level of stigma. Podosomal shield 160–165 μ long, 125–130 μ wide at level between setae s4 and s6, granulated finely, bearing 10 pairs of setae; setae j4–6 and z5 minute and marginal setae long. Pygidial shield with 7 pairs of setae; J3 and J5 minutes; J4 very minute and barely discernible; S4 and Z4 slightly longer than J3 and J5; S5 considerably long and Z5 being longest. Eleven pairs, including j1, of setae on unarmed dorsum. A pair of caudal, marginal and 4 pairs of ventral setae on soft cuticle.
Bat Ectoparasites in Thailand

Material examined: 2 protonymphs, ex Tylonycteris sp., Yala, Thailand.

4. Steatonyssus faini DELFINADO, 1960
Material examined: 1 female, ex Scotophilus kuhlii, Yala, Thailand.

5. Steatonyssus sp. 1 (Male and protonymph)
This male mite is distinctive in having very minute opisthosomal dorsal setae both on and off the dorsal shield. The protonymphs, posterodorsal setae of which were considerably weaker than those on podosomal region, were taken together with the male. Both forms are tentatively dealt with as the same species.
Material examined: 1 male and 3 protonymphs, ex Myotis sp. Yala, Thailand.

6. Steatonyssus sp. 2 (Protonymph)
All dorsal setae, exclusive of J5 on pygidial shield, and posteriormost 2 pairs of ventral setae are well developed, though they are not even (38–78 μ long). A single specimen was taken together with the female of S. faini, but the identity of the both forms was not confirmed.
Material examined: 1 protonymph, ex Scotophilus kuhlii, Yala, Thailand.

7. Steatonyssus sp. 3 (Protonymph)
This mite is very close to S. javensis brevisetosus TILL and EVANS, 1964, but is not identified.
Material examined: 2 protonymph, ex Scotophilus kuhlii, Yala, Thailand.

Acknowledgements

In the course of the present study, generous cooperation was extended to us by Thai peoples. Among them, Dr. Sawart Ratanaworabhan, Department of Agriculture, and Dr. Prasart, Applied Scientific Research Center of Thailand, had kindly granted permission to leave their valued colleagues, Mr. Songsakdi, Mr. Preecha, Mr. Prajong, Mr. Sermsakdi and Miss Cora, for participation in our field survey. Dr. Harry Hoogstraal kindly identified the 2 argasids for the authors. Dr. Eric H. Smith, Custodian of Collections, Field Museum of Natural History, Chicago, kindly sent on loan the holotype of Angstropus eonycteris DELFINADO and Baker, which is now under his care, to the senior author. Authors' sincere thanks are due to all these persons.

References

254  Kimito Uchikawa & Tsuneaki Kobayashi


Addresses of the Authors:
Dr. Kimito Uchikawa (内川公人)
Department of Parasitology, Faculty of Medicine, Shinshu University (信州大学医学部寄生虫学教室)
Asaki-Machi, Matsumoto, Nagano Prefecture
JAPAN 390

Dr. Tsuneaki Kobayashi (小林恒明)
Biological Laboratory, Yoshida College, Kyoto University (京都大学教養部生物学教室)
Yoshida, Sakyo-Ku, Kyoto
JAPAN 606
Southwestern face of Mt. Kinabalu viewed from Kundassang (ca. 1,300 m); the foot-hill of the mountain is covered with a montane oak forest.

Tsuneaki Kobayashi & Mitsuru Hotta

FRONTISPIECE