LECLERCQ, M., 1974. — Entomologie et Médecine légale : Etude des Insectes et Acariens nécrophages pour déterminer la date de la mort. *Spectrum International*, 17 : 1-7.
LECLERCQ, M. et TINANT-DUBOIS, J., 1973. — Entomologie et Médecine légale : Observations inédites. *Bull. Méd. lég. et Toxicol.*, 16 : 251-267.
LECLERCQ, M., BRAHY, G. et WATRIN, P., 1974. — Entomologie et Médecine légale : Observation inédite. *Actes du XXXIV^e Congrès international de Langue française et Médecine légale et de Médecine sociale*, Liège 13-18 mai 1974, 1-7.
MEGNIN, P., 1894. — La faune des cadavres. Application de l'Entomologie à la Médecine légale. *Encycl. Léauté*, Paris, Masson édit., 1-214.
NUORTEVA, P., 1974. — Age determination of a blood stain in a decaying shirt by entomological means. *Forensic Science*, 3 : 89-94.
SEGUY, E., 1941. — Mouches parasites II. Callophorines, Sarcophagines et Rhinophorines de l'Europe occidentale et méridionale. *Encycl. ent.* XXI, Paris, Lechevalier édit., 1-267.
SMITH, K.V.G., 1975. — The faunal succession of insects and other invertebrates on a dead fox. *Entomologist's Gazette*, 26 : 277-287.
WELSCH, M., 1972. — *Revue médicale de Liège*, 27, 342.
ZUMPT, F., 1965. — Myasis in man and animals in the old world, a textbook for Physicians ,Veterinarians and Zoologists, London, Butterworths edit., 1-267.

NOTES ON THE GENUS **ACANTHOPHTHIRIUS** PERKINS IN NORTH AMERICA

(ACARINA : MYOBIIDAE) *

by A. FAIN** and J.O. WHITAKER***

Up to now the presence of the genus *Acanthophthirius* in North America had not been definitely established. Dusbabek (1969) had tentatively included *Myobia caudata* Banks in the genus *Acanthophthirius* but his opinion was based on the incomplete drawing of Banks (1910) and was therefore, problematic. Re-examination of the type of this species by the senior author confirms the opinion of Dusbabek and shows that the species of Banks belongs really in the genus *Acanthophthirius*.

In 1973, Whitaker reported under the name *Acanthophthirius* sp. several mites that he had collected on various bats of Indiana, U.S.A. The present paper is devoted to the study of these mites. This collection comprises three new species and one new subspecies. One of these species has been briefly described in a preliminary note (Fain and Whitaker, in Fain, 1976). We complete here this description and in addition we give a new description of the type of *A. caudatus* (Banks, 1910).

Genus **Acanthophthirius** PERKINS, 1925

Including the three new species described here, the number of species described so far in the genus *Acanthophthirius* is now 31.

Most of these species are known from both sexes, eight have been described from females only and two from males only.

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** Institut de Médecine Tropicale, Nationalestraat 155, B-2000 Antwerpen.
*** Department of Life Sciences, Indiana State University, Terre Haute, Indiana, U.S.A.

This genus has been divided by the senior author into four subgenera :

1. *Acanthophthirius* s. str. : Males with cuticular expansions on the posterolateral surfaces of the body ; legs II inflated and carrying two strongly unequal claws.

Type : Acanthophthirius etheldredae PERKINS, 1925. There are four other species in this subgenus.

Hosts : On Vespertilionidae of the genera *Pipistrellus* (2 species), *Plecotus* (2 species) and *Nyctalus* (1 species).

2. *Myotimyobia* FAIN, 1972 : Males normal, without cuticular expansions on the body and with legs II-IV and claws normal.

Type : Neomyobia myoti DUSBABEK, 1963. This subgenus contains 15 species.

Host : Vespertilionidae. Eight species are known from *Myotis* spp.

3. *Chiromyobia* FAIN, 1972 : Males without cuticular expansions on the body. Legs III strongly inflated and carrying only one very strong claw ; the tibia and genu III with one or two very strong spines.

Type : Acanthophthirius (*Chiromyobia*) *miniopteri* FAIN, 1972. This subgenus contains two other species (*A.* (*Ch.*) *radfordi* (BENOIT) and *A.* (*Ch.*) *luzonensis* (WOMERSLEY).

Hosts : Tropical Vespertilionidae of the genera *Miniopterus* and *Pipistrellus.*

4. *Thyromyobia* FAIN, 1976 : Male unknown. Clearly distinguished from the other subgenera by the characters of the female which possess a sclerotized copulatory tube and spermatheca and whose *ic 2, ic 3* and *ic 4* setae and coxal setae II-IV are foliate-striate. This taxon might represent a new genus.

Type : Acanthophthirius (*Thyromyobia*) *peruvianus* FAIN, 1976.

Host : A bat of the genus *Thyroptera* (*Thyropteridae*).

The subgeneric status of 7 species of *Acanthophthirius,* known only from females (6 species) or nymphs (1 species), remains uncertain. These species are : *A. clarus* (WOMERSLEY), *A. minimus* (WOMERSLEY), *A. fortuitous* (RADFORD), *A. capensis* (De MEILLON and LAVOIPIERRE), *A. mimetilli* FAIN, *A. kerivoulae* FAIN and *A. spinipes* FAIN.

KEY TO GENUS **ACANTHOPHTHIRIUS,** SUBGENUS **MYOTIMYOBIA**

(Males only)

1. Penis approximately 1,5 time longer than the length of the body . . . . . *A.* (*M.*) *dolichophallus* FAIN, 1972
   Penis much shorter than the body 2

2. The *sc i* are very short and thin. Genital plate and setae symmetrical and without a sheat for the penis. Penis thick and short (50 μ long). The *ic 2* and *ic 3* very thick. Setae coxal IV lacking . . . . *A.* (*M.*) *rhinolophi* FAIN, 1973
   The *sc i* are thick and foliate-striate. Penis long and narrow. The *ic 2* and *ic 3* are thin. Seta coxal IV present . . . 3

3. The seta coxal IV is a short spine. Genital plate and setae symmetrical and without a sheat for the penis.
   . . . . . *A.* (*M.*) *lasiurus* FAIN and WHITAKER, 1976
   The seta coxal IV is a thin hair 4

4. The *ic 3* are closer to the lateral border of the body than to the midline 5
   The *ic 3* are closer to the midline than to the lateral border of the body 9

5. The *ic 4* setae are at least 4 times longer than the coxal IV setae 6
   The *ic 4* are short and subequal to the coxal IV setae. Genital plate symmetrical . . *A.* (*M.*) *unciger* LAWRENCE, 1951

6. Penis 170 μ long. Setae *d 2* 125 μ long. Venter covered with large punctate plates. Genital plate and setae symmetrical, without a sheat for the penis.
   . . . . . *A.* (*M.*) *dasypterus* FAIN, 1973
   Penis and *d 2* much shorter. Venter without punctate plates. Genital plate asymmetrical 7

7. Genital plate with two curved posterior prolongations. Penis very thin apically. The setae *v e, sc e, l 1* are 96 μ, 140 μ and 153 μ long respectively . *A.* (*M.*) *serotinus* FAIN, 1973

Genital plate with one curved and one straight posterior prolongations. The *sc e* and *l 1* either distinctly shorter or longer 8

8. Trochanters II-IV with 2 simple setae and one (ventral) spine. Setae *v e*, *sc e* and *l 1* are 108 µ, 177 µ and 190 µ long respectively. Penis rather thick apically.
. . . . . *A.* (*M.*) *caudatus caudatus* (BANKS, 1910)
Trochanters II-IV with 2 simple setae and one seta (ventral) slightly thickened. Setae *v e*, *sc e* and *l 1* are 60 µ, 110 µ and 123 µ long respectively. Penis very thin apically.
. . . . . *A.* (*M.*) *caudatus eptesicus* subsp. n.

9. The *ic 2* and *ic 3* very thin and very short. Genital plate asymmetrical . . . *A.* (*M.*) *natalensis* (LAWRENCE, 1951)
. . . . (= ? *A.* (*M.*) *emarginatus* (DUSBABEK, 1963)
The *ic 2* always long ; the *ic 3* short or long 10

10. The *ic 3* thin and less than 10 µ long 11
The *ic 3* distinctly longer (at least 25 µ) 12

11. Genital plate strongly asymmetrical with a large sheat for the penis. The *ic 3* and *ic 4* are 10 µ and 15 µ long respectively. The *d 1* at one side is more posterior than the *d 1* of other side. Body smaller (335 µ long).
. . . . . *A.* (*M.*) *gracilis* sp. n.
Genital plate narrow and slightly asymmetrical with a small sheat for the penis. The *ic 3* is 6 µ long, the *ic 4* 18 µ long. The *d 1* are situated on a transverse line. Body larger 438-468 µ long). . . *A.* (*M.*) *myoti* (DUSBABEK, 1963)
. . . . (= ? *A.* (*M.*) *mystacinalis* RADFORD, 1935)

12. Both *ic 2* and *ic 3* are long and subequal. The *ic 4* are very short. Genital plate slightly asymmetrical without sheat for penis . . . . *A.* (*M.*) *klapaleki* (DUSBABEK, 1963)
The *ic 3* are distinctly shorter than the *ic 2*. The *ic 4* are 25 to 75 µ long. Genital plate strongly asymmetrical prolonged by a curved sheat for the penis 13

13. The *ic 3* and *ic 4* are 40 µ and 75 µ long respectively. Genital plate smaller, with 3 pairs of thin genital setae situated symmetrically . . . . . *A.* (*M.*) *lucifugus* sp. n.

The *ic 3* and *ic 4* are subequal and shorter (25 µ long). Genital plate larger with setae placed very asymmetrically.
. . . . . *A.* (*M.*) *pantopus* (POPPE, 1895)

1. **Acanthophthirius (Myotimyobia) caudatus** (BANKS, 1910)

Myobia caudata BANKS, 1910 : 134 ; RADFORD, 1936 : 150 ; EWING, 1938 : 196.
Myobia canadensis BANKS, 1910 : 143 (plate XII, fig. 19 ; 1915 : 29.
Radfordia caudata RADFORD, 1950 : 464.
Neomyobia caudata JAMESON, 1955 : 409 ; YUNKER, 1958 : 32.
Acanthophthirius caudatus DUSBABEK, 1969 : 552.

This species has been described from a « little brown bat », from Guelph, Ontario, Canada.

The description is poor and the author did not mention the sex of the specimen that he described. The single figure of this specimen (in ventral surface) is erroneoulsly named « *Myobia canadensis* » in the explanation of plate XII.

According to Ewing (1938) it is not possible to determine the sex of this mite from only its ventral aspect, as it does not reveal the sexual characters (penis or vulva). Because females are much more abundant than males, Ewing believes that this mite is a female.

Actually the paramedian position of the posteroventral setae (*l 5*) showed in the figure of Banks is a character that is encountered only in males and in nymphs. As leg I has obviously the adult structure, this specimen must be a male.

Through the courtesy of Dr Levi we were able to examine the holotype of this species. It is a male strongly retracted and with the cuticle folded at some places. We have remounted it in Hoyer's solution, and this specimen is now in good condition (fig. 1,2, 18). Total length is 405 µ, width 178 µ. *Dorsum :* The *v e*, *sc i*, *sc e* and *l 1* are foliate, striated basally and strongly attenuated apically, they are 108 µ, 72 µ, 177 µ and 190 µ long respectively. The *d 1* are short (45 µ) and thick. The *d 2* are only sligtly attenuated apically and 75 µ long. The penis is rather thick and 125-130 µ long. The *v i* setae are very small. The genital orifice is situated slightly in front of the *d 1*. The genital plate is 33 µ long and 22 µ wide, it is prolonged at one side by a hook

like formation. Opisthosoma with 3 pairs of stiff setae 35-40 µ long. *Venter :* The *ic 2, ic 3* and *ic 4* are thin and 78 µ, 70 µ and 90 µ long respectively. Distance *ic 3 ic 3* = 123 µ ; *ic 4 - ic 4* = 90 µ. Setae coxal IV thin and 27 µ long. *Legs* I with 5 free segments ; the lateral striated process of genu is short and directed anteriorly ; tibia with a broad striated ventral plate ; tarsus with 2 small curved claws. Tarsi II with 2 small unequal claws, tarsi III ith 2 long (27 µ and 24 µ respectively) and narrow claws, tarsi IV as tarsi III but with longer claws (33 µ - 27 µ). Coxae (I-IV) with 2-3-0-1 setae. Trochanters II to IV with an antero-ventral short spine and 2 single longer setae. Femora II-IV with 5-3-3 setae. Genua 6-6-5. Tibiae 6-6-6. Tarsi 7-6-6.

Host and locality :

On a « little brown bat », Guelph, Ontario, Canada.
Type in the Museum of Comparative Zoology, University of Harvard.

This species has been reported from *Myotis lucifugus* and *Pipistrellus subflavus* in Maryland, U.S.A. (Yunker, 1958) and from *Eptesicus fuscus dutertreus* in Cuba (Dusbabek, 1969) but it is not certain that these specimens belong really to *A. caudatus*.

Systematic position of **A. caudatus** (BANKS).

This species belongs to the subgenus *Myotimyobia* wich contains, so far, 15 species, of which 8 are known from bats of the genus *Myotis,* and 7 from other genera of bats (*Scotophilus, Rhinolophus, Eptesicus, Kerivoula, Lasiurus, Barbastella* and *Dasypterus*).

Acanthophthirius caudatus is clearly distinct from *A. myoti* (DUSBABEK), *A. klapaleki* (DUSBABEK), *A. emarginatus* (DUSBABEK), *A. unciger* (LAWRENCE) and *A. natalensis* (LAWRENCE) by the much greater length of the *ic 4* setae. It is closest to *A. serotinus* FAIN, 1973 but is distinguished from it, in the male, by the following characters : body size smaller, penis thicker, the shape and size of the genital plate slightly different, claws III-IV longer, *sc e* and *l 1* distinctly longer (170 µ and 195 µ, for 140 µ and 153 µ in *A. serotinus*).

Acanthophthirius (Myotimyobia) caudatus ssp. **eptesicus** ssp. n.

(?) *Acanthophthirius caudata,* WHITAKER, 1973 : 1149 (nec BANKS, 1910).

This subspecies is distinguished from *A. (M.) caudatus* (BANKS) 1910 and *A. (M.) serotinus* FAIN, 1973 in the male by the absence of a true spine on trochanters II-IV and the shorter length of some dorsal setae. The female is distinguished from *A. (M.) serotinus* by stronger leg setae and the larger dorsal setae which are distinctly wider in their basal part.

MALE (fig. 19) :

Holotype 385 µ long and 180 µ wide. *Dorsum* : The setae *v e, sc i, sc e, l 1, d 1* and d 2 are 60 µ, 64 µ, 110 µ, 123 µ, 42 µ, and 86 µ long respectively Genital plate situated slightly in front of *d 2,* it is asymmetrical with a posterolateral curved prolongation. Penis 115-120 µ long, strongly attenuated apically. *Venter :* Setae *ic 2* ot *ic 4* as in *A. caudatus* but more inflated basally. The *ic 4* is 70 µ long. Distance *ic 3* — *ic 3* = 135 µ. Coxal setae (I-IV) 2-3(4)-0-1. Legs thick. The trochanteral II-IV setae are simple hairs. Number of setae on the legs as in *A. caudatus* except that genu I bears 7 setae. Claws IV unequal, 24 µ and 19 µ long respectively. Gnathosoma as wide as long.

FEMALE (fig. 3-5) :

Holotype 570 µ long, 255 µ wide. *Dorsum :* The setae *v e, v i, sc e* and *sc i* are 104 µ, 58 µ, 165 µ and 80 µ are long respectively. The *v e* are 18 µ wide (only 12 µ in the typical from). *Venter :* The *ic 2, ic 3* and *ic 4* are thick in their basal part and 100 to 120 µ long. Distance *ic 3* — *ic 3* = 75 µ. The *g 1* and *g 2* are on a transverse line. Opisthosoma with 2 rounded more or less bilobate sclerites, more close to the *ic 4* than to the genitals. The space between these sclerites is 20 µ. Tarsi III-IV with two claws distinctly unequal in thickness. The claws of tarsi IV are 27 and 23 µ long respectively. Legs II-IV stouter than in *A. serotinus* with stronger setae. Gnathosoma 39 µ long and 36 µ wide (ventrally).

Host and locality :

On *Eptesicus fuscus* (bat n° 6441), Donnehues Cave, Lawrence Co. Ind. U.S.A. 14 Oct. 1970 (holotype male, allotype and 2

female paratypes). On the same host (bat n° 4188) from Jefferson Co., Ind. (2 paratypes females).

Types : in the U.S. National Museum, Washington.

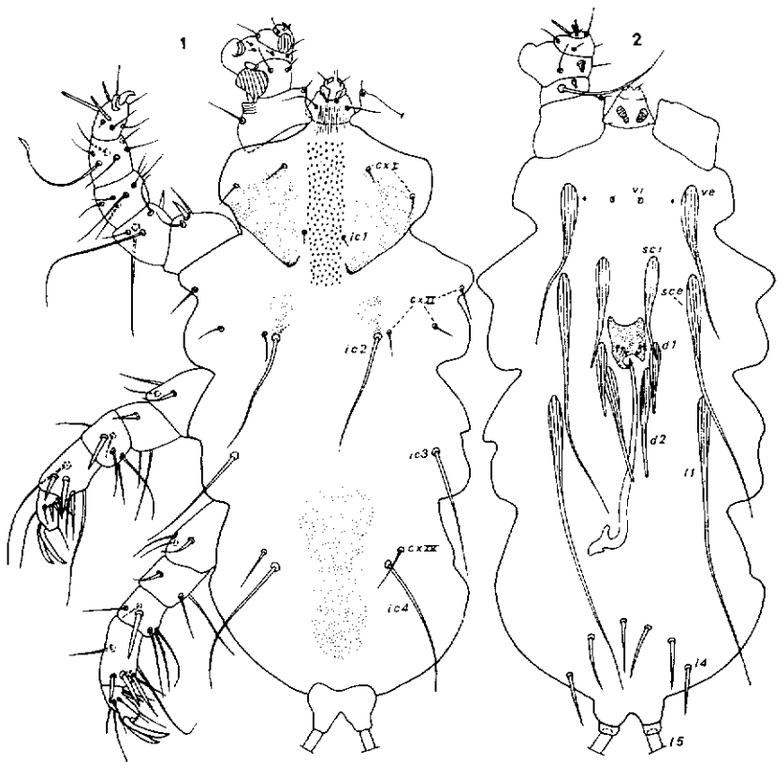

FIG. 1-2. — *Acanthophthirius* (*Myotimyobia*) *caudatus* (Banks) : Holotype male in ventral (fig. 1) and dorsal view (fig. 2).

2. **Acanthophthirius** (**Myotimyobia**) **lucifugus** sp. n.

(?) *Neomyobia caudata* YUNKER, 1958 : 32
Acanthophthirius sp. WHITAKER, 1973 : 1149

This species is represented by one male specimen. It is distinguished from *A. caudatus* by the much more paramedian situation of the *ic 2* and *ic 3* setae, the more attenuated aspect of the *d 1* setae, the longer and much narrower aspect of the penis, the

pointed aspect of the striated plate of femur I, the situation of the *d 2* far behind the genital orifice. It is distinguished from *A. pantopus* by the presence of a spine on the trochanters II-IV.

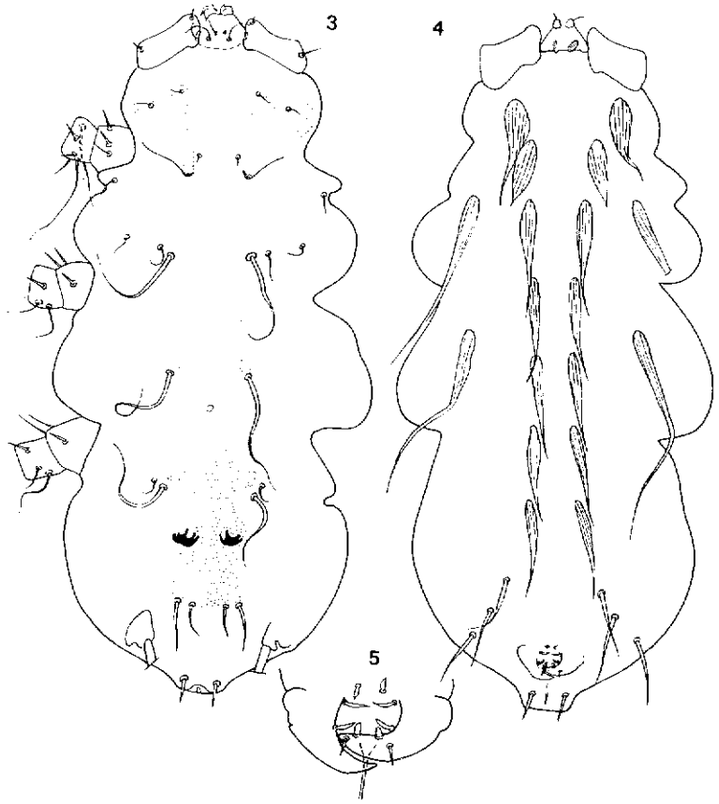

FIG. 3-5. — *Acanthophthirius* (*Myotimyobia*) *caudatus eptesicus* ssp. n. : Allotype female in ventral (fig. 3) and dorsal view (fig. 4). Genital area (fig. 5).

MALE (fig. 6,7,21) :

Holotype 420 μ long (gnathosoma included) and 162 μ wide. *Dorsum :* Length of *v e, sc i, sc e, l 1, d 1, d 2* : 96 μ, 72 μ, 140 μ, 160 μ, 42 μ and 66 μ. There are 3 pairs of posterior cylindroconical setae 25-30 μ long. There is a rounded bare area in front of these setae. Genital plate asymmetrical carrying 3 pairs

of very small setae and ending into a sheat. Penis 150 µ long. *Venter :* The *ic 2* and *ic 4* are long (65 µ and 75 µ long respectively) and inflated basally. The *ic 3* are shorter (40 µ). Distance *ic 3* — *ic 3* = 44 µ ; distance *ic 2* — *ic 2* = 45 µ. Legs strong. Claws IV 27 µ long. Coxae (I to IV) with 2-3(4-)0-1 setae. *Leg chaetotaxy* (II-IV) : Trochanters 3-3-3. Femora 5-3-3. Genua 6-6-6. Tibiae 6-6-6. Tarsi 7-6-6. Some of these setae are spines.

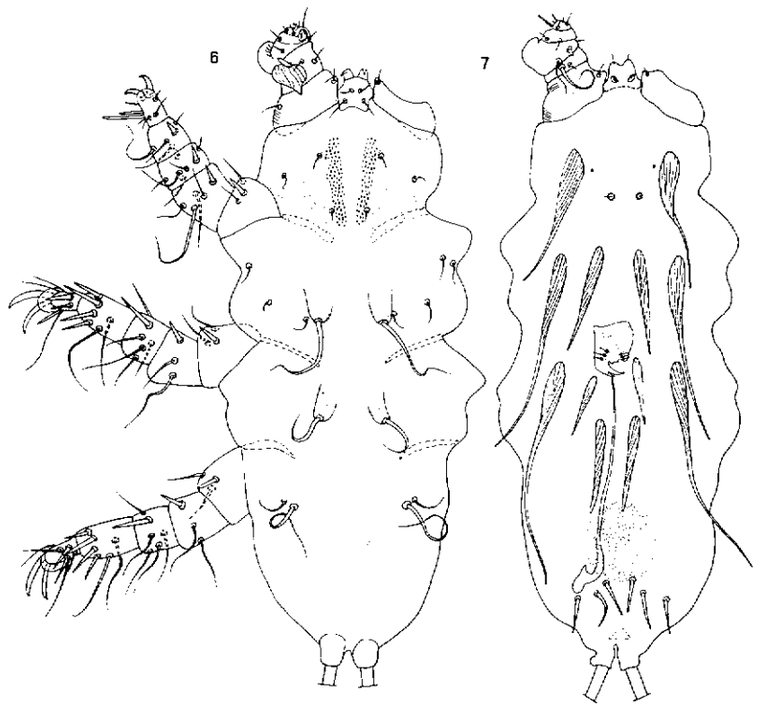

FIG. 6-7. — *Acanthophthirius* (*Myotimyobia*) *lucifugus* sp. n. : Holotype male in ventral (fig. 6) and dorsal view (fig. 7).

Host and locality :

On *Myotis lucifugus,* (n° 6318), Donnehues cave, Lawrence Co, Ind., U.S.A., 30 Sept. 1970.

The specimens reported by Yunker (1958) as *Neomyobia caudata* from the same host in Maryland, probably belong to this species.

Type : and only specimen known, in the U.S. National Museum, Washington.

3. **Acanthophthirius (Myotimyobia) gracilis** sp. n.

Acanthophthirius sp. WHITAKER, 1973 : 1149

The male of this species presents short *ic 4* setae as in several European (*A. myoti* DUSB., *A. klapaleki* DUSB., *A. emarginatus* DUSB.), or African (*A. natalensis* LAW., *A. unciger* LAW.) species.

It is distinguished from these species, in the male by the characteristic shape of the genital plate, the shape wider than long of the gnathosoma, the situation on the same line of the *sc i* and *sc e* setae. In the female by the characteristic shape of the two opisthosomal-ventral sclerites, the small length of the *ic 4*.

MALE (fig. 8,9,22) :

Holotype 335 µ long, 129 µ wide. *Dorsum :* The setae *v e, sc i, sc e, l 1, d 1* and *d 2* are 78 µ, 60 µ, 108 µ, 36 µ and 52 µ long respectively. All these setae are finely attenuated apically except *d 2* wich are cylindroconical. The *d 1* of one side is more posterior than that of the other side. The three pairs of posterior setae are cylindro-conical and 15 µ long. Penis 115 µ long, very thin apically. Genital plate asymmetrical prolonged posteriorly and at one side by a curved sclerotized sheat. *Venter : ic 2* thick basally, 50 µ long. The *ic 3* is long at one side and short and thin at the other side ; in a paratype both setae are short and thin. The *ic 4* are thin and a little longer (15-16 µ) than the coxal IV. Coxal setae (I to IV) : 2-2-0-1. Number of setae on the legs as in *A. (M.) lucifugus*. The trochanters II-IV bear 2 simple setae and one short seta slightly thickened. Gnathosoma (palpi not included) 19 µ long and 27 µ wide. Legs rather narrow ; claws of leg IV 25 µ long.

FEMALE (fig. 10-12) :

Allotype 500 µ long, 195 µ wide. *Dorsum :* The setae *v i, v e, sc i, sc e, l 1, d 1* and *d 2* are thick and striated and strongly attenuated apically, they are 55 µ, 105 µ, 78 µ, 135 µ, 160 µ, 57 µ and 57 µ long respectively. *Venter : ic 2* and *ic 3* thick basal-

ly and very apically. Distance *ic 3* — *ic 3* = 51 µ. The *ic 4* is thin and short (17 p). Close to the *ic 4* there is a pair of trifid sclerites separated by a intervall of 36 µ. Gnathosoma 30 µ long, 35 µ wide.

FIG. 8-9. — *Acanthophthirius* (*Myotimyobia*) *gracilis* sp. n. : Holotype male in ventral (fig. 8) and dorsal view (fig. 9).

Host and locality :

On *Myotis keeni* from Rays cave, Greene Co, Ind. U.S.A. September 1971 (bat n° 7353 : holotype male ; bat n° 7354 : allotype and one paratype female).

From the same host (bat n° 8993), Terre Haute, Vigo Co. Ind. August 1974 (1 male paratype).

Types : in the U.S. National Museum, Washington D.C.

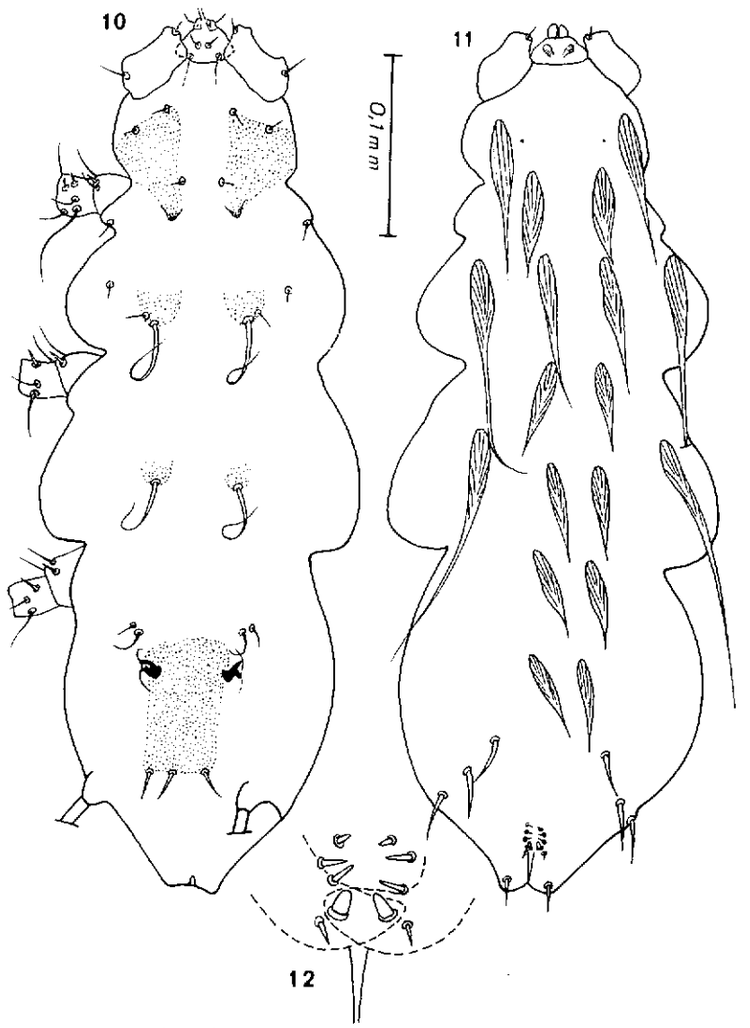

FIG. 10-12. — *Acanthophthirius* (*Myotimyobia*) *gracilis* sp. n. : Allotype fema'e in ventral (fig. 10) and dorsal view (fig. 11). Genital area (fig. 12).

4. **Acanthophthirius (Myotimyobia) lasiurus** FAIN & WHITAKER, 1976.

Acanthophthirius (Myotimyobia) lasiorus FAIN & WHITAKER, 1976 : 30

This species is easily distinguished from the other species of the subgenus, in both sexes by the aspect of the coxal IV setae

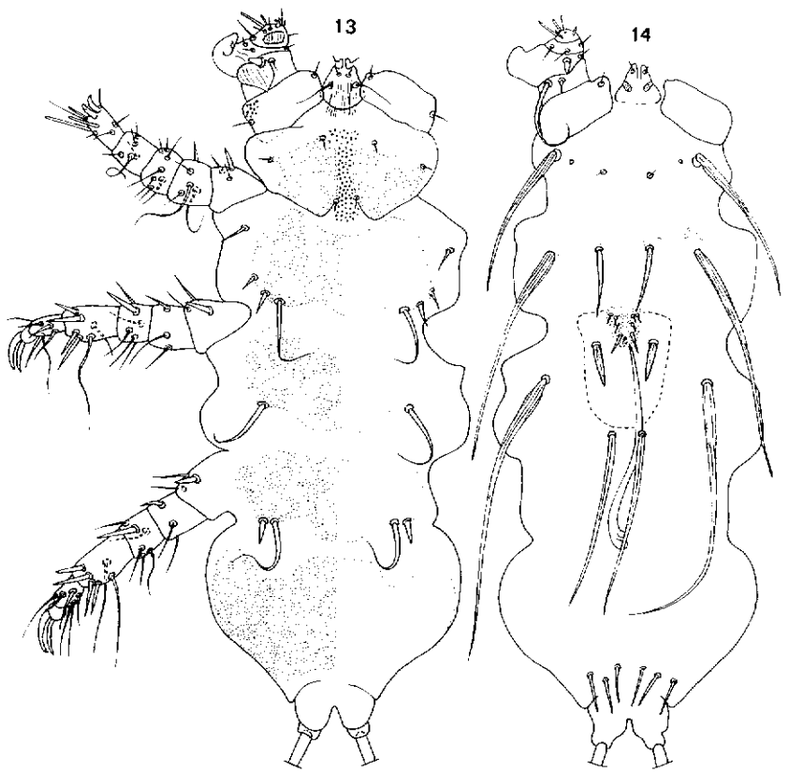

FIG. 13-14. — *Acanthophthirius (Myotimyobia) lasiurus* Fain and Whitaker : Holotype male in ventral (fig. 13) and dorsal view (fig. 14).

and of the antero-ventral or the ventral setae of trochanters II-IV which are spines. In addition, in the male by the narrow shape of the *sc i* and *d 2* setae and the relatively posterior situation of the *d 2* setae.

MALE (fig. 13,14,23) :

Holotype 396 µ long, 150 µ wide. *Dorsum :* Setae *v e, sc e* and *l 1* relatively narrow near base, very fine apically and 90 µ,

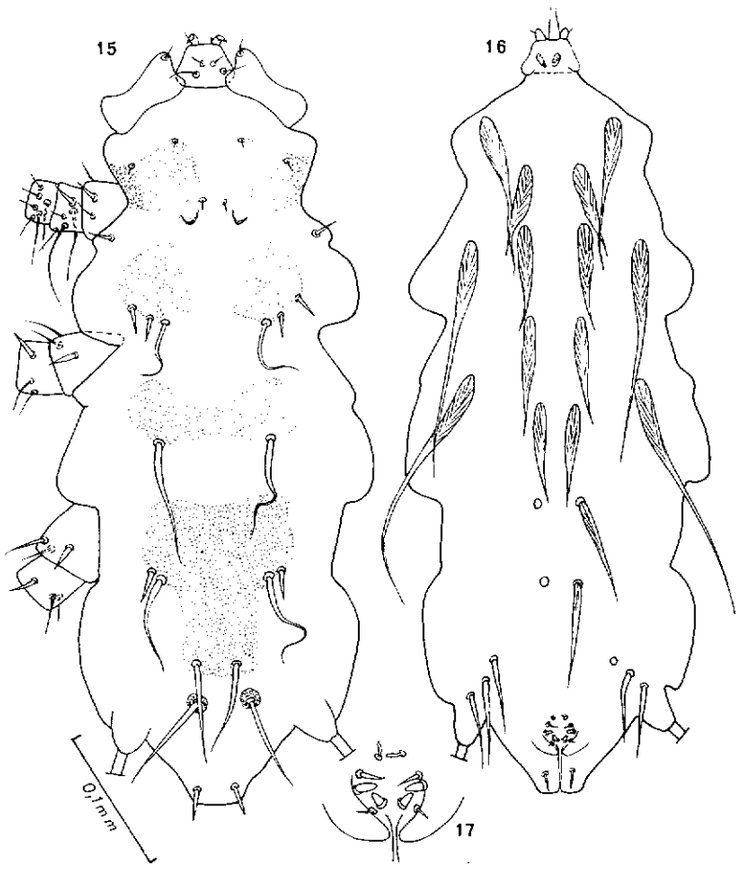

FIG. 15-17. — *Acanthophthirius (Myotimyobia) lasiurus* Fain and Whitaker : Female in ventral (fig. 15) and dorsal view (fig. 16). Genital area (fig. 17). (N.B. These figures have been made after the allotype and one paratype).

140 µ and 165 µ long respectively. The *sc i* are much narrower than the *sc e* and 39 µ long. The *d 1* are strong spines, the *d 2* are narrower and 120 µ long. Genital plate triangular, symmetri-

cal, situated slightly in front of the *d 1* and bearing 5 pairs or setae. Penis 120 μ long. *Venter :* Most of the venter is covered with sclerotized non-striated plates. Setae *ic 2* to *ic 4* are 45 μ to 50 μ long ; the distance *ic 3* — *ic 3* is 88 μ. Coxal setae (I to IV) : 2-3-0-1. The internal coxals II and the coxal IV are spines. *Legs :* Claws IV 25 μ long, the anterior claw is distinctly thicker

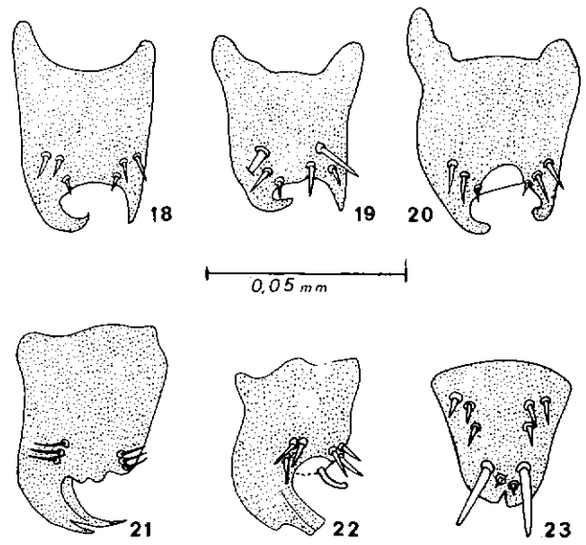

FIG. 18-23. — Genital plate in the males of *Acanthophthirius (Myotimyobia) caudatus caudatus* (Banks) (fig. 18) ; *A. (M.) caudatus eptesicus* ssp. n. (fig. 19) ; *A. (M.) serotinus* Fain (fig. 20) ; *A. (M.) lucifugus* sp. n. (fig. 21); *A. (M.) gracilis* sp. n. (fig. 22) ; *A. (M.) lasiurus* Fain & Whitaker (fig. 23).

than the posterior one. The trochanters II-IV bear 3 setae of wich 1 is a spine. Some of the antero-ventral setae of legs II-IV are strong spines.

FEMALE (fig. 15-17) :

Allotype 525 μ long, 225 μ wide. *Dorsum :* Anterior setae rather thick, the *v e, v i, sc e, sc i* and *l 1* are striate-foliate and 110 μ, 60 μ, 162 μ, 63 μ and 165 μ long. The 3 posterior pairs are strongly lateral (one seta is missing) and 50-60 μ long. *Venter :* The *ic 2, ic 3* and *ic 4* are long with a thick basal part more

or less fusiform. The two internal coxals II and the coxals IV are spines. The *g 1* are 57 μ long and situated in front of the *g 2* which are 69 μ long.

Host and locality :

1) On *Lasiurus borealis* (jow n° 6222), Donnehues, Bedford, Lawrence Co, Ind. U.S.A., 16 Sept. 1970, (holotype male and allotype female).

From the same host (jow n° 4309), from Greene G., 3 mi. SE Jasonville, Ind., 6 Aug. 1967 (1 paratype female).

2) On *Lasiurus cinereus* (jow n° 5604), from Vanderborgh Co, Ind., 29 July 1969 (3 nymphs).

Types : in the U.S. National Museum, Washington.

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REFERENCES

BANKS N., 1910. — New Canadian Mites. *Proc. Ent. Soc. Wash.*, XI : 134, 143 (pl. XII, fig. 19).

DUSBABEK F., 1969. — To the phylogeny of genera of the family Myobiidae (Acarina). *Acarologia,* XI (3) : 537-574.

EWING H.E., 1938. — *Proc. Ent. Soc. Wash.,* 40 : 196-197.

FAIN A., 1972a. — Diagnoses de nouveaux Myobiidae (Acarina : Trombidiformes). *Rev. Zool. Bot. Afr.,* LXXXVI (1-2) : 148-157.

FAIN A., 1972b. — Nouveaux Acariens parasites (Sarcoptiformes et Trombidiformes). *Bull. Ann. Soc. R. Belg. Ent.,* 108 : 242-252.

FAIN A., 1975. — Notes sur quelques nouveaux acariens parasites de Mammifères (Myobiidae : Trombidiformes). *Bull. Ann. Soc. R. Belg. Ent.,* 109 : 216-218.

FAIN A., 1976. — Notes sur des Myobiidae parasites de rongeurs, d'Insectivores et de Chiroptères (Acarina : Prostigmata). *Acta Zool. & Path. Antv.,* 64 : 3-32.

FAIN A. and WHITAKER J.O.J., 1976. — In « FAIN A. 1976 ».

WHITAKER J.O.J., 1973. — External parasites of bats of Indiana. *J. Parasitol.,* 59 : 1148-1150.

YUNKER C., 1957. — The parasitic mites of *Myotis lucifugus. Proc. Helm. Soc. Wash.,* 25(1) : 31-34.