

Two New Species of the Genus *Ewingana* (Acarina: Myobiidae) from Cuba

F. DUSBÁBEK

Institute of Parasitology, Czechoslovak Academy of Sciences, Prague

Abstract. Two new species of mites belonging to the genus *Ewingana* Radford, 1948 are described: *E. yaguajayensis* sp. n. from *Tadarida laticaudata yucatanica* (Miller) and *E. molossi* sp. n. from *Molossus major tropidorhynchus* Gray. JAMESON's synonymy (1955) of the genus *Ewingana* Radford, 1948 with the genus *Acanthophtirius* Perkins 1925 proved to be incorrect, likewise the synonymy of the species *E. bispinosa* Radford, 1948, with the species *Myobia longa* Ewing, 1938. The paper is supplemented by a key to the species of the genus *Ewingana* Radford, 1948.

The genus *Ewingana* was created and the type species was determined by RADFORD in 1948, but the genus characteristics and description of the type species *E. bispinosa* Radford, 1948 were published as late as 1952. Only on the basis of the corresponding formula of claws on tarsus II—IV: 2, 1, 1, disregarding the other morphological characters, JAMESON (1955) has made this genus synonymous with the genus *Acanthophtirius* Perkins, 1925 and the species *E. bispinosa* Radford, 1948 synonymous with the species *Myobia longa* Ewing, 1938. However, after the re-mounting of the unclear preparation of the holotype of the species *Acanthophtirius etheldredae* Perkins, 1925, by Dr G. O. Evans (British Museum, Natural History), who kindly loaned material of this species, which had been compared with the holotype (designated: *Acanthophtirius etheldredae* Perkins 2 ♂♂, 3 ♀♀ from *Pipistrellus pipistrellus* Schreb., Jenkinstown, Kilkenny, Eire, England, 17. 7. 1964, lgt. F. O'Gorman, det. G. O. E., K. H. H., 2/65), the formula of claws on tarsus II—IV in this species proved to be 2, 2, 2. Due to this fact and to other morphological differences (structure of legs I, shape of gnathosoma, structure of vulva in female etc.) JAMESON's synonymy cannot be regarded as correct and the genus *Ewingana* Radford, 1948 must be considered as valid. After studying the holotype of the species *Ewingana bispinosa* Radford, 1948 and after comparing it with the species *Myobia longa* Ewing, 1938, which was kindly made available by Dr C. D. Radford (Manchester, England), it was concluded that they were two distinct species, clearly differing from one another (see the key). The species *Myobia longa* Ewing,

1938, however, must be transferred to the genus *Ewingana* Radford, 1948 as *Ewingana longa* (Ewing, 1938) comb. n.

1. *Ewingana yaguajayensis* sp. n.

Type host: *Tadarida laticaudata yucatanica* (Miller)

Type locality: Yaguajay, Prov. Las Villas, Cuba, 10. 6. 1965, lgt. F. Dusbábek and J. de la Cruz

Material: only from type host and type locality — 7 ♀♀, 10. 6. 1966, lgt. F. Dusbábek and J. de la Cruz

Holotype (female) and three paratypes (females) are deposited 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 slim and elongated, 498 μ (475—498 μ) long, 185 μ (175—190 μ) wide. Integument with fine striation.

Dorsum (Fig. 1A): Lateral and submedian setae widely expanded, striated, not barbed. Lateral I asymmetrically terminated, sharply tapered to a long whiplike form, are situated closely behind the basal segment of legs I, 115 μ long,

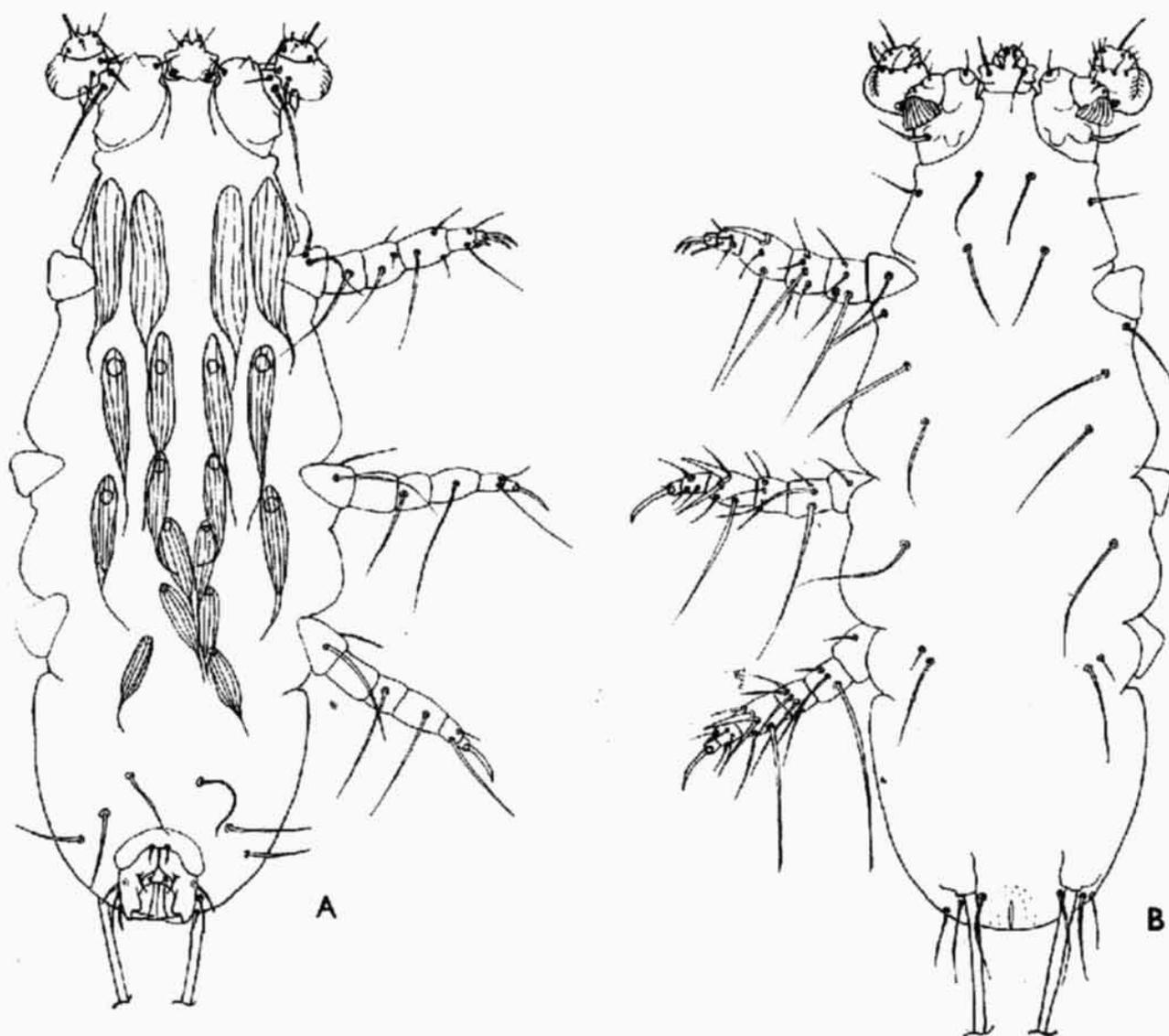


Fig. 1. *Ewingana yaguajayensis* sp. n.: A — female dorsum, B_v — female venter.

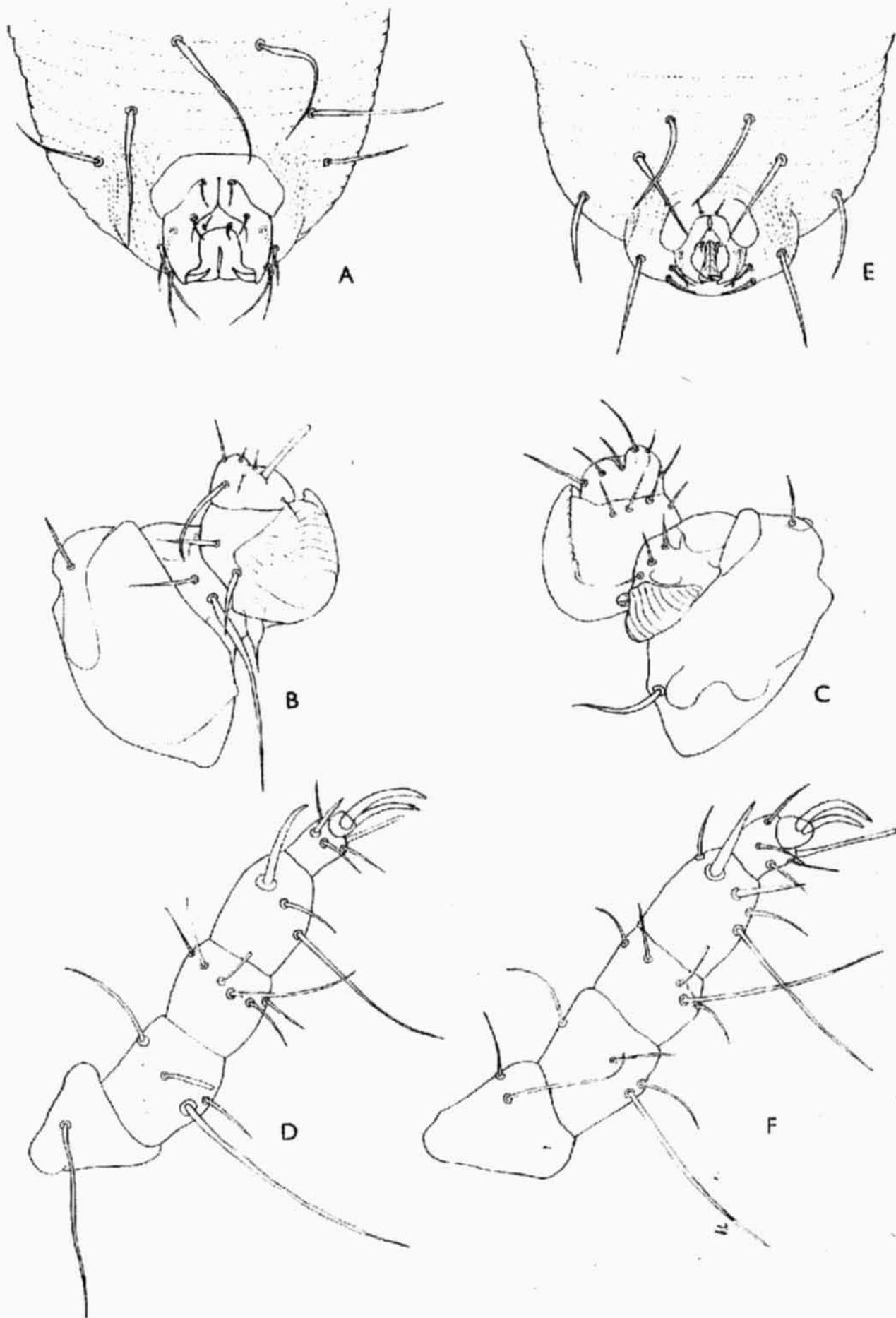


Fig. 2. *Ewingana yaguajayensis* sp. n., female: A — vulva, B — leg I dorsal, C — leg I ventral, D — leg II ventral; *Ewingana molossi* sp. n., female: E — vulva, F — leg II ventral.

17 μ wide. Lateral II and III subequal, 105 μ long, 13 μ wide, originating posteriorly to coxa II, or at the level of coxa III. Submedian I stout, subequal to lateral I, originating slightly lower, but in close vicinity to them, 110 μ long, 20 μ wide. Submedian II approximately as long as lateral II, but situated somewhat lower. Submedian III shorter, originating at the level of anterior margin of coxa III. Submedian IV and V somewhat shorter, subequal; submedian VI the shortest, originating at the level of coxa IV. Three pairs of thin circumanal setae (48 μ , 46 μ and 29 μ) form two oblique divergent rows in front of genital cone. A pair of genital hooks developed. Three pairs of short perigenital setae (6—12 μ) situated on genital cone (Fig. 2A) anteriorly to genital hooks. Three pairs of longer setae (20—30 μ) placed laterally to genital cone, the first pair being partly overlapped by vulva, the third situated at the very end of body.

Venter (Fig. 1B): Two pairs of setae (35—38 μ) situated between coxa I and II, the third pair roughly at the level of coxa II. Another pair of setae (57 μ) situated closely under coxa II. Two pairs of setae (54 and 46 μ) situated between coxa II and III, another pair (77 μ) placed between coxa III and IV. A pair of long (55 μ) and a pair of short (12 μ) setae situated in close vicinity to one another, roughly at the level of coxa IV. Three pairs of setae (37—43 μ) are placed posteriorly to marginal filaments which are very long (780—800 μ).

Gnathosoma: Distal part of palpa transformed into short palpal hooks. A pair of short (6 μ) and a pair of longer (12 μ) palpal setae dorsally, a pair of short (5 μ) palpal setae ventrally; a pair of short hypostomal (6 μ) and a pair of very long (34 μ) gnathosomal setae ventrally.

Legs (Fig. 2B, C, D): Legs I four-segmented, without terminal claw. The first segment without tubercles, with one dorsal and one ventral marginal seta anteriorly and with one ventral marginal seta posteriorly. Segment II distinctly narrower than segment I or III, with one short and one stout seta dorsally, with three short setae ventrally. A short pointed thorn is situated dorsolaterally, partly overlapped by the base of third segment; a stout shell-like formation is developed ventrolaterally. Segment III ventrolaterally with a stout indented anteriorly directed hooklike clasping tubercle, two setae dorsally and four setae ventrally. Segment IV small, with a stout sensory seta, six dorsal and six ventral setae. Legs II with one longer and one shorter claw bifurcated at tip; legs III and IV with one straight claw. Setae on legs very long, the longest on ventral side of trochanter II—IV (80 to 105 μ).

2. *Ewingana molossi* sp. n.

Type host: *Molossus major tropidorhynchus* Gray

Type locality: Yaguajay, Prov. Las Villas, Cuba, 10. 6. 1965, lgt. F. Dusbábek and J. de la Cruz

Material: Yaguajay, Prov. Las Villas — 5 ♀♀, 2 ♂♂ from *Molossus major tropidorhynchus* Gray, 10. 6. 1965; Casa vieja, Marianao, Havana — 10 ♀♀ from the same host, 27. 7. 1965; Santiago de Cuba, Prov. Oriente — 1 ♂ from the same host, 20. 9. 1965; Nueva Gerona, Isla de Pinos — 1 ♀ from the same host, 26. 6. 1965, lgt. F. Dusbábek and J. de la Cruz.

Holotype (female), allotype (male) and some paratypes (females) are deposited in the collection of the Institute of Parasitology, Czechoslovak Academy of Sciences in Prague. Four paratypes (three females, one male) are in the collection of the Institute of Biology, Cuban Academy of Sciences in Havana.

Female (Holotype): Body elongated, distinctly striated, 508 μ (484—518 μ) long, 196 μ (195—223 μ) wide.

Dorsum (Fig. 3A): Dorsal setae widely expanded, striated, not barbed. Lateral I the longest, symmetrically terminated, with a very short whiplike part, measuring $120 \times 23 \mu$; originating closely beyond the basal segment of legs I. Lateral II and III subequal, 90 μ long, originating between coxa II and III or at the level of the middle of coxa III. Submedian I stout, together with lateral I the stoutest of dorsal setae, but dissimilar in shape, also with a short whiplike part, 106 μ long, 20 μ wide, situated at a level with lateral I. Submedian II situated at the level of lateral II, but are the stoutest ($86 \times 21 \mu$). Submedian III—VI subequal, somewhat shorter and narrower than submedian II.

Three pairs of circumanal setae (42—57 μ) arranged in two descending oblique rows in front of genital cone, the third pair being somewhat shorter than the first two pairs. Genital hooks developed. Only two pairs of small perigenital setae developed anteriorly to genital hooks. Three pairs of shorter setae (15—23 μ) developed laterally to genital hooks; the first pair is partly overlapped by vulva, while one pair of setae (30 μ) is above posterior marginal filaments.

Venter (Fig. 3B): Two pairs of setae (20—30 μ) situated between coxa I and II, another pair (20 μ) is placed slightly under level of coxa II. Three pairs of longer setae (46—55 μ) placed laterally between coxa II and III. A pair of long (77 μ) and a pair of short (17 μ) setae arranged closely to one another in the vicinity of coxa IV. Two pairs of setae situated at the very end of body, posteriorly to the posterior marginal filaments. Posterior marginal filaments unusually long (2,000 to 2,280 μ), exceeding the length of body more than four times.

Gnathosoma: A pair of longer and a pair of shorter dorsal palpal setae well developed. Palpae form small palpal hooks ventrally. A pair of short ventral palpal setae developed posteriorly to palpal hooks. A pair of shorter hypostomal and longer gnathosomal setae ventrally.

Legs: Legs I similar as in preceding species. A shell-like formation on segment II changing dorsally into a blunt chitinized projection with a distinct striation, in the vicinity of which a stout thorn-like seta is situated; the shell-like projection on venter is terminated with a short thorn. Legs II (Fig. 2F) with two dissimilar bent claws, legs III and IV with one straight claw. Tibia II with a stout sensory seta. Dorsal setae on trochanter, femur and genu II very thick. Dorsal setae on coxa, femur and genu III and IV very long (55—85 μ), likewise ventral setae on trochanter II—IV (85—95 μ).

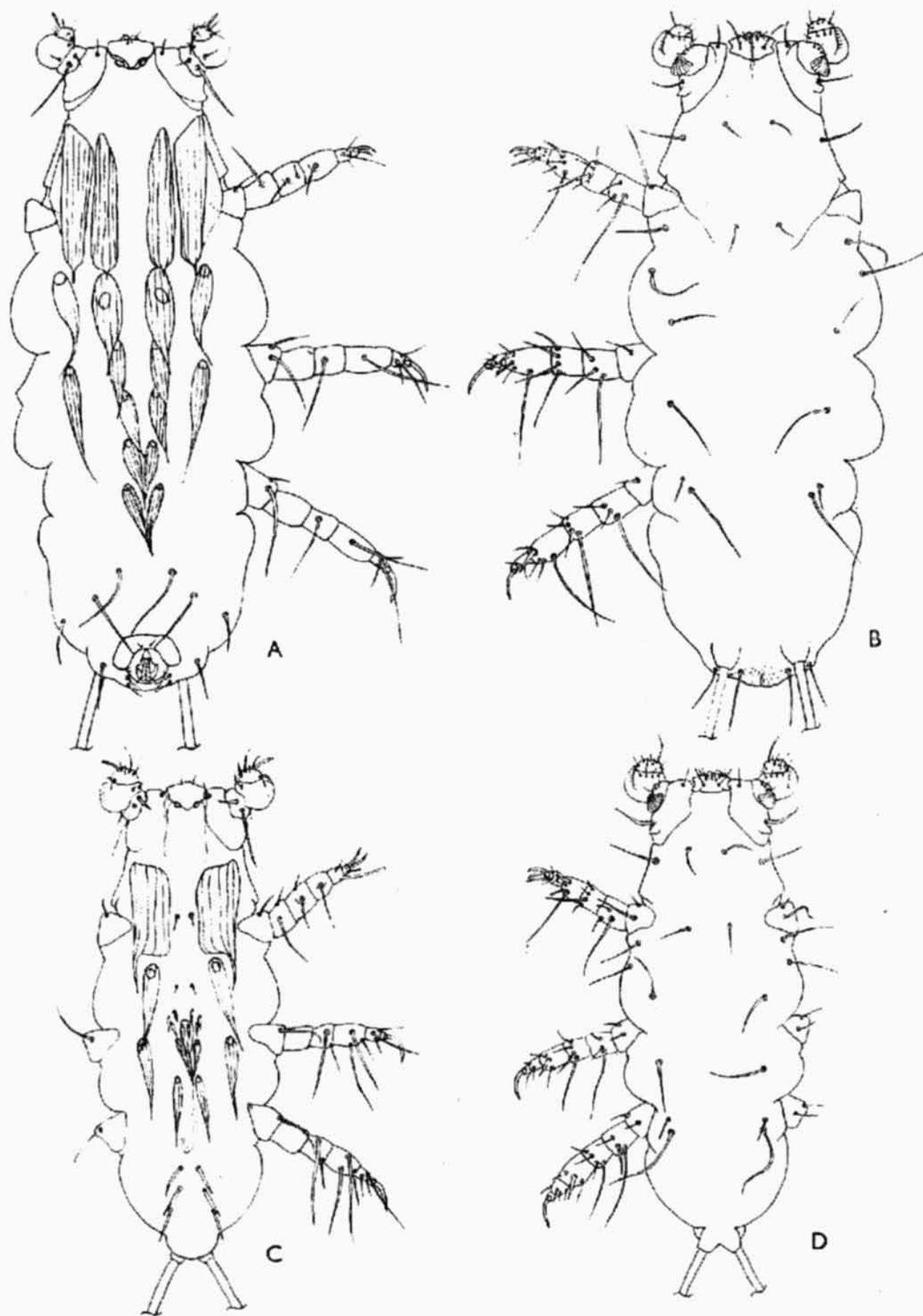


Fig. 3. *Ewingana molossi* sp. n.: A — female dorsum, B — female venter, C — male dorsum, D — male venter.

Male (Allotype): Body elongated, with a distinct striation, 372 μ (372—380 μ) long, 145 μ (145 μ) wide.

Dorsum (Fig. 3C): Lateral, and submedian III and IV expanded, striated, not barbed. Lateral I of characteristic shape, stout, asymmetrically terminated, 100 μ long, 30 μ wide, originating closely beyond the basal segment of legs I. Lateral II posteriorly to coxa II, 80 μ long, 16 μ wide. Lateral III subequal to lateral II, somewhat narrower (12 μ). Submedian I and II very fine, setiform, only 8 μ long, placed between lateral I or II. Submedian III situated at the level of lateral III, 43 μ long, 4 μ wide. Submedian IV situated between coxa III and IV, 63 μ long, 5 μ wide. Genital opening at the level of coxa III, with three pairs of slightly expanded perigenital setae, 12—14 μ long and a pair of expanded genital setae. Penis straight, anteriorly pointed, posteriorly expanded, bent at tip. Three pairs of circumanal setae, 27—32 μ long, arranged into two rows almost parallel to longitudinal axis of body.

Venter (Fig. 3D): Two pairs of setae (15 μ and 34 μ) between coxa I and II, the third pair (19 μ) at the level of coxa II. Three pairs of setae (33—39 μ) between coxa II and III situated near lateral margin of body. A pair of setae (42 μ) between coxa III and IV. Two pairs of setae (35 μ and 14 μ) closely attached to one another and situated posteriorly to coxa IV. Posterior marginal filaments very long (in both allotype and paratype the tips of these filaments are broken off; their remnants are 940 μ and 1,140 μ long).

Gnathosoma: The terminal part of palpa form palpal hooks. A pair of dorsal and two pairs of ventral palpal setae well developed, likewise two pairs of gnathosomal and hypostomal setae.

Legs: Legs I as in female, but the dorsal marginal seta on segment I is not visible. Legs II with one longer and one shorter slightly bent claw. Legs III and IV each with one longer slightly bent claw. Tibia II with a very long (33 μ) sensory seta dorsally and a shorter one (19 μ) ventrally. Genu II—IV with a spine-like thickened seta ventrally.

KEY TO THE FEMALES OF THE GENUS *EWINGANA* RADFORD, 1948

1. Length of body more than 560 μ . Posterior marginal filaments do not exceed the length of body more than 1.5 times. Lateral I and submedian I relatively narrow, corresponding with other lateral and submedian setae. Their width is less than 20 μ . Genital hooks stout 2
- Length of body smaller than 560 μ . Posterior marginal filaments exceeding the body length more than 1.5 times. Lateral I and submedian I very wide, in shape different from all other dorsal setae. Their width is more than 20 μ . Genital hooks small 3

2. Length of body 620—630 μ . Basal segment of legs I with a vertical, posteriorly bent spine-like projection on anterior margin. Submedian I narrower than submedian II, 15 μ distant from lateral I. Posterior marginal filaments placed closely to one another (25 μ), 1.5 times longer than body. Posteriorly to coxa IV no ventral setae. Lateral gnathosomal wings rounded. In *Tadarida mexicana* (Saussure) *E. longa* (Ewing, 1938)
- Length of body 660—670 μ . A finger-like projection, extending forward, is developed anterolaterally on basal segment of legs I. Submedian I as wide as submedian II, only 6 μ distant from lateral I. Posterior marginal filaments 67 μ distant from one another, as long as body, or slightly longer. Two pairs of short ventral setae developed posteriorly to coxa IV. Lateral gnathosomal wings pointed. In *Nyctinomus* (= *Tadarida*) *cisturus* Thomas
. *E. bispinosa* Radford, 1948
3. Submedian II subequal to lateral II. Posterior marginal filaments 1.5—2 times longer than body. Setae on dorsal side of femur and genu II setiform, similar to setae on femur and genu III. In *Tadarida laticaudata yucatanica* (Miller)
. *E. yaguajayensis* sp.n.
- Submedian II distinctly wider than lateral II, dissimilar. Posterior marginal filaments 4—5 times longer than body. Setae on dorsal side of femur and genu II thickened and abbreviated, dissimilar to setae on femur and genu III. In *Molossus major tropidorhynchus* Gray *E. molossi* sp.n

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F. D., Parasitologický ústav ČSAV, Flemingovo n. 2, Praha 6, ČSSR