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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)

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THE OCCURRENCE OF THE GENUS *YUNKERACARUS*
IN NORTH AMERICA (ACARINA; EPIDERMOPTIDAE)

BY

Kerwin E. HYLAND, Jr. 2 and David T. CLARK 3 •

FAIN (1957) erected the genus *Yunkeracarus* for a new epidermoptid mite, *Y. muris*, found in the nasal cavities of two species of rodents from Astrida, Ruanda-Urundi. This monotypic genus is separated from other genera in the family *Epidermoptidae* by the presence of small transparent scales on the greater part of the idiosoma of the female, and the absence of adanal copulatory suckers in the male.

A collection of mites from the nasal cavity of *Peromyscus leucopus* from southern Michigan has revealed the presence of *Yunkeracarus* in rodents on the North American continent. The mites taken from *P. leucopus* differ from those described by FAIN and are herein described as new.

Thanks are extended to E. W. BAKER of the United States National Museum for the initial determinations and for the loan of type material.

*Yunkeracarus faini* new species.

*Female.*

(Figures 1-4).

*Idiosoma:* Length 280 microns (gnathosoma excluded); maximum width 196 microns.

*Venter:* Epimera I fused into “Y”, epimera II shorter with free ends, epimera III fusing with IV but not approaching or fusing at the midline. Coxae I and III each bear a single fine seta; two fine subequal setae located in front of each coxa III. Genital apodeme small, much reduced, located at level of coxae III.

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Genital opening an inverted "Y", flanked by two microsetae on each side, and
behind by a similar pair. One pair similar to genital setae located on opisthosoma
nearly equidistant from genital orifice and posterior border of opisthosoma. Anus
nearly terminal, flanked on each side by a long whip-like seta measuring 135 microns
in length. All body setae smooth. Surface of opisthosoma clothed with small
transparent scales; at level of hysterosomal — propodosomal junction two scale-like
structures on each side; remainder of venter smooth.

Dorsum: Entire surface of idiosoma clothed with scales of approximate same
size and shape as on ventral surface. Arising from dorsal surface at level of Leg II
is a transverse row of four fine subequal setae, the propodosomal setae. The two
medial setae lie close together (approximately 8 microns between setal bases)
and the lateral ones are displaced laterally to a position equidistant between median
line and lateral border. Median setae measure 26 and 28 microns, the laterals
18 and 20 microns.

Legs: Leg I — Length from tip of tarsus to point of fusion of apodemes,
146 microns; coxa 36 microns in width, with one fine seta and a posteriorad lobe;
trochanter triangular in shape with one microseta; femur 31 microns wide with
one fine seta located ventrally; genu with one fine seta 25 microns in length on
the ventral postero-lateral aspect, and one microseta; tibia dorsally with one blunt
sensory seta 8 microns long and a ventral microseta; tarsus with one whip seta
50 microns long, a sensory seta 8 microns long, and three microsetae. Arising
at or near tip and projecting ventrally are three claws and an unsegmented pedun-
culate caruncle 14 microns in length; an additional microseta is located at base
of caruncle.

Leg II — length from origin of coxal apodeme to tip of tarsus, 154 microns;
coxa with one microseta; trochanter triangular with one microseta; femur 30 microns
wide with fine ventral seta 29 microns long; genu with one fine seta 28 microns
long on the ventral postero-lateral surface, and an antero-ventral microseta;
tibia with one dorsal sensory seta 8 microns in length, and a ventral microseta;
tarsus with one whip seta approximately 55 microns long, one subterminal sensory
seta, two microsetae, three claws and a pedunculate caruncle.

Leg III — length 145 microns; coxa with one fine seta; trochanter, femur,
and genu without setae; tibia with a microspur and a microseta; tarsus with
one whip seta 70 microns in length on antero-dorsal surface, a terminal microseta,
a postero-ventral microseta, two ventral claws and a caruncle. Leg IV — length
162 microns; coxa, trochanter, femur and genu without setae; tibia with a dorsal
microspur and one ventral microseta; tarsus with a subapical whip seta 72 microns
in length, 2 microsetae, 2 claws and a caruncle.

Gnathosoma: Length 90 microns; palps simple, two-segmented, the basal
segment bearing laterally a fine seta 23 microns in length and ventrally a fine
seta 5 microns long; distal segment small, globose, with one fine seta measuring
22 microns. Chelicerae well developed, strongly chelate.
Y. faini, n. sp.

Fig. 1. Female, ventral view. Fig. 2. Female, dorsal view of propodosoma. Fig. 3. Female, dorsal view of right tibia tarsus I. Fig. 4. Female, ventral view of right tarsus I. Fig. 5. Nymph, ventral view.
**Nymph.**
(Figure 5).

**Idiosoma**: Length (excluding gnathosoma) 207 microns; maximum width 137 microns.

**Venter**: Epimera similar to female, but less heavily sclerotized; coxa I and III with a single fine seta; anterior to coxa III is a pair of fine setae; posterior pair of genital setae only is present; genital apodemes and opening wanting. One pair of minute setae anterior to anal opening. Anus terminal, slit-like, flanked on each side by a thick whip seta 67 microns in length. Integument lacks scales, but faint irregular cross striations are visible. Furrow separating proterosoma and hysterosoma discernible.

**Dorsum**: Lacks cuticular scales but some irregular striations present. Propodosomal setae present, median pair 20 microns long, laterals 17 microns long.

**Legs**: Poorly sclerotized, with relatively few setae; coxae I and III and femora I and II with a single fine seta each; genu I with a single microseta; tibia I, II, III and IV with a microseta each; all tarsi with one subapical whip seta, three ventral claws and a poorly defined caruncle.

**Gnathosoma**: Similar to female with two-segmented palps each bearing a fine seta; chelicerae strongly chelate.

**Material**: Three females and one nymph from the nasal cavity of the white-footed mouse, *Peromyscus leucopus*, taken 5 miles Northeast of the Kellogg Gull Lake Biological Station, Barry County, Michigan on 3 July 1958 by David T. Clark constitute the type material. Holotype and the nymph have been deposited in the United States National Museum, Washington, D.C. One paratype each will be deposited in the Entomological Museum of Michigan State University, and in the collection of the senior author.

**Diagnosis**: *Yunkeracarus faini* can be separated from *Y. muris* on the basis of the differences in the relative lengths of the dorsal propodosomal setae, the median pair in *Y. faini* being longer than the laterals, while in *Y. muris* the reverse is true; and the shorter whip setae on tarsi I and II of *Y. faini*. Of the three female specimens examined the anal setae of *Y. faini* are only slightly shorter than in *Y. muris*.

The posteriorly projecting lobe on coxa I and the two pairs of scales at the proterosomal — hysterosomal junction described for *Y. faini* were found to be present also in the paratype of *Y. muris* examined.

**Discussion.**

*Peromyscus leucopus* is a mouse that is trapped frequently throughout most of its range in North America and is the subject of rather extensive study, yet mites of the genus *Yunkeracarus* have not been reported previously from this...
host. The incidence rate of \( Y. \) \textit{faini} in \( P. \) \textit{leucopus} in the type locality has not been determined, however an attempt was made to collect additional specimens. When the nasal mites were first recovered and noted to be of interest additional collections were made in an effort to collect more mites. Including those hosts collected prior to the discovery of \( Y. \) \textit{faini} a grand total of eighteen hosts was collected from 28 June 1958 to 13 August 1958 but only the one series of four specimens was found. It is evident that \( Y. \) \textit{faini} is not abundant in this locality on the type host at this season. \( Y. \) \textit{faini} is named in honor of Alex FAIN of Antwerp, Belgium in recognition of his work on nasal mites.

Summary.

The genus \textit{Yunkeracarus} known previously only from Africa is reported from North America. A new species, \textit{Yunkeracarus faini} from the nasal cavity of \textit{Peromyscus leucopus} collected in Barry County, Michigan, is described.

LITERATURE CITED