NYCTERIGLYPHUS VESPERTILIO N. SP. A NEW ACARID MITE ASSOCIATED WITH BATS FROM KOREA (ACARINA : ROSENSTEINIIDAE) [1]

BY

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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 wich 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

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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* Strandtmann 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 cutile 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 *m*G ; tarsus I of protonymph with ω^4 three times longer than ω^1, ω^3 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 arrangement. 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 otherwise 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), *sc i* 58 μ (51-66), *sc e* 46 μ (40-52), D_1 57 μ (51-65), D_2 51 μ (46-56), D_3 36 μ (35-40), D_4 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), *lp* 33 μ (31-35), *sa e* 26 μ (24-30) ; *sa i* smooth,

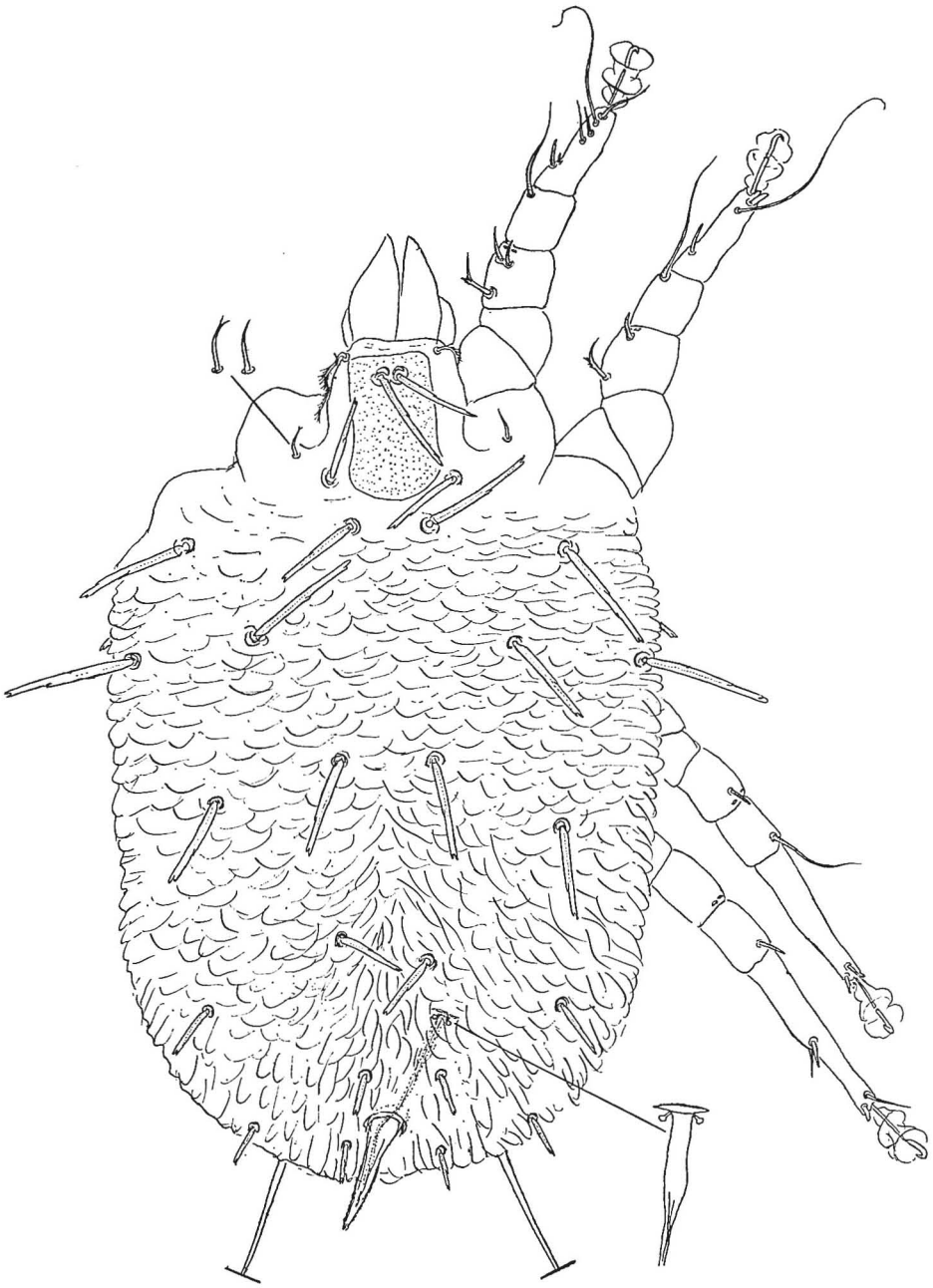

FIG. 1. — *Nycteriglyphus vespertilio* n. sp. Female, dorsum.

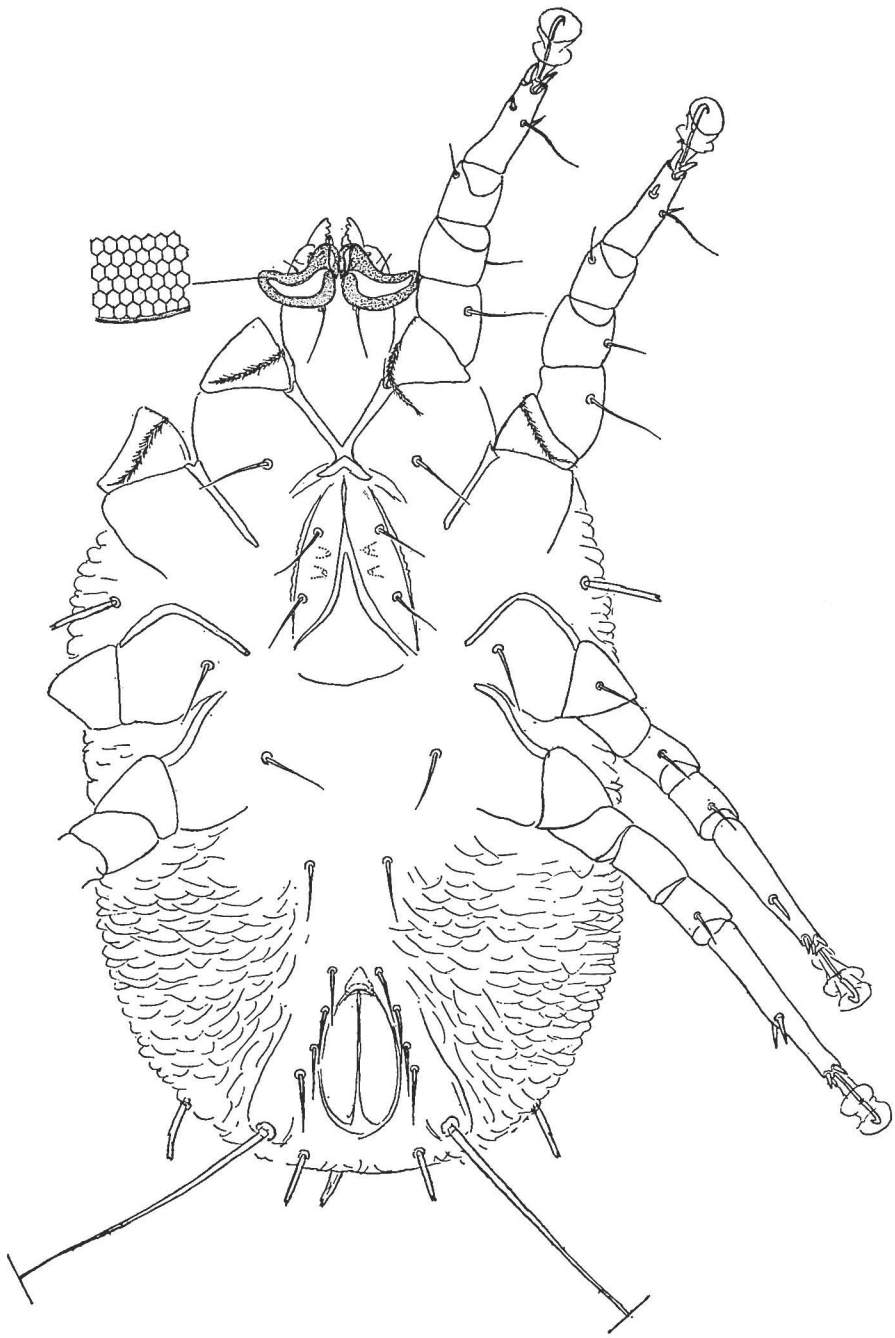

FIG. 2. — *Nycteriglyphus vespertilio* n. sp. Female, venter.

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 *m*G branched as in Fig. 1.

MALE (Fig. 3). (N = 8). Except for genitalia essentially as in female. Body length 323 μ (290-380) ; width at level of legs III 200 μ (180-220). *Dorsum.* Propodosonal shield 58 μ (48-60) long, 44 μ (42-45) wide. Dorsal body setae : *vi* 43 μ (39-47), *sc i* 48 μ (45-50), *sc e* 38 μ (35-41), D_1 46 μ (44-49), D_2 43 μ (35-47), D_3 29 μ (28-31), D_4 16 μ (15-17), *pa* 12 μ (11-13), *hi* 45 μ (44-46), *he* 49 μ (45-52), *hv* 31 μ (29-34), *la* 37 μ (35-38), *lp* 27 μ (25-29), *sa e* 17 μ (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 μ (260-340) ; width at level of legs III 195 μ (165-250). *Dorsum.* Propodosomal shield small, 49 μ (44-55) long, 39 μ (35-43) wide. Dorsal body setae : *vi* 29 μ (26-33), *sc i* 42 μ (41-43), *sc e* 30 μ (29-31), D_1 37 μ (35-39), D_2 36 μ (34-37), D_3 27 μ (26-38), D_4 17 μ (16-18), *pa* 13 μ (12-14), *hi* 35 μ (34-37), *he* 40 μ (39-42), *hv* 20 μ (19-22), *la* 31 μ (30-32), *lp* 22 μ (20-24), *sa e* 18 μ (16-20) ; *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.

PROTONYMPH (N = 4). Body length 240 μ (220-255) ; width at level of legs III 135 μ (130-138). *Dorsum.* Propodosomal shield small, 43 μ (40-45) long, 32 μ (30-34) wide. Dorsal body setae : *vi* 24 μ (22-26), *sc i* 26 μ (25-27), *sc e* 21 μ (19-22), D_1 22 μ (21-22), D_2 21 μ (19-22), D_3 17 μ (15-18), D_4 14 μ (13-15), *pa* 9 μ (8-10), *hi* 23 μ (21-24), *he* 21 μ (20-22), *hv* 13 μ (12-14), *la* 15 μ (14-17), *lp* 14 μ (13-15), *sa e* 11 μ (10-12) ; *sa i* slightly shorter than body length. *Venter.* Genitalia between coxae III and IV, flanked by a pair of short setae and a pair of genital suckers. *Legs :* Tarsus I with long ω^4 about three times longer than ω^1 ; ω^3 lacking.

LARVA. (N = 3). Body length 210 μ (190-220) ; width at a level of coxae III 117 μ (108-124). *Dorsum.* Propodosomal shield 41 μ (39-43) long, 31 μ (29-33) wide. Dorsal body setae : *vi* 17 μ (16-18), *sc i* 16 μ (14-19), *sc e* 14 μ (13-15), D_1 15 μ (14-16), D_2 14 μ (13-15), D_3 13 μ (12-14), *hi* 14 μ (13-15), *he* 14 μ (13-14), *la* 11 μ (10-12), *lp* 10 μ (9-11), D_4 μ *pa* 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 solenidion ω^1.

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.

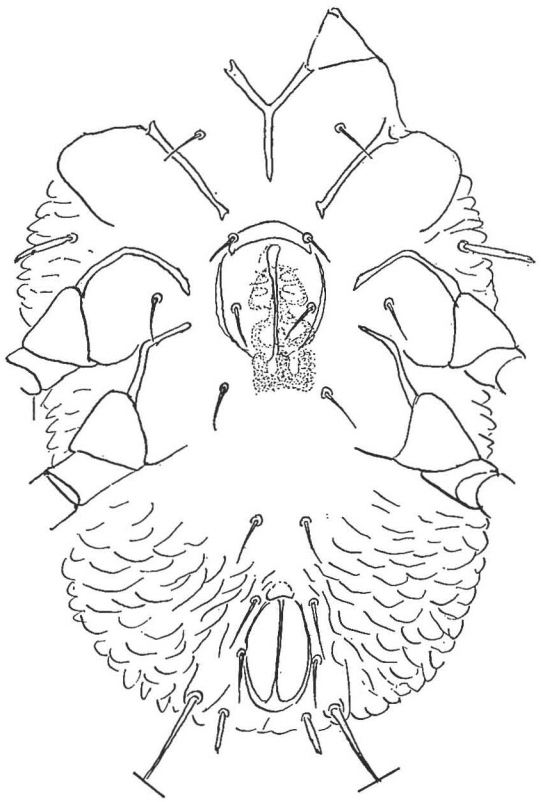

FIG. 3. — *Nycteriglyphus vespertilio* n. sp. Male, venter.

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.

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