

Notes on Hyadesiid mites (Acari, Hyadesiidae) from North America with description of a new species

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Summary

A list of all the known species of Hyadesiidae (Acari, Astigmata) found in North America is provided. A new species, *Hyadesia (Hyadesia) sanjuanensis* is described from San Juan Island, close to the Friday Harbor Marine Laboratory, on the Pacific coast. New drawings of the male of *Hyadesia (Hyadesia) fusca* (LOHMANN, 1894) are given.

Key-words : Taxonomy - Acari - Hyadesiidae - North-America.

Résumé

Les auteurs donnent une liste des espèces d'Hyadesiidae (Acari, Astigmata) connues d'Amérique du Nord. Une nouvelle espèce, *Hyadesia (Hyadesia) sanjuanensis* est décrite de l'île San Juan, près du Friday Harbor Marine Laboratory, sur la Côte Pacifique. De nouvelles figures sont données du mâle de *Hyadesia (Hyadesia) fusca* (LOHMANN, 1894).

Mots-clefs : Taxinomie - Acari - Hyadesiidae - Amérique du Nord.

Introduction

We describe herein a new species of Hyadesiidae (Acari, Astigmata) collected by B.G. in the intertidal region of San Juan Island, near Friday Harbor, Washington State, U.S.A. It is represented by a single male which was mixed with several specimens of *Amhyadesia glynni* (MANSON, 1963) a species known until now only from its typical locality, i.e. the Pacific Grove in California.

As the male of *Hyadesia sanjuanensis* n. sp. is close to that of *H. fusca* (LOHMANN, 1984) we take the opportunity to provide new drawings of the male of the latter.

All the measurements given herein are in micrometers (μm).

HYADESIIDAE RECORDED FROM NORTH AMERICA

The following species have been recorded until now from North America. All were found in the intertidal area of the littoral coast.

Atlantic coast

1. *Hyadesia (Hyadesia) nearctica* FAIN & GANNING, 1978
The mites were found mainly among green algae *Enteromorpha* sp. and on *Spongomorpha arcta* from Saint John, New Brunswick, Canada, throughout the coast of Main, New Hampshire to Cape Ann, Massachusetts, U.S.A.

2. *Hyadesia (Hyadesia) fusca* (LOHMANN, 1894) (= *Hyadesia furcillipes* BERNARD, 1961, FAIN, 1981)
This species is very common in all the countries of North-

Fig. 1. - *Hyadesia (Hyadesia) sanjuanensis* n.sp. : Male in ventral view.



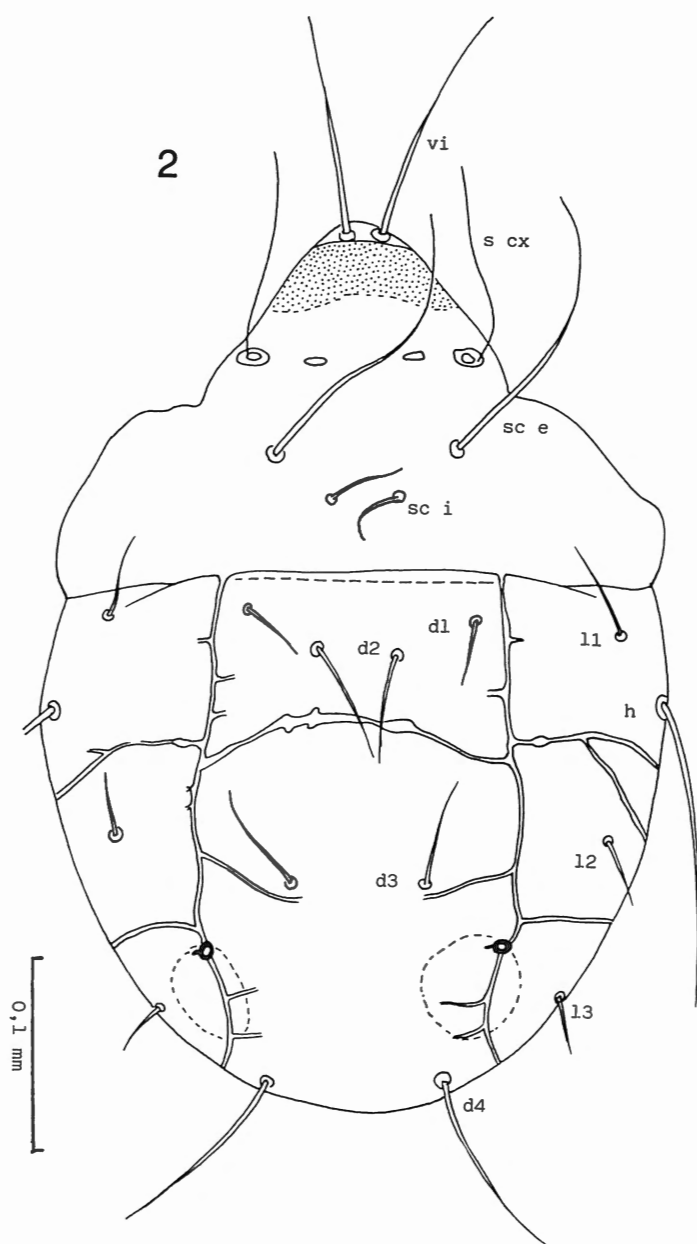


Fig. 2. — *Hyadesia (Hyadesia) sanjuanensis* n.sp. : Male in dorsal view.

Western Europe, including North of France. Recently, it has been recorded for the first time from the Atlantic coast of the U.S.A. The mites were found from two different places, i.e. in the Woods Hole area, Massachusetts (22 February 1976) and on concrete blocks in Long Island (Mosquito Cove), New York Coll. n° R-998; 8 October 1970). All the mites were collected by Dr R. Schuster (see Fain and Schuster, in press).

Pacific coast

3. *Amhyadesia glynni* (MANSON, 1963)

This species was described from the interstices of the intertidal barnacle *Balanus glandula* at Hopkins Marine

Station, Pacific Grove, California (December 1961). Several specimens (4 females and 3 nymphs) were found by B.G. on the coast of San Juan Island, close to the borders of Canada (9-10 October 1982).

4. *Amhyadesia californica* FAIN & GANNING, 1979

The typical series was found on rocks among green algae *Rhizoclonium implexum*, in rocky tide pools just below high tide level. Locality: Leo Carillow, Beach, (between Santa Monica and Ventura), California. This locality is situated at 380 km SSE of Pacific Grove where *H. glynni* had been collected.

5. *Hyadesia (Hyadesia) sanjuanensis* n. sp.

This species is represented by a single male found in the intertidal zone of San Juan Island, near Friday Harbor, Washington State. It was mixed with several specimens of *Amhyadesia glynni*.

Bermuda Islands

6. *Amhyadesia bermudana* FAIN & SCHUSTER, 1983

This species was very common in numerous localities of Bermuda Is.

7. *Amhyadesia atlantica* FAIN & SCHUSTER, 1983

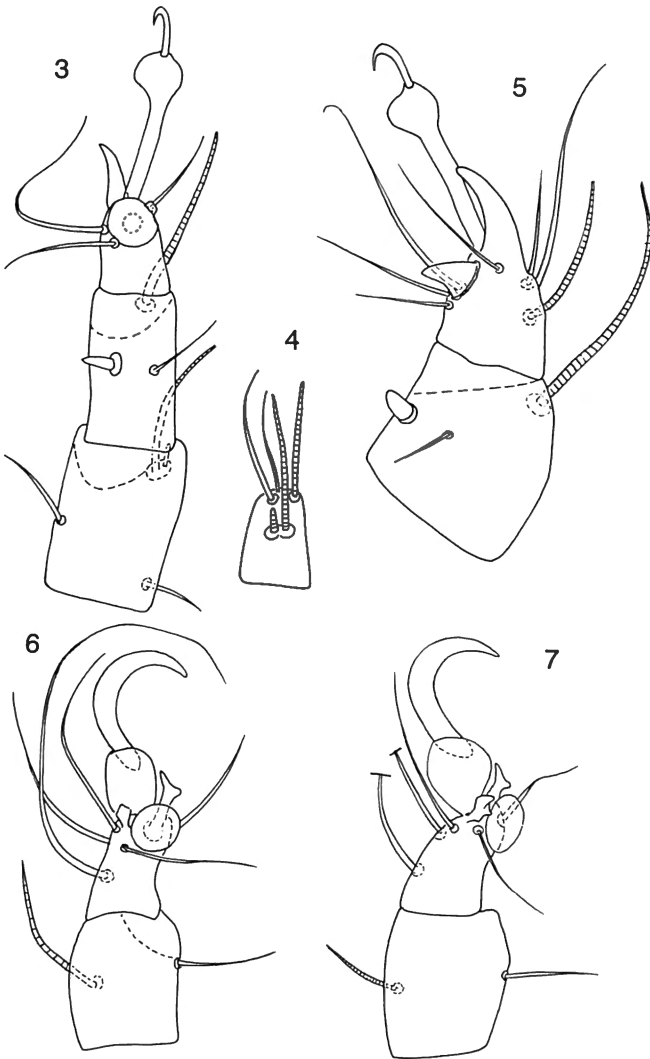
Less frequent than *A. bermudana*.

Hyadesia (Hyadesia) sanjuanensis nov. spec.

Male, holotype (figs. 1-7): Idiosoma 465 long and 318 maximum wide. *Dorsum*: Propodonal shield wider (80) than long (36 in midline), with posterior border concave. Oil groves well developed, united in the midline and ending anteriorly at the sejugal furrow. Length of setae: *vi* 118; *sc e* 150; *sc i* 45; *d1* 39; *d2* and *d3* 60; *d4* 100; *l1* 45; *l2* 40; *l3* 30; *h* 165. All these setae are flexible and finely attenuated apically. The *s cx* are thin and bear indistinct barbs, they are 100 long. *Venter*: Sternum fused posteriorly with the epimera II. Epimera III and IV free. Genital organ 45 wide, flanked by one seta at one side and 2 setae at the other side. Length of setae: *sh* 38; *a2* 25; *a3* 65; *d5* 36; *l4* 36; *l5* 240 (incomplete). *Gnathosoma*: 100 long (palps included). Chelicerae 102 long. Grandjeand's organ thick, curved, 55 long. *Legs*: Length and maximum width of tarsi I-IV: 30 × 21; 34 × 33; 38 × 24; 39 × 24. In a male specimen of *fusca* from Ostend these measurements are the followings: 31 × 30; 39 × 36; 25 × 25; 25 × 25. Lengths of *claws* I-IV (measured in straight line): 15-16-38-38. In a male of *H. fusca* these lengths are: 22-26-36-36. The tarsi III and IV are relatively longer in *H. sanjuanensis* than in *H. fusca* and they bear a modified bifid apical spine whilst in *H. fusca* this spine is simple.

Habitat

Holotype male and only known specimen, from the intertidal zone of the coast of San Juan Archipelago, close to



Figs. 3-7. — *Hyadesia (Hyadesia) sanjuanensis* n.sp. Male: Genu, tibia and tarsus I in ventral view (3); tarsus I in dorsal view (4); tibia and tarsus II in lateral view (5); tibia and tarsus III in lateral view (6); tibia and tarsus IV in lateral view (7).

the Friday Harbor Marine Lab. of University of Washington, State of Washington, on the border of Canada. The mite was attached to algae and associated with 7 specimens of *Amhyadesia glynni*.

Holotype in the Institut royal des Sciences naturelles de Belgique.

Remarks

H. sanjuanensis is the most close to *H. fusca*. It is distinguished from this species by the following characters:

1. Tarsi III and IV distinctly longer than tarsi I and slightly longer than tarsi II and about 1,6 times as long as wide. In a male of *H. fusca* (from Ostend) the tarsi III and IV are distinctly shorter than tarsi II and slightly shorter than tarsi I and the ratio length: width in tarsi III and IV is approximately 1.
2. Anterior claws distinctly shorter than in *H. fusca*, whilst the posterior claws are subequal in both species.

3. Tarsi III-IV with a bifid spine. This spine is simple in *H. fusca*.
4. Legs II relatively much thicker than in *H. fusca*.
5. The two solenidia of genu I are strongly unequal (ratio 1:5). In *H. fusca* the ratio is 1:3.
6. Setae *s cx* with only very few and very short barbs. In *H. fusca* these barbs are more numerous and longer.
7. Setae *a3* relatively shorter than in *H. fusca* (66 long, instead of 130 in *H. fusca*).

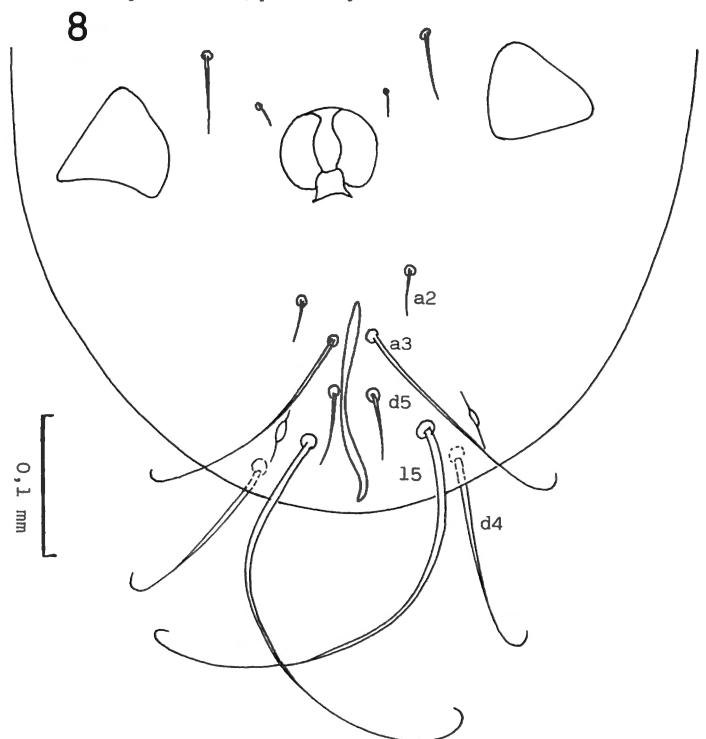
Hyadesia (Hyadesia) fusca (LOHMANN, 1894)
Hyadesia furcillipes BENARD, 1961; FAIN, 1981
 (Figs. 8-13)

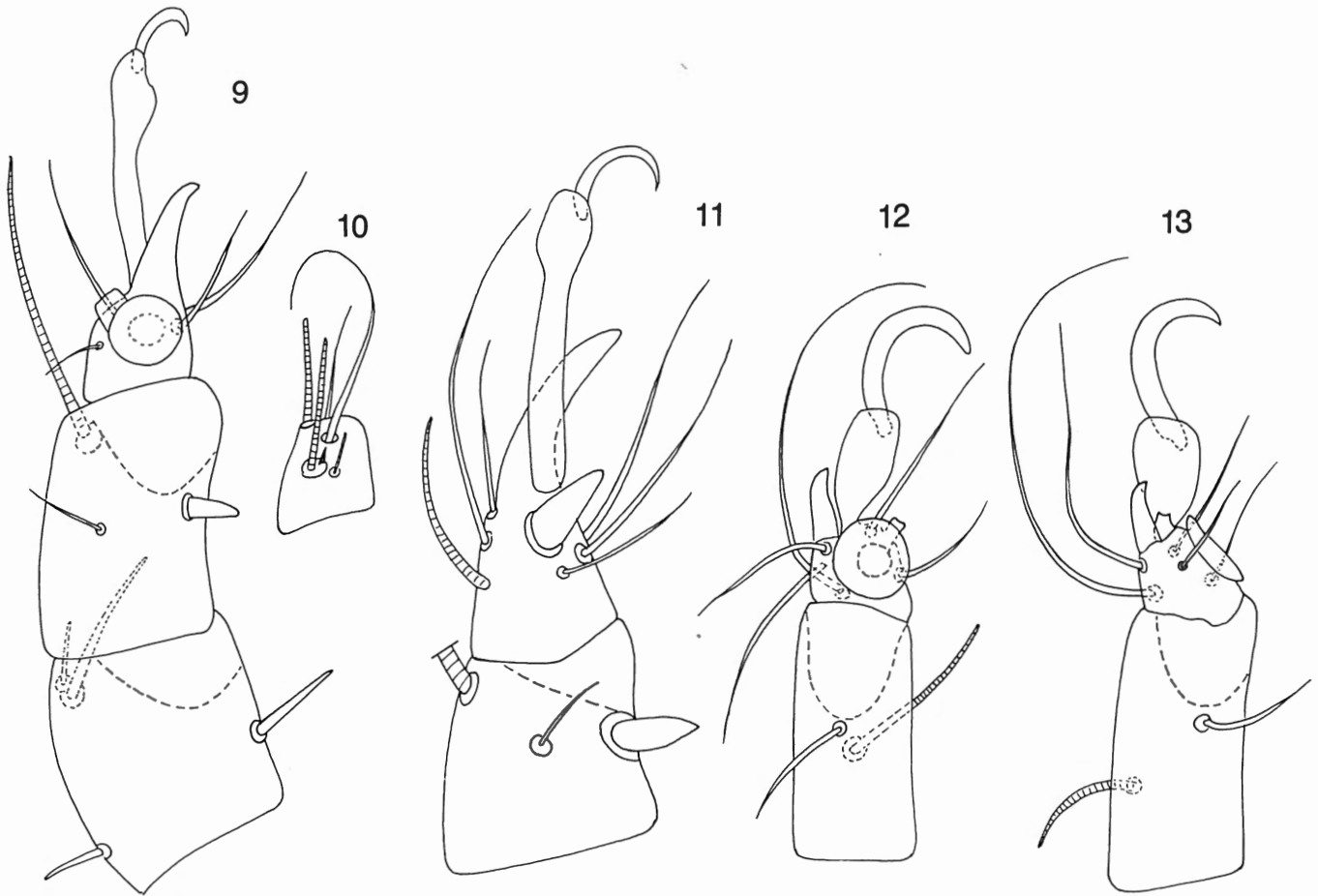
Hyadesia (Hyadesia) fusca is very common in all the countries of North-West Europe. It has been recorded from Germany, Sweden, Norway, Finland, Ireland, England, The Netherlands, Belgium and France. In France it has been found only on the coasts of Normandy-Cotentin. Investigations in the more Southern parts of the Atlantic littoral of France (Brittany, Biarritz) were unsuccessful (FAIN, 1981 and unpublished).

Recently we have recorded this species from two places of the Atlantic coast of the U.S.A. (see above).

We give herein new drawings of the male of *H. fusca* allowing to separate this species from *H. sanjuanensis*.

Fig. 8. — *Hyadesia (Hyadesia) fusca* (Lohmann): *Opisthogaster* of the male (specimen from Ostend).





Figs. 9-13. – *Hyadesia (Hyadesia) fusca* (Lohmann) : Male. Genu, tibia and tarsus I in ventro-lateral view (9); tarsus I dorsally (10); tibia and tarsus II in lateral view (11); tibia and tarsus III in ventral view (12); tibia and tarsus IV in ventral view (13).

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