

HYADESIA (HYADESIA) NEARCTICA SP.N.
(ACARI, ASTIGMATA, HYADESIDAE)
FROM THE EAST COAST OF U.S.A.

by

A. FAIN (1) and B. GANNING (2)

(received for publication on 29th August 1978)

ABSTRACT

Hyadesia nearctica sp.n. is described from the intertidal zone of south eastern Canada and north eastern USA. The species which is described here has been found by the junior author in tide pools and on upper intertidal rocks in and among green algae all year around.

Genus *Hyadesia* Megnin, 1891

Subgenus *Hyadesia* Megnin, 1891, Fain, 1974

Hyadesia nearctica spec. nov.

It is a large species (female about 500 μ long) bearing a propodosomal shield wider than long. These characters are shared by three other species of *Hyadesia*, e.g. *H. fusca* Lohmann, *H. furcillipes* Bénard and *H. halophila* Fain.

This new species is distinguished from the original description of *H. fusca* in the female by the more anterior situation of the *l 1* setae, the more posterior situation and the smaller length of setae *d 5*, the presence of 3 pairs of anal setae, the much greater length of *d 4* setae. The male is distinguished from that of *H. fusca* mainly by the much greater length of the tarsi III-IV and the presence of a spine on tibiae III-IV.

(1) Institute of Tropical Medicine, Antwerp, Belgium.

(2) Jackson Estuarine Laboratory, UNH, Durham, N.H. USA, present address Department of Zoology, University of Stockholm, Stockholm, Sweden.

H. furcillipes is apparently very close to *H. fusca* and might be a synonym of that species. In the female the ventral chaetotaxy seems to be identical and in the male the tarsi III and IV are very short as in *H. fusca*.

H. nearctica differs from *H. halophila*, in both sexes, by the smaller length of claws I-II, the presence of only 2 pairs of genital setae, the more posterior situation of *d* 5 setae, the more anterior situation of *l* 1 setae, the more elongated shape of tarsi III-IV and the smaller length of setae *d* 2 ($72\ \mu$) and *d* 3 ($72\ \mu$) compared to the *d* 1 setae ($42\ \mu$), and by the shorter length of solenidion *sigma* 1 compared to *sigma* 2. In the female of *H. halophila* the *d* 2, *d* 3 and *d* 1 are $150\ \mu$, $150\ \mu$ and $35\ \mu$ long respectively.

Female (fig. 1-6): Idiosoma in the holotype $510\ \mu$ long, maximum width $365\ \mu$. In 2 paratypes these measurements are $475\ \mu \times 320\ \mu$ and $505 \times 330\ \mu$. None of the specimens are ovigerous. *Dorsum*. Propodosomal shield wider than long. Sejugal furrow poorly developed, incomplete. The cuticle bears a system of narrow grooves connected with a main canal originating on the orifice of the oil gland. Similar structures have been described in other species of *Hyadesia* (Fain, 1974).

Venter: Genital suckers absent. Opisthosoma relatively very long ($280\ \mu$ long). There are 2 pairs of genital setae. Anus termino-ventral. *Legs*: Tarsi I-IV: 30-30-48 and $57\ \mu$ long respectively, maximum width of tarsi II-IV in lateral view 21-15 and $15\ \mu$. Claws I-IV 12-12-27 and $27\ \mu$ (measured in straight line). Pretarsus I-II 36-39 long. Apical spine of tarsi I-II 23 and $27\ \mu$ long respectively.

Chaetotaxy: Length of setae (in microns): *vi* 75; *sc e* 150; *d* 1 42; *sc i*, *d* 2 and *d* 3 72; *d* 4 135; *d* 5 40; *l* 1 50; *l* 2 30; *l* 3 38; *l* 4 72; *l* 5 135; *h* 140. There are 3 pairs of anal setae, the *a* 1 is very short ($15-20\ \mu$), the longest is the *a* 3 ($135\ \mu$). The ventral setae of tibiae I-II are relatively thick spines. Those of tibiae III-IV are narrow spines. Tarsi III-IV with 3 apical spines and 4 apical fine setae.

Solenidia: genu I with two very unequal solenidia, the longest is about 3,5 times longer than the smallest.

Male (fig. 7-11): Allotype $465\ \mu$ long and $360\ \mu$ wide (idiosoma). *Dorsum* as in the female. *Venter*: Epimera II fused with the sternum. Genital organ as in the other species of the genus. The aedeagus is narrow, straight and $30\ \mu$ long. There are 2 pairs of genital setae. There are only 2 pairs of anal setae. *Legs*: Tarsi I-IV 18-32-48 and $52\ \mu$ long respectively. Claws I-IV 13-15-30- $30\ \mu$ long. Apical spine of tarsi I and II $27\ \mu$ and $33\ \mu$ long. Tibiae I-II with a thick ventral spine, tibiae III-IV with a narrow ventral spine. Tarsi III and IV with a large apical sucker, 3 apical short spines and 3 subapical fine setae. An apical sucker is also present on tarsus I.

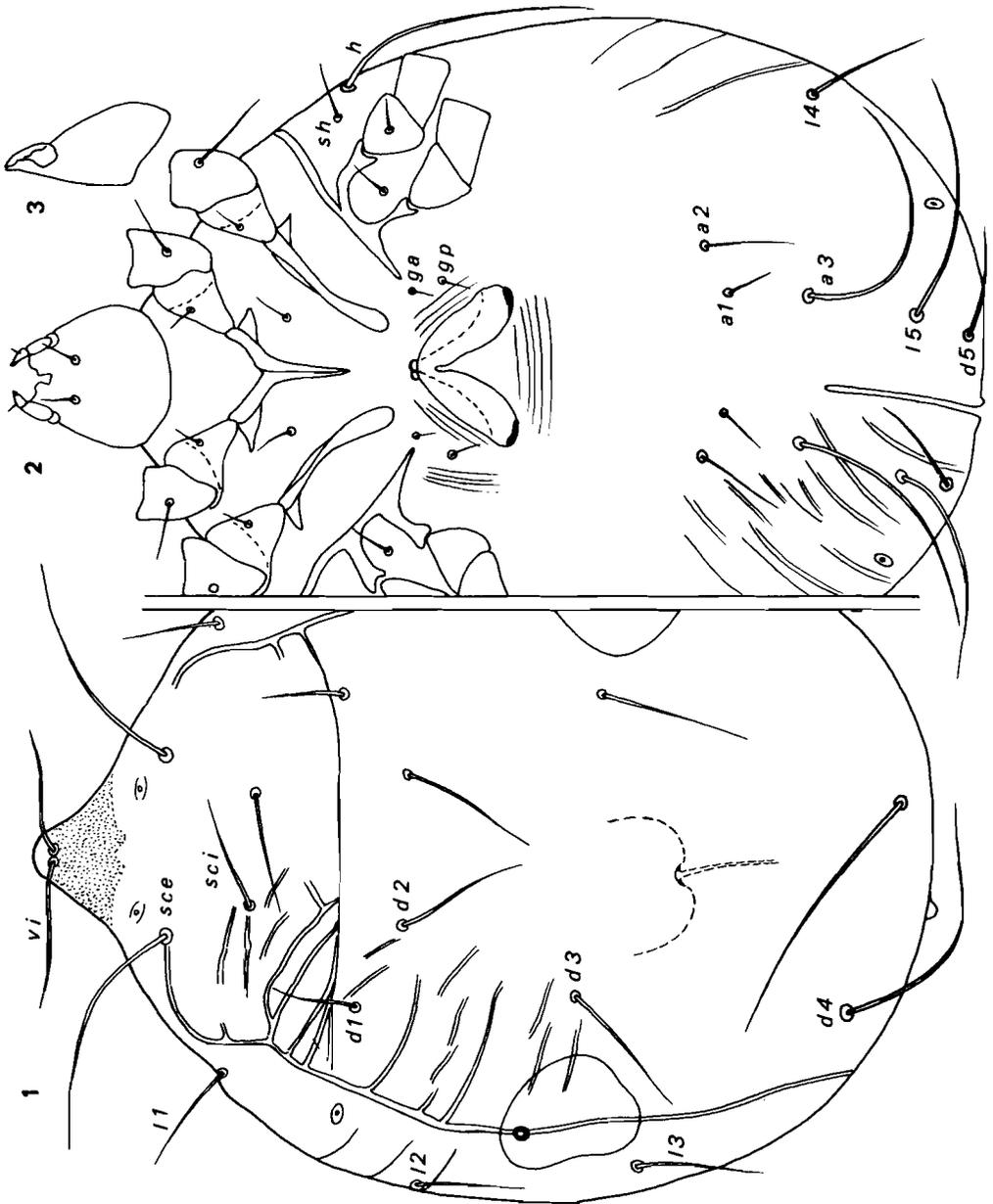


Fig. 1 - 3 - *Hyadesia nearctica* sp.n. Female : 1. Dorsum; 2. Venter; 3. Chelicera.

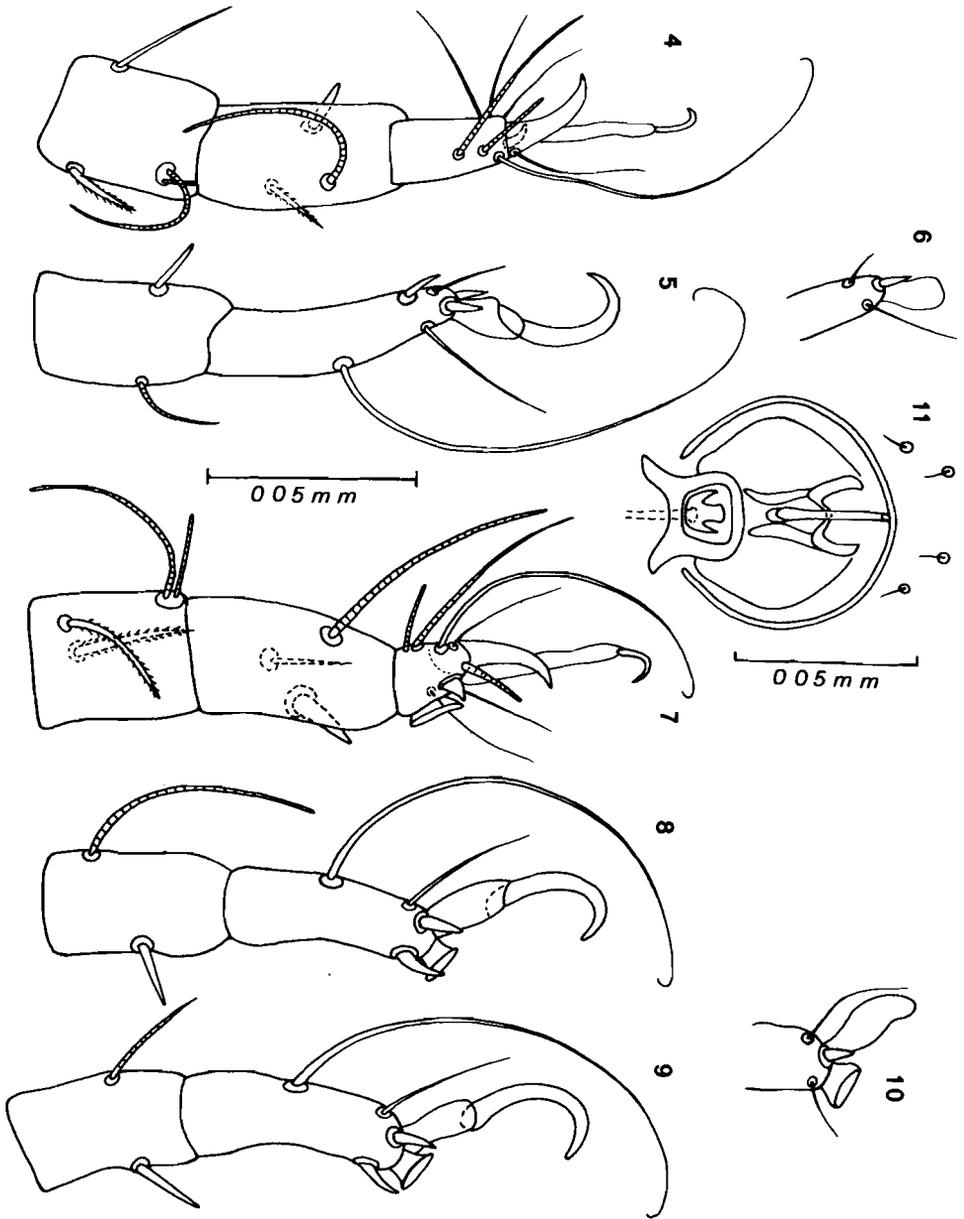


Fig. 4 - 11 - *Hyadesia nearctica* sp.n. - 1-6. Female : 4. Genu, tibia and tarsus I, dorsally; 5. Tibia and tarsus IV, anterior view; 6. Apex of tarsus IV, posterior view. 7-11. Male : 7. Genu, tibia and tarsus I in dorsolateral view; 8. Tibia and tarsus III, anterior view; 9. Tibia and tarsus IV in anterior view; 10. Apex of tarsus IV in posterior view; 11. Genital organ.

Habitat and locality

All the mites were found among green algae mainly *Enteromorpha* spp., where the mites occur inside the algal tubes as well as on the outside, and on *Spongomorpha arcta* (Dillwyn) Kützing in high tide pools but also sometimes on green algae on the upper intertidal slope of the coast from Saint John, New Brunswick, Canada throughout the coast of Maine, New Hampshire to Cape Ann, Massachusetts, USA.

(Holotype and 12 paratypes female, allotype and 5 paratypes male, 8 nymphs).

REFERENCES

- BENARD, F., 1961. Sur deux nouvelles espèces d'acariens marins *Hyadesia tumida* et *Hyadesia furcillipes* : sous-ordre des Sarcoptiformes, famille des Hyadesidae. Cahiers de Biologie Marine, II : 71-96.
- FAIN, A., 1975. Acariens récoltés par le Dr. J. Travé aux îles subantarctiques. I. Familles Saprogllyphidae et Hyadesidae (Astigmates). Acarologia XVI (4) : 684-708.
- FAIN, A., 1975. Deux nouvelles espèces du genre *Hyadesia* récoltés par le Dr. J. Travé aux îles Saint-Paul et Nouvelle-Amsterdam (Astigmates : Hyadesidae). Acarologia XVII (1) : 153-159.
- LOHMANN, H., 1894. *Lentungula fusca* sp.n. eine marine Sarcoptide. Wiss. Meeresunters I, 1 : 44-90, pl. IV.