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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 *

**WESTERN CANADA HYDRACHNELLAE**
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.

**HYDRACHNELLAE DE L’OUEST CANADIEN**
RÉSUMÉ: On décrit deux nouvelles espèces d’acariens aquatiques (Acari : Hydrach­
nellae): Limnesia (Limnesia) cooki n. sp. et Piona habeebi n. sp., trouvées dans
la 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
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 be­
tween EP-III and EP-IV incomplete, with the
Glandula Limnesiae located on EP-III; epimero­
glandularia I 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 habebebi* 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 habebei* 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.

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**References**