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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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LIMNESIA COOKI N. SP. AND PIONA HABEEBI N. SP.,
TWO NEW SPECIES OF WATER MITES (ACARI : HYDRACHNELLAE)
FROM WESTERN CANADA

BY John C. CONROY *

ABSTRACT : Two new species of lentic water mites (Acari : Hydrachnellae) are
described : Limnesia (Limnesia) cooki n. sp. and Piona habeebi n. sp., from the
Whiteshell Provincial Forest Reserve, Manitoba.

While examining collections made in 1964 and
reported on in CONROY (1968), I came upon two
undescribed species which had been put aside for
future reference. All measurements given are in
refer to the first, second, third and fourth epi-
mera respectively. Paratype measurements are
given in brackets. Bars on the figures represent
100 microns.

Limnesia cooki n. sp.

Female : Length between anterior end of EP-I
and posterior end of genital field 515 (483) ; EP-I
fused to each other ; posterior apodemes of ante-
rior coxal group short (fig. 8) ; suture line bet-
ween EP-III and EP-IV incomplete, with the
Glandula Limnesiae located on EP-III ; epimero-
glandularia 1 attached to EP-III ; genital field,
including pregenital sclerite, 179 (189) in length,
116 (143) in width (fig. 2) ; dorsal lengths of pal-
pal segments (fig. 1) : P-I, lost (32) ; P-II, 221
(242) ; P-III, 147 (157) ; P-IV, 357 (399) ; P-V, 53
(53) ; peg-like seta on P-II very short and not
located on a tubercle ; P-IV with one ventral seta
about mid-way down the segment ; general shape
of palp is a gentle arc or curve ; dorsal lengths of
the distal segments of the first leg (fig. 5) : I-Leg-
4, 137 (147) ; I-Leg-5, 189 (200) ; I-Leg-6, 168
(179) ; dorsal lengths of the distal segments of the
fourth leg (fig. 4) : IV-Leg-4, 210 (221) ; IV-Leg-
5, 242 (267) ; IV-Leg-6, 242 (252) ; subterminal
seta of IV-Leg-6, 137 (110) in length ; IV-Leg-4
with four swimming hairs ; IV-Leg-5 with two
swimming hairs.

Male : Unknown.

Holotype : Adult female (mount WS-14-LL-1),
from Lyon Lake, by the Trans-Canada Highway,

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FIG. 1-4: *Limnesia cooki* n. sp. (1, 2, 4) and *Piona habeebi* n. sp. (3).

1. — Female palp. 2. — Female genital field. 3. — Male palp. 4. — Female IV-leg-5 and IV-leg-6.
FIG. 5-8: *Limnesia cooki* n. sp. (5, 8) and *Piona habeebi* n. sp. (6, 7).

5. — Female I-leg-5 and I-leg-6. 6. — Male III-leg-5 and III-leg-6. 7. — Male, ventral view. 8. — Female, ventral view.
in the Whiteshell Provincial Forest Reserve, Manitoba, on June 3, 1964. Specimen deposited in the Canadian National Collection, Biosystematics Research Institute, Ottawa.

Paratype: Adult female (mount TML-64-01), from Two Mile Lake, Duck Mountain Provincial Park, Manitoba, on July 21, 1964. Specimen in collection of the author.

Discussion: The new species can be readily separated from all other species of Limnesia by the combination of the shape of the palp, the absence of a tubercle for the spine on P-II, and the length of the palpal segments.

Piona habeebi n. sp.

Male: Length between anterior end of EP-I and posterior end of genital field 441; length to posterior end of excretory pore 473; EP-I/EP-II distinctly separated from EP-III/EP-IV; EP-I not contiguous on mid-ventral line (fig. 7); suture lines between EP-III and EP-IV incomplete; posterior corners of EP-IV projecting; genital field 252 wide; acetabular plates with 10-12 acetabula (fig. 7); excretory pore touching but not attached to genital plates; dorsum with one pair of small back plates; dorsal lengths of palpal segments: P-I, 26; P-II, 112; P-III, 55; P-IV, 107; P-V, 47; P-V with two small projections bearing fine setae towards the distal end; figure 3 shows the proportions and chaetotaxy of the palp; dorsal lengths of the distal segments of the third leg (fig. 6): III-Leg-4, 143; III-Leg-5, 182; III-Leg-6, 122; I-Leg-4 and I-Leg-5, each with two swimming hairs; II-Leg-4 and II-Leg-5, each with four swimming hairs; III-Leg-4 with two swimming hairs, III-Leg-5 with one swimming hair; IV-Leg-4 and IV-Leg-5, each with two swimming hairs.

Female: Unknown.

Holotype: Adult male (mount NL-64-06) from Nutimik Lake, Whiteshell Provincial Forest Reserve, Manitoba, on June 6, 1964. Specimen deposited in the Canadian National Collection, Biosystematics Research Institute, Ottawa.

Discussion: P. habeebi is closest to P. conglobata (Koch) and P. conglobatella Cook, differing from them most obviously in the failure of the EP-I to meet on the mid-ventral line; P. habeebi is similar to P. conglobata in the appearance of the EP-III/EP-IV and in the presence of the pair of small plates on the dorsum; but differs from P. conglobata in the non-fusion of the excretory pore to the genital plates, in the much smaller size of EP-III/EP-IV and of the palp; III-Leg-6 is longer in P. habeebi; P. habeebi is similar in size to P. conglobatella, differing in the presence of the pair of small plates on the dorsum; in the appearance of the EP-III/EP-IV; in the size and shape of the genital region; and in the larger size of III-Leg-6 in the new species.

Acknowledgements

Grateful thanks are extended to the National Museum of Canada, Natural History Branch, Ottawa, and the University of Winnipeg, who funded the research.

References
