Acarologia is proudly non-profit, with no page charges and free open access

Please help us maintain this system by encouraging your institutes to subscribe to the print version of the journal and by sending us your high quality research on the Acari.

Subscriptions: Year 2021 (Volume 61): 450 €
http://www1.montpellier.inra.fr/CBGP/acarologia/subscribe.php
Previous volumes (2010-2020): 250 € / year (4 issues)
Acarologia, CBGP, CS 30016, 34988 MONTFERRIER-sur-LEZ Cedex, France
ISSN 0044-586X (print), ISSN 2107-7207 (electronic)

The digitalization of Acarologia papers prior to 2000 was supported by Agropolis Fondation under the reference ID 1500-024 through the « Investissements d’avenir » programme (Labex Agro: ANR-10-LABX-0001-01)

Acarologia is under free license and distributed under the terms of the Creative Commons-BY-NC-ND which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author and source are credited.
NYCTERIGLYPHUS VESPERTILIO N. SP.
A NEW ACARID MITE ASSOCIATED WITH BATS FROM KOREA
(ACARINA : ROSENSTEINIIDAE) ¹

BY

Hyong-Sun Ah and Preston E. Hunter ².

ABSTRACT.

Nycteriglyphus vespertilio n. sp., taken from the Oriental discolored bat, Vespertilio superans Thomas, is described and the generic status of Nycteriglyphus is briefly reviewed. The new species is the ninth member of the genus and the first to be found in the Far East.

In an examination of Korean bats for ectoparasitic mites in May, 1963, the senior author found a large series of an acarid mite belonging to the genus Nycteriglyphus Zachvatkin 1941. These mites were taken from Oriental discolored bats, Vespertilio superans Thomas, which were heavily infested with this acarid mite. The bats examined in most instances were captured in considerable numbers from bat roosts under the roof of a building in the Hoam Grade School, Uijongbu, near Seoul.

Investigation showed that this mite represented an undescribed species which we are describing and naming Nycteriglyphus vespertilio. This constitutes the ninth species of this genus and the first in the Far East.

The taxonomic position of Nycteriglyphus and its biological relationship to other related genera in the family Rosensteiniidae has been discussed in detail by Fain (1963). In that paper he erected a new subfamily Nycteriglyphinae to contain the following genera: Coproglyphus Turk and Turk, 1957; Mydopholeus McDaniel and Baker 1962; and Nycteriglyphus Zachvatkin 1941. He discussed the validity of both Coproglyphus and Mydopholeus, each of which possesses a single solenidion on genu I unlike Nycteriglyphus which possesses two solenidia, and explained this basis for generic division. All three genera of Nycteriglyphinae are associated exclusively with bats or their habitations. In spite of the

¹. University of Georgia, College of Agriculture Experiment, Stations, Journal Series Paper No. 85, College Station, Athens.
². Graduate Student and Associate Professor respectively, Department of Entomology.

fact that *Nycteriglyphus* shares biological and morphological similarities with
the other two genera, it still appears reasonable that, as Fain (1963) implied, the
number of solenidion on genu I justifies generic division.

As now constituted, *Nycteriglyphus* is a homogeneous genus containing the
following species: the genotype *pterophorus* Berlese 1892, from Italy, redescribed
by Fain (1964); *bifolium* Strandmann 1962, from the United States; *tadaridae*
Fain 1963, from Ruanda-Urundi; *asiaticus* Fain 1963, from Sumatra; *miniopteri*
Fain 1963, from South Africa; *myotis* Fain 1963, from Borneo; *sturnirae* Fain 1963,
from Brazil; *turkorum* Dusbábek 1964, from Czechoslovakia; and *vespertilio* Ah
and Hunster n. sp., from Korea.

*Nycteriglyphus vespertilio* n. sp. is closely related in many features to *N. miniopteri* a species described from the bat,*Miniopterus schreibersi natalensis*, from the Transvaal, South Africa. It also resembles *N. asiaticus* Fain, which was described
from a tritonymph. The new species is separated from *asiaticus* by: 1) the presence
of solenidion ω*4* on tarsus I whereas in *asiaticus* this is lacking; 2) mg on
genu I and II not divided into two subequal branches to form a Y as in *asiaticus*;
and 3) the dorsal setae much shorter than those in *asiaticus*.

*Nycteriglyphus vespertilio* n. sp.

(Fig. 1-3).

**Diagnosis.** Body elongate oval, with scale-like cuticle in all stages; fourteen
pairs of flattened dorsal setae each with two to four weakly dented edges, one pair
of pectinated external vertical setae, and one pair of smooth supracoxal setae;
propodosomal shield distinct and pentagonal, with posterior margin rounded;
ventral setae simple and short except hv; legs I and II of similar width but thicker
than III and IV, legs III and IV of similar width; seta d of tarsus I and II moderately
long, on III and IV markedly reduced in all stages; genu I with two solenidia
close to the anterior apex, and a lightly branched mg; tarsus I of protonymph
with ω*3* three times longer than ω*1*, ω*8* lacking; female genitalia between coxae III
and IV; male genitalia between coxae III and IV; female with a ventrally curved
*bursa copulatrix*; gnathosoma with a pair of large ventral sensory-like organs
whose surface is composed of numerous hexagonal cells in honeycomb arrange-
ment. Sexual dimorphism slight. In the following descriptions N refers to the
number of individuals measured; all measurements are given in microns.

**FEMALE** (Figs. 1-2) (N = 10). Body length (gnathosoma included unless other-
wise stated) 457 μ (450-480), width at level of legs III 262 μ (250-270). **Dorsum.**
Propodosomal shield 77 μ (76-80) long, 49 μ (40-50) wide. Dorsal body setae:
vi 47 μ (41-50), se i 58 μ (51-65), se e 46 μ (40-52), D1 57 μ (51-65), D2 51 μ (46-56),
D3 36 μ (35-40), D4 22 μ (20-25), pa 19 μ (17-21), hi 56 μ (52-60), he 57 μ (54-62),
hv 36 μ (32-42), la 48 μ (46-60), lh 33 μ (31-35), sa e 26 μ (24-30); sa i smooth,
Fig. 1. — Nycteriglyphus vesperilio n. sp. Female, dorsum.
Fig. 2. — *Nycteriglyphus vespertilio* n. sp. Female, venter.
slightly shorter than body length. *Venter.* Apodemes I united in a V-form to connect with short transverse endogynium; ventral setae simple and short, second anal pair slightly longer than other pairs. *Legs.* Leg I: tarsus with three solenidia; seta $d$ slightly longer than tarsus I; with three strong ventro-apical claws, a small ventro-submedial spine, and a relatively strong latero-medial spine. Tibia with a solenidion. Solenidial taxy as follows: tarsi I-IV, 3-1-0-0; tibiae I-IV, 1-1-1-1; genuae I-IV, 2-1-1-0; famulus present. Tarsi I-II with long apical dorsal setae $d$; tarsi III-IV with $d$ greatly reduced. Genuae I-II with $mG$ branched as in Fig. 1.

**MALE (Fig. 3).** ($N = 8$). Except for genitalia essentially as in female. Body length 323 $\mu$ (290-380); width at level of legs III 200 $\mu$ (180-220). *Dorsum.* Propodosomal shield 58 $\mu$ (48-60) long, 44 $\mu$ (42-45) wide. Dorsal body setae: $vi$ 43 $\mu$ (39-47), $sc$ i 48 $\mu$ (45-50), $se$ e 38 $\mu$ (35-41), $D_1$ 46 $\mu$ (44-49), $D_2$ 43 $\mu$ (35-47), $D_3$ 29 $\mu$ (28-31), $D_4$ 16 $\mu$ (15-17), $pa$ 12 $\mu$ (11-13), $hi$ 45 $\mu$ (44-46), $he$ 49 $\mu$ (45-52), $hv$ 31 $\mu$ (29-34), $la$ 37 $\mu$ (35-38), $lp$ 27 $\mu$ (25-29), $sa$ 17 $\mu$ (16-19). *Venter.* Apodemes I united in a Y-form; genitalia flanked by a pair of short genital setae, and bounded anteriorly by a curved transverse endogynium; penis supported by a complex of struts. Preanal and anal setae short. Leg chaetotaxy same as in female.

**TRITONYMPH.** ($N = 8$). Body length 285 $\mu$ (260-340); width at level of legs III 195 $\mu$ (165-250). *Dorsum.* Propodosomal shield small, 49 $\mu$ (44-55) long, 39 $\mu$ (35-43) wide. Dorsal body setae: $vi$ 29 $\mu$ (26-33), $sc$ i 42 $\mu$ (41-43), $se$ e 30 $\mu$ (29-31), $D_1$ 37 $\mu$ (35-39), $D_2$ 36 $\mu$ (34-37), $D_3$ 27 $\mu$ (26-38), $D_4$ 17 $\mu$ (16-18), $pa$ 13 $\mu$ (12-14), $hi$ 35 $\mu$ (34-37), $he$ 40 $\mu$ (39-42), $hv$ 20 $\mu$ (19-22), $la$ 31 $\mu$ (30-32), $lp$ 22 $\mu$ (20-24), $sa$ e 17 $\mu$ (16-19). *Venter.* Apodemes I united in a Y-form; genitalia flanked by a pair of short genital setae, and bounded anteriorly by a curved transverse endogynium; penis supported by a complex of struts. Preanal and anal setae short. Leg chaetotaxy same as in female.

**PROTONYMPH** ($N = 4$). Body length 240 $\mu$ (220-255); width at level of legs III 135 $\mu$ (130-138). *Dorsum.* Propodosomal shield small, 43 $\mu$ (40-45) long, 32 $\mu$ (30-34) wide. Dorsal body setae: $vi$ 24 $\mu$ (22-26), $sc$ i 26 $\mu$ (25-27), $se$ e 21 $\mu$ (19-22), $D_1$ 12 $\mu$ (13-14), $D_2$ 21 $\mu$ (19-22), $D_3$ 17 $\mu$ (15-18), $D_4$ 14 $\mu$ (13-15), $pa$ 9 $\mu$ (8-10), $hi$ 23 $\mu$ (21-24), $he$ 21 $\mu$ (20-22), $hv$ 13 $\mu$ (12-14), $la$ 15 $\mu$ (14-17), $lp$ 14 $\mu$ (13-15), $sa$ e 11 $\mu$ (10-12); $sa$ i slightly shorter than body length. *Venter.* Genitalia between coxae III and IV, flanked by a pair of short setae and two pairs of genital suckers. Anus with two pairs of short setae similar in length to preanal setae. Leg chaetotaxy same as in female.

**LARVA.** ($N = 3$). Body length 210 $\mu$ (190-220); width at a level of coxae III 117 $\mu$ (108-124). *Dorsum.* Propodosomal shield 41 $\mu$ (39-43) long, 31 $\mu$ (29-33) wide. Dorsal body setae: $vi$ 17 $\mu$ (16-18), $sc$ i 16 $\mu$ (14-19), $se$ e 14 $\mu$ (13-15), $D_1$ 15 $\mu$ (14-16), $D_2$ 14 $\mu$ (13-15), $D_3$ 13 $\mu$ (12-14), $hi$ 14 $\mu$ (13-14), $he$ 14 $\mu$ (13-14), $la$ 11 $\mu$ (10-12), $lp$ 10 $\mu$ (9-11), $D_4$ 1 $\mu$ and $sa$ e lacking; $sa$ i shorter than body length. *Venter.* Apodemes I united to form a Y. Both genitalia and genital setae lacking; anus flanked by a pair of short setae. *Legs:* Tarsus I with long $w^4$ about three times longer than $w^1$; $w^3$ lacking.
Type specimens were collected by the senior author from the wing membrane and body surfaces of *Vespertilio superans* Thomas, which had been roosting under the roof tiles of a building at the Hoam Grade School, Hoam-ni, Uijongbu, Kyongki Province, Korea, 19-V-1963. Additional material numbering a few thousand mites were taken from the type locality and habitat on 21-VII-1963, 13-V-1964, and 9-V-1965. A large number of mites were also recovered from *V. superans* (a total of 165 bats examined) taken from a huge bat roost in a rock crevice on 19-V-1965, at Mt. Tobong, which is located in close proximity to the type locality.

![Nycteriglyphus vespertilio n. sp. Male, venter.](image)

Holotype (female) and female, male, tritonymphal, protonymphal, and larval paratypes will be deposited in the U. S. National Museum, Washington, D. C. Paratypes will be deposited with the following: Department of Entomology, University of Georgia, Athens, Georgia; Department of Biology, Texas Technological College, Lubbock, Texas; Institute of Acarology, Ohio State University, Columbus, Ohio; Department of Entomology and Parasitology, University of California, Berkeley, California; Bernice P. Bishop Museum, Honolulu, Hawaii; Laboratoire
de Zoologie Medicale, Institut de Médecine Tropicale, Anvers, Belgique; British Museum (Natural History), London; and personal collection of the senior author.

University of Georgia
Athens, Georgia, U.S.A.

REFERENCES


