Some New Genera and Species of Myobiid Mites (Acarina)

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Abstract. Two newly erected genera are described in this paper: *Hipposiderobia* gen. n. with *Myobia heteronycha* Berl. et Trouess., 1889 as type species and *Ugandobia* gen. n. with *Foliomyobia barnleyi* Radf., 1951 as type species. The genus *Ewingana* Radf., 1948 (s. lato) is divided into two subgenera: *Ewingana* Radf., 1948 (s. str.) with *E. (E.) bispinosa* Radf., 1948 as type species and *Doreyana* subgen. n. with *Radfordia inaequalis* Ewing, 1938 as type species. A redesription is given of the species *Hipposiderobia heteronycha* (Berl. et Trouess., 1889), *Ugandobia barnleyi* (Radf., 1952) and *Ewingana (Doreyana) inaequalis* (Ewing, 1938), and also new species *Ewingana (Doreyana) doreyae* sp. n., *E. (D.) isabellae* sp. n. and *Neomyobia slovenica* sp. n. are described.

While revising the generic listing of mite species known from bats, I arrived at the conclusion that the original listing of the species *Myobia heteronycha* Berl. et Trouess., 1889, *Foliomyobia barnleyi* Radf., 1955 and *Radfordia inaequalis* Ewing, 1938 is incorrect and that even the most recent transfer of these species to other genera according to RADFORD (1954), JAMESON (1955) or DUBININ (1957) cannot be accepted. The morphological structure of these species is indeed so extraordinary that they cannot be placed in any known genus and therefore I consider it necessary to erect for them separate systematic categories with the grade of a genus or subgenus, as characterized in this paper.

1. HIPPOSIDEROBIA GEN. N.


Body stout, elongated. Legs I consist of five segments, without terminal claws. Segment II narrower than segment I, but broader than segment III, with similar striated structure dorsally as in genus *Radfordia* Ewing, 1938 or *Myobia* von Heyden, 1826, without the thickened finger-like sensory seta. Segment III with a stout lateral, posteriorly directed hooklike claspers tubercle, dorsally overlaps segment IV completely. Segment IV with a small projection ventrally. Segment V rudimental.
Tarsus II—IV each with two short bent claws and a small adhesive transparent appendix. Dorsal setae setiform, barbed. Between coxae II and III only one pair of ventral setae. Vulva plain, with vulvar valves but without genital hooks. Gnathosoma conical, without lateral flap-like formations, with apical palpal hooks. The nymphal stages are unknown. Parasitic on bats of the family Hipposideridae.

The genus is very similar to the genera *Myobia* von Heyden, 1826 and *Radfordia* Ewing, 1938, with which it corresponds in the structure of legs I, shape of body, dorsal setae etc. In the genus *Hipposiderobia* gen. n., however, there has been no complete reduction of the fourth and fifth segment on legs I, nor the reduction of claws on tarsus II—IV, on which the adhesive transparent appendices have been still preserved. Neither was there any development of genital hooks in female, nor any development of thickened sensory seta on the second segment of legs I. All these features point to the ancient origin of this new genus.

**Hipposiderobia heteronycha** (Berlese et Trouessart, 1889)


**Female**: Body short, stout 262 μ long, 137 μ wide, with a fine transverse striation. **Dorsum** (Fig. 1A): Dorsal setae setiform, barbed, with central core, slightly bifurcated at tips. Lateral I are 75 μ, lateral II 90 μ, lateral III 75 μ long. Submedian I are situated at the level of lateral I, only 14 μ long. Submedian II and III absent. Submedian IV are placed at the level of lateral III, 33 μ long. Submedian V without barb, 17 μ long. One pair of short circumanal setae. Vulva primitive, without genital hooks, with weakly pronounced vulvar valves overlapping posterior end of body. One pair of anterior and one pair of posterior perigenital setae well developed. **Venter** (Fig. 1B): Ventral setae smooth, short, 8—11 μ long. Two pairs of setae situated between coxa I and II, the third one at the level of coxa II. One pair of setae between coxa II and III, III and IV, and at level of coxa IV. Another pair of short setae is placed between posterior marginal filaments which are 335 μ long. **Gnathosoma**: of conical shape, with weakly developed palpal hooks. Hypostomal setae are 11 μ long, ventral gnathosomal setae 26 μ long.

**Legs**: Legs I consisting of five segments, without terminal claws. Segment II dorsally with a characteristic striated formation similar as in the genus *Radfordia* Ewing, 1938 or *Myobia* von Heyden, 1826. Segment III with a stout lateral, posteriorly bent clasping tubercle. Segment IV completely overlapped by segment III dorsally, segment V rudimental. Tarsus II—IV each with two short, crooked claws and a distinct adhesive transparent appendix (Fig. 1C). Some ventral setae with a blunt tip and slightly bifurcated. Genu II—IV, femur III and IV with a stout thorn-like seta with a slightly bifurcated tip.

The description and drawings of the species are based on a single specimen, a female from the collection of Dr. C. D. Radford, collected from *Asellia tridens* (Geoffr.), Jeddah, Arabia, A. C. Trott colr.
2. **UGANDOBIA** GEN. N.


Body slender, elongated. Legs I consisting of four segments, without terminal claws. The basal segment of boat-like shape, with lateral protrusion. Segment II narrower than segment I and III, with an extraordinary striated structure dorsally, reminding

![Diagram](image)

**Fig. 1.** *Hipposiderobia heteronycha* (Berl. et Trouess., 1889), female. A — dorsal view; B — ventral view; C — tibia and tarsus IV, ventral view.

of the structure in the genera *Myobia* von Heyden, 1826, *Radfordia* Ewing, 1938 and *Hipposiderobia* gen. n., with a triangular shell-like formation ventrally, without the thickened sensory seta. Segment III with an anteriorly directed comb-like claspig tubercle. Segment IV with a small shell-like formation ventrally. Tarsus II with two short crooked claws, tarsus III and IV with one straight claws. Dorsal setae expanded and striated, not barbed, of characteristic structure. Submedian I rudimental. The vulva plain without vulvar valves or genital hooks. (The penis in the studied
male specimen was damaged.) Gnathosoma of conical shape, with faintly outlined anterolateral flap-like formations. Palpal hooks well developed. Nymphal stages unknown. Parasite on bats of the family Emballonuridae.

The structure of legs I and the formula of claws on tarsus II—IV reminds of the genus Ewingana Radf., 1948, from which, however, it differs in striated formation on dorsum of segment II and in a shell-like formation on segment IV of the first pair of legs, in rudimental submedian I, and mainly in the absence of genital hooks in female and in the host specificity.

**Ugandobia barnleyi** (Radford, 1951)


**Female (Holotype):** Body elongated, slender, 405 μ long, 155 μ wide, with a fine transverse striation.  
Dorsum (Fig. 2A): Dorsal setae expanded and striated, of characteristic shape: leaf-like expanded part of each seta rests upon a whip-like part which is twice as long. Lateral I (including the whip-like part) 59 μ long, 9 μ wide. Lateral II and III subequal, 58 and 50 μ long, 8 μ wide, differing only in the length of the whip-like part. Submedian I setiform, rudimental, situated at the level of anterior margin of lateral I. Submedian II situated somewhat higher than lateral II, 59 μ long, 8 μ wide. Submedian III—VI subequal, 56 μ long, 7 μ wide, differing from submedian II mainly in the shorter expanded part. Three pairs of circumanal setae, of which the first two pairs are also expanded and striated, the third pair setiform. The first two pairs of expanded circumanal setae may be also designated as lateral IV and submedian VII, after RADFORD (1951). A pair of setiform setae on the anal cone are 35 μ long. The vulva is plain, without vulvar valves or genital hooks. It bears 4 pairs of short perigenital setae arranged one below another.

**Venter** (Fig. 2D): Between coxa I and II a transverse row of 3 pairs of short setae. Posteriorly to coxa II and at the level of coxa III and IV a pair of needle-like setae developed respectively, 47, 51 and 55 μ long. Between the anterior pair of these setae and the posterior margin of coxa II a transverse row of 3 short setae is placed on both sides. A pair of similar short setae is situated near the posterior pair of long setae at the level of coxa IV. There is a pair of short setae near the posterior marginal filaments and another pair near the anal pore. Posterior marginal filaments are broken near end.

Gnathosoma: of conical shape, relatively small. Palpal hooks well developed and fine. Ventral gnathosomal seta 19 μ long.

**Legs:** Legs I consisting of four segments, without terminal claw. The basal segment stout, with a thorn-like lateral protrusion. Segment II with a similar projection ventrally overlaid by a triangular striated formation, dorsally with a double striated formation reminding of the structure in the genera Radfordia Ewing, 1938, Myobia von Heyden, 1826 and Hipposiderobia gen. n., without the thickened sensory seta.
Segment III with a forward directed dentate hook-like clasping tubercle, and a thickened ventral seta at the base. Segment IV with a ventral shell-like striated formation. Tarsus II with two stout crooked claws. Tarsus III and IV each with one

Fig. 2. *Ugandobia barnleyi* (Radf., 1951). A — female, dorsal view; B — male, dorsal view; C — male, ventral view; D — female, ventral view.
straight claw. Femur II, coxa III and IV with a dorsal thickened seta. Genu III and IV with two, tibia III and IV with three ventral thorns.

**Male (Allotype):** Body slender, elongated, 278 μ long, 133 μ wide, with a fine transverse striation.

**Dorsum** (Fig. 2B): Dorsal setae of the same shape as in female. Lateral I (including the whip-like part) 55 μ long, 8 μ wide. Lateral II and III subequal to lateral I, 68 and 81 μ long, differing only in the length of the whip-like part. Submedian I and II setiform, rudimental. Submedian III expanded and striated, 30 μ long, situated closely along the genital plate. Submedian IV are placed at the level of lateral III, 32 μ long. Behind coxa IV are situated 3 pairs of setae, of which the anterior two pairs are slightly expanded, 25 μ long, the third pair is setiform and 16 μ long. Genital plate between coxa II and III, with 3 pairs of setiform setae. Penis long, straight (in allotype the penis is loosened and displaced).

**Venter** (Fig. 2C): Between coxa I and II two pairs of short setae. Between coxa II and III, at the level of coxa III and coxa IV, a pair of setae developed respectively, which are 23, 19 and 38 μ long and slightly thickened at the base. Between the first pair of these setae and the posterior margin of coxa III there is a transverse row of three short setae on both sides. A pair of short setae situated near the third pair of long setae, at the level of coxa IV. Posterior marginal filaments measure 243 μ.

**Gnathosoma:** As in female.

**Legs:** Legs I as in female. Tarsus II with a pair of stout crooked claws, tarsus III and IV each with one straight claw. Genu III with one, genu IV and tibia III and IV with two thorn-like setae.

The description and drawings are based on the holotype-female and allotype-male from the collection of Dr. C. D. Radford, designated as *Acarina, Foliosynnoria barnleyi* Radford, ♂♀, Type, Uganda, Kampala, Bat "A", 1948, G. R. Barnley, and kindly loaned to me by Dr. C. D. Radford.

3. **Ewingana Radford, 1948 (S. LATO)**


In his characterization of this genus RADFORD (1952) states that tarsus II bears two claws, one longer than the other, tarsus III and IV only one long claw. This formula of claws is met with both in species known from the regions of the Old World [*E. bispinosa* Radf., 1948, *E. lavoipierrei* (Paran, 1966) comb. n.] and in some species of the New World (*E. yaguajayensis* Dush., 1968, *E. molossi* Dush., 1968). On the other hand, in some species known from the American continent and Antilles [*E. inaequalis* (Ewing, 1938) comb. n., *E. longa* (Ewing, 1938) comb. n., *E. doreyeae* sp. n. and *E. isabellae* sp. n.] this formula is modified, although other generic characters fully correspond with the characteristics of the genus *Ewingana* Radf., 1948. In *E. inaequalis* and *E. isabellae* sp. n. the formula of claws on tarsi
II—IV is 2,2,2 the second claw being clearly thinner and shorter; in *E. longa* the claw formula on tarsi II—IV is 2,1,1 and in the female of *E. doreyae* it is even 1,1,1, while in the male it is 2,1,1. The reduction of claws on tarsi therefore appears to have taken place in two ways. In the first group there was a complete reduction of the second claw on tarsi III and IV, while on tarsus II only partial reduction took place, resulting only in the diminished second claw. In the second group the claw reduction on tarsi II—IV took place at a more equal level, but in different species at a different rate. That is why the number and shape of claws on tarsus II—IV is similar, but in different species different. As other consistent morphological characters in which both groups differ from one another are to be found in species of the same group, I consider it necessary to erect two distinct subgenera within the genus *Ewingana* Radf., 1948 (s. lato): *Ewingana* Radf., 1948 (s. str.) for the first group and *Doreyana* subgen. n. for the species of the second group.

The subgenus *Ewingana* Radford, 1948 (s. str.)

Type species: *Ewingana bispinosa* Radf., 1948.

Body slender, elongated. Segment II of the first pair of legs without thickened sensory seta. Tarsus II with two subequal claws, tarsi III and IV each with one straight claw. The reduction of the second claw took place mainly on tarsi III and IV, but not on tarsus II. Dorsal setae not barbed. Gnathosoma with anterolateral flap-like formations. Gnathosomal and ventral setae normal. Nymphal stages are unknown. The subgenus is known both in the Old and New World from bats of the family Molossidae and includes the following species: *E. (E.) bispinosa* Radf., 1948, *E. (E.) lavoipierrei* (Paran, 1966) comb. n., *E. (E.) yanguayensis* Dusb., 1968 and *E. (E.) molossi* Dusb., 1968.

The subgenus *Doreyana* subgen. n.


Body stout, elongated. Segment II of the first pair of legs with or without a thickened finger-like sensory seta. Tarsi II—IV each with one long straight claw and one rudimental claw. The grade of reduction of the second claw reached a different level, from a hardly discernible diminishing [in *E. (D.) inaequalis* (Ewing, 1938)] to its complete disappearance [in *E. (D.) doreyae* sp. n.]. However, the reduction grade on all three pairs of legs is roughly the same. Dorsal setae barbed. Gnathosoma mostly without anterolateral flap-like formations. Gnathosomal and ventral setae are extremely long. The nymphal formula of claws on tarsi II—IV is 1,1,1. The subgenus is known from the New World from bats of the family Molossidae and includes following species: *E. (D.) inaequalis* (Ewing, 1938), *E. (D.) longa* (Ewing, 1938), *E. (D.) doreyae* sp. n. and *E. (D.) isabellae* sp. n.
Ewingana (Doreyana) inaequalis (Ewing, 1938)


Female (Syntype): Body elongated, stout, 426 μ (426—513 μ) long, 215 μ (215—224 μ) wide, transversely striated.

Dorsum (Fig. 3A): Dorsal setae expanded, striated and barbed. Lateral I—III subequal, 76—80 μ long, 9 μ wide.

Submedian I slightly bigger than lateral I, 86 μ long, 12 μ wide, situated at a level with lateral I. Submedian II subequal to submedian I, 83 μ long, 12 μ wide. Submedian III—VI subequal, 78—82 μ long, 8—12 μ wide; their length and the mutual distance between setae of one pair increases slightly in posterior direction. Two pairs of slightly expanded barbed circumanal setae (59 and 63 μ), two pairs of anal setae (41 and 20 μ). The vulva with a pair of stout genital hooks and three pairs of perigenital setae.

Venter (Fig. 3B): Between coxae I and II two pairs of short setae (16 and 23 μ) and a pair of longer setae (68 μ) situated at the level of coxa II. A pair of short setae at the posterior margin of coxa II. Behind coxa II three pairs of long needle-like setae (110—140 μ), of which the anterior pair is the shortest, the posterior pair the longest. Near the anterior and posterior pair one pair of short setae (24—30 μ) developed respectively. Two pairs of setae on the anal cone are 55—63 μ long. Posterior marginal filaments of specimens from Cuba measure 505 μ (in the studied syntype they are broken off).

Gnathosoma: Gnathosoma in the shape of a rectangular with rounded corners, with stout palpal hooks. Hypostomal setae 39 μ long, gnathosomal setae in the Cuban material extremely long (7 μ) (in the studied syntype the ends of these setae are broken off). One pair of dorsal palpal setae.

Legs: Legs I consisting of four segments, without terminal claws. Segment II is almost completely overlaid by segment I and III dorsally, with a ventrolateral striated formation and thickened ventral sensory seta. Segment III with a slightly bent clasping tubercle, with a slightly thickened dorsal seta at the base. Tarsus II—IV with two unequal straight claws, of which the shorter one is half as long as the longer claw. Genu III and IV has two thorn-like thickened setae on venter; tibia and femur II—IV with one thickened ventral seta.

Male: Body elongated, stout, 405 μ long, 210 μ wide, integument transversely striated.

Dorsum (Fig. 3C): Lateral I—III and submedian III—VI expanded, striated and barbed. Lateral setae subequal, 75, 90 and 70 μ long, 8 μ wide. Submedian I and II rudimental, setiform. The length of other submedian setae is as follows: III and IV 25 μ, V 67 μ, VI 50 μ. Submedian III situated closely to the sides of genital plate. The mutual distance of submedian V is greater than of the other submedian setae. Behind coxa IV near the medial body axis two pairs of setae (35 and 45 μ) are situated one after another, of which the anterior setae are slightly expanded,
posterior ones setiform. The genital plate is situated between coxa III and IV, with a pair of anterior and a pair of posterior setae. Penis straight, 72 μ long.

Venter (Fig. 3D): Two pairs of shorter (11 and 16 μ) and a pair of long (75 μ) setae situated between coxa I and II. A pair of short setae closely behind coxa II.

Fig. 3. Ewingana (Doreyana) inaequalis (Ewing, 1938). A — female, dorsal view; B — female, ventral view; C — male, dorsal view; D — male, ventral view; E — tibia and tarsus II of male, ventral view.
Posteriorly to coxa II three pairs of long setae (82, 145 and 160 \(\mu\)) are developed near the first and third one pair of shorter setae (14 and 8 \(\mu\)) developed respectively. Posterior marginal filaments are 447 \(\mu\) long.

**Gnathosoma**: as in female. Hypostomal setae are 6 \(\mu\) long, ventral gnathosomal setae 34 \(\mu\).

**Legs**: Legs I as in female. Tarsus II with one long straight claw and one short, stout claw, which looks as if it were chopped off (Fig. 3E). The claws on tarsus III and IV as in female. Genu II with one short and stout thorn and one longer ventral one. Thorn-like thickened setae on venter of femur and genu II—IV as in female.

The description and drawings of female are based on the syntype-female of the species deposited in the U.S. National Museum in Washington and designated as *Radfordia inaequalis* n. sp., Ewing, Type No. 1282, U.S. N.M., on Freck-tailed Bat *Tadarida cynocephala*, Leon Co., Florida, Aug. 27, 1934, E. V. Komarek, cohr., Bish. 22331, Remtd. Feb. 1948, supplemented by data obtained during the studies of material from *Tadarida brasiensis muscula* (Gundlach), 26. 10. 1965, Cueva del Círculo, Cairije, Sierra Cubitas, Prov. Camaquéy, Cuba, lgt. F. Dusábek and J. de la Cruz, on which the description and drawings of male are also based.

**DESCRIPTIONS OF NEW SPECIES**

1. **Ewingana (Doreyana) isabellae** sp. n.

**Type host**: *Tadarida (Mormopterus) minuta* (Miller).

**Type locality**: Palacio de Cantero, Trinidad, Prov. Las Villas, Cuba, 13. 6. 1965, lgt. F. Dusábek and J. de la Cruz.

**Material**: Only from the type host and type locality — 4 \(\varphi\), 12. 6. 1965; 9 \(\varphi\), 13. 6. 1965, all lgt. F. Dusábek and J. de la Cruz.

The holotype (female) and nine paratypes (females) are in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences in Prague; three paratypes (females) are in the collection of the Institute of Biology, Cuban Academy of Sciences in Havana.

**Female (Holotype)**: Body elongated, slender, 465 \(\mu\) (416—490 \(\mu\)) long, 176 \(\mu\) (168—182 \(\mu\)) wide, with a fine transverse striation.

**Dorsum** (Fig. 4A): Dorsal setae expanded, striated, exclusive of submedian I barbed. Lateral I—III subequal, 74—80 \(\mu\) long, 10 \(\mu\) wide. Submedian I closely attached to lateral I, slightly narrower. Submedian II the stoutest of submedian setae, 78 \(\mu\) long, 10 \(\mu\) wide. Submedian III—VI subequal, 40—47 \(\mu\) long. One pair of longer (35 \(\mu\)) and one pair of shorter setae (13 \(\mu\)) developed on posterior end of body. The vulva with a pair of stout genital hooks, with two pairs of perigenital setae, of which the posterior one, placed near genital hooks, is slightly thickened.

**Venter** (Fig. 4B): Between coxa I and II two pairs of shorter anterior setae (12 and 14 \(\mu\)) and one pair of longer setae (34 \(\mu\)) situated almost at the level of coxa II. A pair of very short setae situated near coxa II. Behind coxa II three pairs of long needle-like setae (70, 81 and 77 \(\mu\)); a pair of very short setae (15 and 20 \(\mu\))
developed near the first and third pair. The anal cone with a pair of lateral (35 μ) and a pair of medial (26 μ) setae. Posterior marginal filaments are 387 μ long.

Gnathosoma: Gnathosoma of rectangular shape, with distinct anterolateral flap-like formations. Palpal hooks stout. Hypostomal setae are 11 μ, ventral gnathosomal seta 48 μ long.

Fig. 4. *Ewingana (Doreyana) isabellae* sp. n., female. A — dorsal view; B — ventral view; C — tibia and tarsus II, dorsal view; D — tibia and tarsus III, dorsal view; E — tibia and tarsus IV, dorsal view.

Legs: Legs I typical for this genus. The thickened sensory seta on the second segment is lacking. Hooklike clasping tubercle on segment III only slightly bent. A blunt striated thorn-like formation situated dorso-laterally at base of the third segment. Tarsus II with one long straight claw and one claw which is almost by a half shorter. Tarsi III and IV each with one long stout straight claw and one very fine claw which is only 5 μ long (Fig. 4C, D, E). Femur II—IV and tibia II—IV with one, genu II—IV with two stout, thorn-like thickened ventral setae.
The new species differs from *E. (D.) inaequalis* (Ewing, 1938) mainly in the greater reduction of claws on tarsi III and IV, in the absence of the thickened sensory seta on the second segment of legs I, in the presence of anterolateral flap-like formations on gnathosoma, in the shape of perigenital setae, in the different structure of legs I and vulva, and host specificity.

2. *Ewingana (Doreyana) doreyae* sp. n.

**Type host:** *Tadarida (Tadarida) macrotis* (Gray).
**Type locality:** Trinidad, Prov. Las Villas, Cuba, 12. 6. 1965, lgt. F. Dushábek and J. de la Cruz.
**Material:** Only from type host and type locality — 3 ♀♀, 2 ♂♂, 7 NN, 12. 6. 1965, lgt. F. Dushábek and J. de la Cruz.

Holotype (female), allotype (male) and all paratypes (2 ♀♀, 1 ♂, 7 NN) are deposited in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences in Prague.

**Female (Holotype):** Body stout, elongated, 567 μ (515—570 μ) long, 212 μ (212—220 μ) wide, with a distinct transverse striation.

**Dorsum** (Fig. 5A): All dorsal and circumanal setae barbed, with blunt tips. Lateral I the widest of dorsal setae, 86 μ long, 14 μ wide. Lateral II more slender (10 μ), 78 μ long, subequal to lateral III, which are somewhat longer (98 μ). Submedian I subequal to lateral I, slightly narrower and shorter (75×12 μ), situated anteriorly. Submedian II rather longer than lateral II (86 μ). Submedian III—V subequal, measuring 78, 74 and 70 μ. Submedian VI only slightly expanded, 75 μ long. Two pairs of circumanal setae setiform, barbed, with blunt tips, the interior pair 31 μ, the exterior pair 47 μ long. The anal cone with a pair of longer and a pair of shorter setiform setae. Vulva with a pair of stout genital hooks, a pair of anterior, a pair of medial and two pairs of posterior perigenital setae.

**Venter** (Fig. 5D): Between coxa I and II three pairs of setae, of which the interior one is 82 μ long, the others 16 μ long. In close vicinity of coxa II a pair of short posterior setae (in holotype another accessory seta is developed on the right side). Behind coxa II three pairs of long needle-like setae (125, 145 and 168 μ); a pair of short setae (20 μ) each developed near the anterior and posterior pair. The anal cone with two pairs of setae 54 μ long. Posterior marginal filaments 525 μ long.

**Gnathosoma:** Gnathosoma of rectangular shape with weakly developed anterolateral flap-like formations. Palpal hooks well developed. Hypostomal setae short (12 μ), ventral gnathosomal setae very long (70 μ).

**Legs:** Legs I stout, lateral seta on their basal segment somewhat thickened. The second segment without the thickened sensory seta. The thorn-like seta near the base of third segment well developed. Tarsus II—IV each with one long straight claw. The claw on tarsus II somewhat shorter than on tarsi III and IV. The reduction of the second claw was complete in female. Genu II—IV with two, femur and tibia II—IV with one thorn-like thickened seta. Dorsal coxal setae on legs III—IV are extraordinary long (180 μ).
Male (Allotype): Body elongated, stout, 412 μ (392—412 μ) long, 200 μ (188—200 μ) wide, with a fine transverse striation.

Dorsum (Fig. 5B): Dorsal setae, exclusive of submedian I and II and circumanal

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Fig. 5. Ewingana (Doreyana) doreyae sp. n. A — female, dorsal view; B — male, dorsal view; C — male, ventral view; D — female, ventral view.
setae, are expanded striated and barbed, with blunt tips. Lateral I the widest of dorsal setae, 63 µ long, 11 µ wide. Lateral II more slender, 72 µ long; lateral III subequal, somewhat shorter (63 µ). Submedian I and II rudimental. Submedian III and IV short (16 and 19 µ), situated closely to genital plate. Submedian V are 47 µ long, submedian VI the longest of submedian setae (54 µ), situated at the level of lateral III. Submedian VII placed at the level of coxa IV, 45 µ long. Two pairs of circumanal setae only slightly expanded, not striated or barbed, with blunt tips, 30 µ long. Genital plate situated between coxa II and III, with a pair of thickened setae, 16 µ long. Penis short, straight.

Venter (Fig. 5C): Two pairs of short setae (11 µ) between coxa I and II, of which the exterior one is slightly thickened at the base, and a pair of longer setae (78 µ) at the level of the anterior margin of coxa II. In close vicinity of posterior margin of coxa II a pair of fine setae. Behind coxa II three pairs of long setae (105, 133 and 160 µ); a pair of short setae developed near the anterior and posterior pair. Posterior marginal filaments 425 µ long.

Gnathosoma: As in female. Hypostomal setae are 13 µ long, ventral gnathosomal setae 48 µ long.

Legs: As in female, but tarsus II with one long and one stout claw which is by a half shorter. Tarsus III and IV with one long, stout straight claw.

Deutonymph: Body stout, elongated, 615 µ long, 278 µ wide, with a fine transverse striation.

Dorsum (Fig. 7A): Dorsal setae expanded, striated and barbed, with blunt tips. Dorsal chaetotaxy is visible in figure.

Venter (Fig. 7B): All ventral setae setiform, short. Posterior marginal filaments are missing.

Legs: Legs I consisting of four segments, without a terminal claw. Segment II with two, segment III with one lateral thorn-like projection. Segment IV ventrally with a similar, but crook-like projection. Between the basal segment of legs I and II laterally a strongly sclerotized formation (epimera) with an expanded thorn-like projection. Legs II—IV consisting of five segments, with one strongly curved claw. Femur II and III and genu II—IV with a short stout thorn ventrally.

The new species differs from E. (D.) *inaequalis* (Ewing, 1938) mainly in the complete reduction of the second claw on tarsi II—IV in female and on tarsi III—IV in male and in its body size. Gnathosoma and legs I are very stout, lateral setae on basal segment of legs I thickened. In male of the new species 7 pairs of submedian setae are developed, while in *E. (D.) inaequalis* there are only 6 pairs. The host specificity is also an important feature.

3. *Neomyobia slovenica* sp. n.

Type host: *Rhinolophus euryale* Blas.

Type locality: The cave “Stará Domica”, Silická plošina, Slovakia, ČSSR, 30. 5. 1959, lgt. F. Dusábábek.
Fig. 6. *Neomyobia slovenica* sp. n. A — female, dorsal view; B — male, dorsal view; C — male, ventral, view; D — female, ventral view.
Material: Only from type host in the following localities: The cave “Stará Domica”, Silická plošíná, Slovakia, ČSSR — 3 ♀♀, 2 ♂♂, 3 NN, 30. 5. 1959; the cave “Ardovo”. Silická plošíná, Slovakia, ČSSR — 2 NN, 29. 5. 1959; the cave near Drienovec, Slovakia, ČSSR — 1 ♀, 1. 6. 1959, all lgt. F. Dushábek.

Holotype (female), allotype (male) and paratypes (3 ♀♀, 1 ♂, 5 NN) are deposited in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences in Prague.

Female (Holotype): Body slender, elongated, 470 μ (470—505 μ) long, 196 μ (196—224 μ) wide, with a fine transverse striation.

Dorsum (Fig. 6A): Dorsal setae expanded and striated, not barbed. Lateral I extraordinary expanded, of characteristic shape, terminating in a whip-like projection, 90 μ long, 31 μ wide. Lateral II and III subequal, lateral II 133 μ long, 17 μ wide; lateral III 145 μ long, 14 μ wide. Submedian II the stoutest of submedian setae, 78 μ long, 17 μ wide. Submedian I, III and IV subequal, 65—70 μ long, submedian V and VI somewhat shorter (60 μ). The first two pairs of circumanal setae are slightly expanded and barbed, 40 and 32 μ long, the third pair setiform, only 21 μ long. Vulva with weakly developed vulvar valves, without genital hooks, with four pairs of very fine setae. Anal cone with two short setae.

Venter (Fig. 6D): Before coxa II two pairs of short setae, a third pair at the level of coxa II. Closely to coxa II a pair of short setae posteriorly. Behind coxa II three pairs of long needle-like setae, which are 82, 105 and 100 μ long. Anal cone with a pair of short setae (20 μ). Posterior marginal filaments 360 μ long.

Gnathosoma: Palpal hooks well developed, chelicerae stiletto-like. Ventral gnathosomal setae 13 μ long.

Legs: Legs I typical for the genus, consisting of four segments, with two terminal claws. A thickened sensory seta on segment II developed. Hooklike clasping tubercle on segment III directed posteriorly. A long seta on dorsal side of the second segment moderately thickened at the base. Tarsus II with two short straight claws, tarsus III and IV each with two long straight claws. Femur II—IV and tibia III with one, genu II and tibia IV with two, genu III and IV with three ventral thorn-like setae.

Male (Allotype): Body slender, elongated, 370 μ (370—397μ) long, 157 μ (157—186μ) wide, with a fine transverse striation.

Dorsum (Fig. 6B): Lateral I of similar shape as in female, 75 μ long, 33 μ wide. Lateral II with a very long whip-like part, 157 μ long, 18 μ wide, situated at the level of coxa II, relatively close to medial axis of the body. The mutual distance between them is only 35 μ. Lateral III of similar shape, 153 μ long, 12 μ wide. Submedian I and II setiform, rudimental. Submedian III situated on both sides of genital plate, 35 μ long. Submedian IV the stoutest of submedian setae, 92 μ long 8 μ wide, situated at the level of the upper margin of coxa III. Submedian V somewhat narrower, 86 μ long. A pair of setiform circumanal setae, 20 μ long. Genital plate placed at the level of the posterior margin of coxa II; it bears a pair of anterior, two pairs of medial and two pairs of posterior, very fine setae. Penis long, straight.

Venter (Fig. 6C): Ventral setae as in female. Long, needle-like setae are 55, 110 and 75 μ long. Posterior marginal filaments 402 μ long.
Fig. 7. *Ewingana* (Doreyana) *doreyae* sp. n., deutonymph. A — dorsal view; B — ventral view. *Neo-
myobia slovenica* sp. n., deutonymph. C — dorsal view; D — ventral view.
Gnathosoma: As in female. Ventral gnathosomal setae 32 μ long.
Legs: As in female.
Deutonymph: Body slender, elongated, 567 μ long, 218 μ wide, with a fine transverse striation.
Dorsum (Fig. 7C): Dorsal setae expanded and striated; dorsal chaetotaxy is visible in figure. Two pairs of setiform circumanl setae.
Venter (Fig. 7D): Only four pairs of setiform ventral setae. Posterior marginal filaments 290 μ long.
Legs: Legs I consisting of four segments. Segment II with two, segment III with one lateral and one ventral striated formation. A similar formation is developed ventrally at the base of legs I. On the dorsal side of segment II one long and one short thorn-like thickened seta developed. Legs II—IV consist of five segments. Tarsus II with two short straight claws, tarsus III and IV each with one long straight claw.

N. slovenica sp. n. differs from the species N. chiropteralis (Michael, 1884), to which it is closely related, in host specificity, but mainly in the presence of two terminal claws on legs I and in the shape of lateral I, which are distinctly wider in the new species.

REFERENCES


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