

# ZOOLOGISCHE MEDEDELINGEN

UITGEGEVEN DOOR HET

RIJKSMUSEUM VAN NATUURLIJKE HISTORIE TE LEIDEN  
(MINISTERIE VAN CULTUUR, RECREATIE EN MAATSCHAPPELIJK WERK)

Deel 54 no. 10

5 oktober 1979

---

## NOTES ON THE *HYADESIA* SPECIES (ACARI, ASTIGMATA, HYADESIDAE) OF THE OUDEMANS COLLECTION, WITH A REDESCRIPTION OF *HYADESIA VIETSI* WOMERSLEY, 1961

by

A. FAIN

Instituut voor Tropische Geneeskunde "Prins Leopold", Antwerpen, Belgium  
With seven text-figures

### INTRODUCTION

The mites of the genus *Hyadesia* are of cosmopolitan distribution. They live in the intertidal area where they feed mainly on algae in salt water.

Up to now 16 species have been described in this genus. Most of these species have been inadequately described and it is generally very difficult to recognize them from the original description and figures.

Through the courtesy of Dr. L. van der Hammen of the Leiden Museum, we were able to examine the hyadesid mites conserved in that Museum.

The present paper is devoted to the study of this collection. It allows us to redescribe *Hyadesia vietsi* Womersley, 1961, and to record some new localities for *Hyadesia fusca* (Lohmann, 1894).

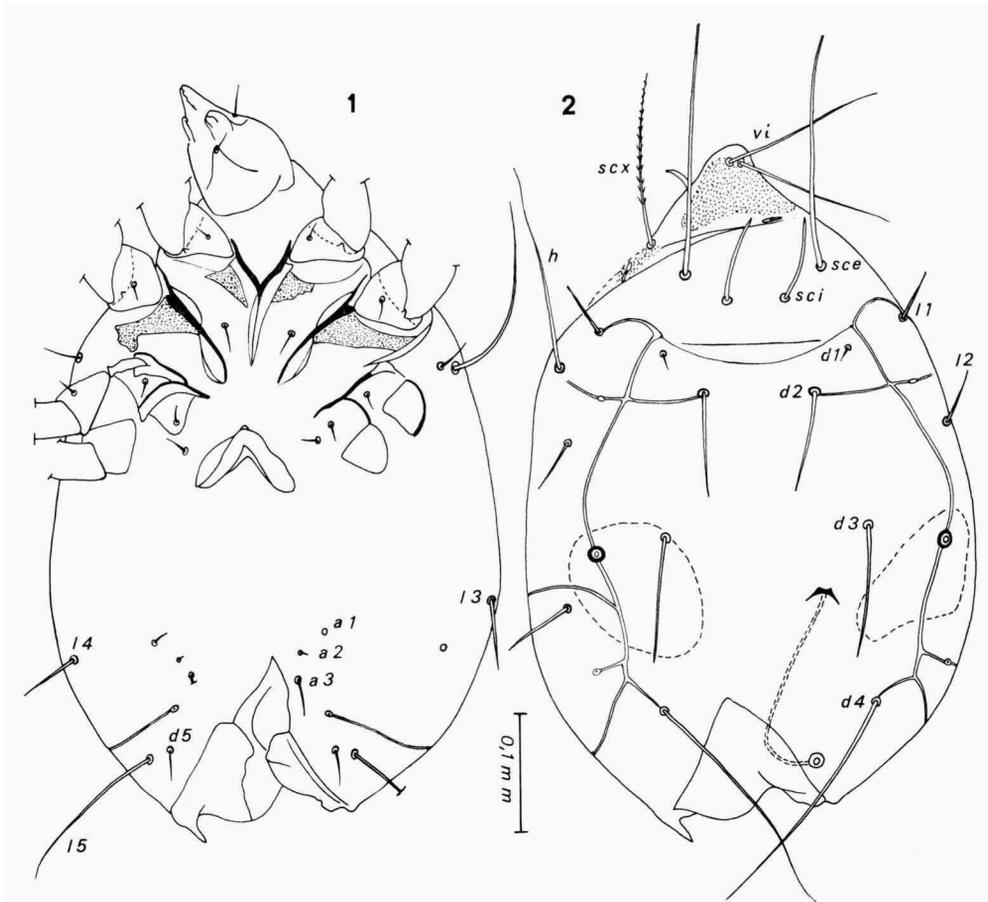
### ***Hyadesia vietsi* Womersley, 1961 (figs. 1-7)**

This species is known after two female specimens. The holotype is in the Rijksmuseum van Natuurlijke Historie at Leiden, the paratype in the South Australian Museum.

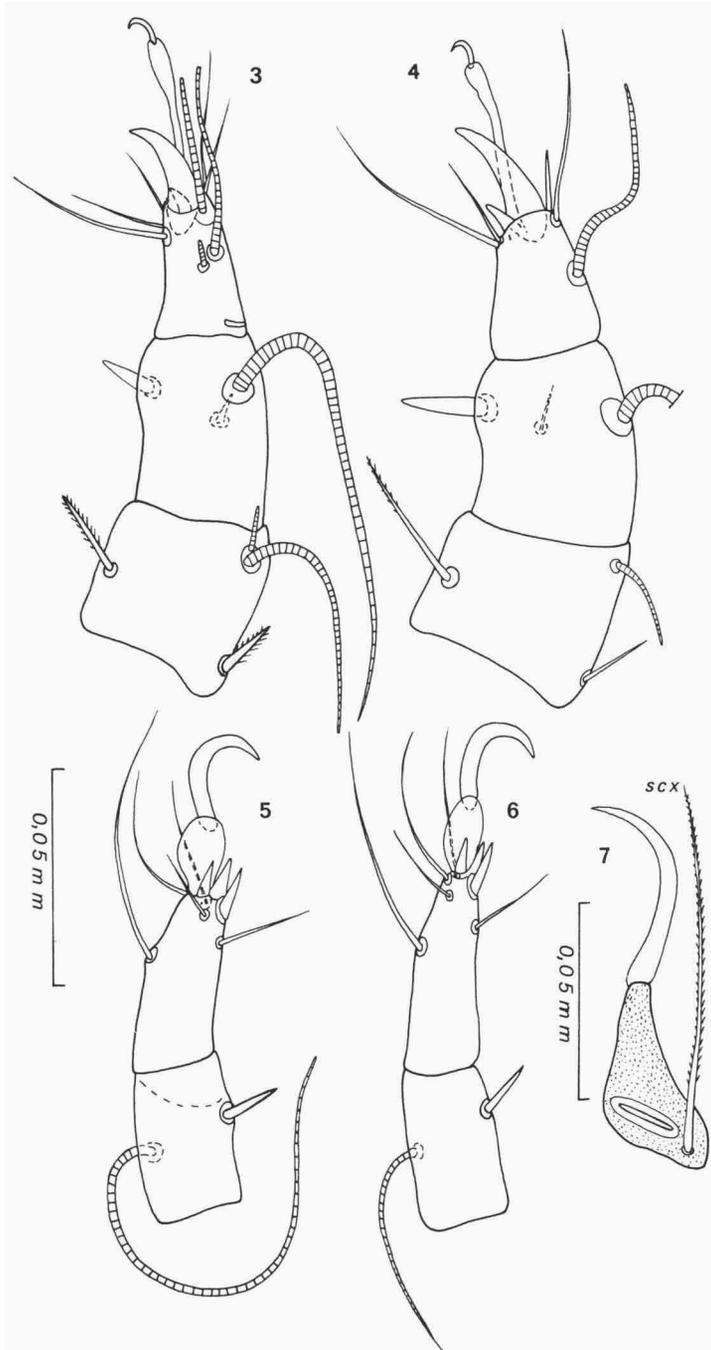
Redescription of the female holotype (figs. 1-7). — Length of idiosoma 560  $\mu$ , maximum width 375  $\mu$ . Dorsum: Propodosomal shield wider than long. The cuticle behind this shield is soft. There is a small depression behind the *sc i* and *sc e* setae, representing a vestigial sejugal furrow. Oil glands very large. From the orifice of the oil-gland arise, at each side, two narrow and shallow furrows, one directed anteriad, the other posteriad. These two furrows present several branches, some of them ending into oval symmetrical orifices. A similar structure of oil furrows has already been described in other species of *Hyadesia* (Fain, 1975).

Venter: Genital suckers not observed. Anus termino-ventral.

Length of dorsal and ventral setae (in  $\mu$ ): *vi* 135; *sce* 210; *sci* 75; *d1* 13; *d2* 90; *d3* 108; *d4* 205; *d5* 25; *l1* (?) 57; *l2* 45; *l3* 60; *l4* 48; *l5* 135; *h* 165. In front of anus there are two pairs of small and one pair of larger pores. They represent the insertion bases of setae. In the drawing of Womersley there is only one pair of preanal setae as long as the *d5* setae. Vulva small. There are two pairs of genital setae. There is a thick barbed supracoxal seta 90  $\mu$  long. Legs (length, apical spine not included): tarsi I-IV 36  $\mu$  - 33  $\mu$  - 42  $\mu$  - 46  $\mu$  long, respectively. Claw I-II 9-10  $\mu$  long; claws III-IV 24  $\mu$  long. Tarsus I with 5 simple setae and 2 unequal spines; tarsus II with 4 thin setae and 2 spines; tarsi III-IV with 5 thin setae and 3 apical spines. Tibiae I-II with a strong ventral spine, that of tibia II



Figs. 1-2. *Hyadesia vietsi* Womersley. Female in ventral (1) and dorsal view (2) (N.B.: drawing made after the holotype and the paratype).



Figs. 3-7. *Hyadesia vietsi* Womersley. Female: Tarsus, tibia and genu of legs I (3) and II (4); tarsus and tibia III (5) and IV (6); supracoxal seta and Grandjean's organ (7) (N.B.: drawing made after the holotype and the paratype).

stronger than that of tibia I. Tibia III with a ventral spine (broken); tibia IV with a ventral spine thinner than on tibia III.

Description of the paratype. — This specimen in in good condition except the posterior part of opisthosoma, which is crushed. Length approximately 525  $\mu$ . Dorsum as in the holotype. Length of setae (in  $\mu$ ): *vi* 140; *sc e* 250; *sc i* 80; *d 1* 12; *d 2* 90; *d 3* 120; *d 4* 210; *d 5* 30; *l 1* 51; *l 2* 45; *l 3* 60; *l 4* ?; *l 5* 150; *h* 168. Venter: There are three pairs of anal setae: the seta *a 1* is very thin and 10-15  $\mu$  long; the *a 2* is also thin but broken near its base; the *a 3* is 30  $\mu$  long and slightly thicker than *d 5*. Vulva and epimera as in the holotype. The *scx* setae are barbed and 85  $\mu$  long. Legs as in the holotype. The ventral spine of tibia III is distinctly thicker than the ventral spine of tibia IV. Solenidia of tibiae I-IV; 120  $\mu$  - 120  $\mu$  - 105  $\mu$  - 45  $\mu$ .

Systematic position of *H. vietsi*. — This species may be recognized by the combination of the following characters (in the female): 1. Propodosomal shield wider than long. 2. Supracoxal seta very long (90-100  $\mu$ ) and shortly barbed. 3. Two pairs of vulvar setae. 4. Three pairs of anal setae. 5. Cylindrico-conical shape of most of the dorsal setae. 6. Tarsi III-IV more than twice as long as wide. 7. Ventral spine of tibia III thicker than that of tibia IV. 8. Claws I-II 9-10  $\mu$  long; claws III-IV 24  $\mu$  long. 9. Long solenidia on tibiae I-IV.

Host and locality. — The species has been described after two females collected by Dr. L. Van der Hammen, in Biak Island, former Dutch New Guinea (10.xii.1953). The mites were found on *Cladophora socialis* and Red Algae on the stones in the intertidal zone on the south coast of the Island. The holotype is deposited in the Rijksmuseum van Natuurlijke Historie, Leiden; the paratype (N<sup>o</sup> Ara 761) in the South Australian Museum.

### **Hyadesia fusca** (Lohmann, 1894)

This species is represented in the Oudemans Collection by the following material:

1. On *Enteromorpha*, from Heligoland, which is the typical locality for *H. fusca*. In the Oudemans Collection we have seen 8 slides of *H. fusca* containing females, nymphs and larvae. These slides are labelled as follows: "*Lentungula algivorans* Mich. 1893. In *Enteromorpha*, Helgoland, 1926 or 1925, Karl Viets". In some of these slides the name *Lentugula fusca* Lohmann, 1894, has been changed in *Lentugula algivorans* Michael. The registrar number of these slides is n<sup>o</sup> 3576.

2. In algae in Scheveningen, Netherlands ("op kop der palen zeeveringen"), August 1919. Collected by J. E. C. Loman. The slide contains one

nymph of a *Hyadesia* sp., labelled "*Lentungula algivorans* Michael, 1893". (See Oudemans, 1927).

It seems that Oudemans did not accept the validity of *Hyadesia fusca*, which he considered a synonym of *H. algivorans* (Michael, 1893).

The type of *Hyadesia algivorans* (Michael, 1893) is not in the collection of the British Museum. The status of that species remains therefore uncertain until new material can be examined from the typical locality (Land's End). Recently we have found in Oostende, Belgium, numerous hyadesid mites corresponding with the specimens from Heligoland. They were attached to the green algae on stones in the intertidal area.

#### ***Hyadesia fusca tenuipilis* subsp. nov.**

This new subspecies differs from the typical form by the shorter length of the legs and the solenidia and the size of most of the setae, which are thinner and shorter.

Holotype female: idiosoma 550  $\mu$  long and 350  $\mu$  wide. A paratype is 580  $\mu$  long. Tarsi I-IV 30  $\mu$  - 30  $\mu$  - 50  $\mu$  - 60  $\mu$  long respectively. Claws I-IV 19  $\mu$  - 19  $\mu$  - 36  $\mu$  - 38  $\mu$  (in straight line). Setae: *sci* 45  $\mu$ , *d 1* 30  $\mu$ ; *d 2* 60  $\mu$ ; *d 3* 35-45  $\mu$ ; *d 4* 90  $\mu$ ; *d 5* 30  $\mu$ ; *a 1* 21  $\mu$ ; *a 2* 27  $\mu$ ; *a 3* 105  $\mu$ ; *l 1* 30  $\mu$ ; *l 5* 220  $\mu$ . Solenidia: *sigma 1* and *2* (leg I) 38 and 12  $\mu$ ; *phi* (leg I) 58  $\mu$ . In a female specimen of *H. fusca* from Heligoland these measurements are: *sci* 45-50  $\mu$ ; *d 1* 30  $\mu$ ; *d 2* 75  $\mu$ ; *d 3* 66  $\mu$ ; *d 4* 150  $\mu$ ; *d 5* 55  $\mu$ ; *a 1* 30  $\mu$ ; *a 2* 30  $\mu$ ; *a 3* 135  $\mu$ ; *l 1* 39  $\mu$ ; *l 5* 240  $\mu$ , *sigma 1* and *2* (leg I) 45 and 15  $\mu$ ; *phi* (leg I) 75  $\mu$ .

Locality. — On subsaline algae, from Abo-Finland. There are three slides in the Oudemans Collection containing females and nymphs. The mites were collected in August or September 1900 by A. R. Spooof. The slides are labelled "*Lentungula algivorans* Michael, 1893". Holotype female in the Oudemans Collection.

#### ACKNOWLEDGEMENTS

We thank Dr. L. van der Hammen who sent us the Oudemans material for our study. We are also grateful to Mr. D. C. Lee, South Australian Museum, for the loan of the paratype of *Hyadesia vietsi*.

#### REFERENCES

- FAIN, A., 1975. Acariens récoltés par le Dr. J. Travé aux îles subantarctiques. I. Familles Saprogllyphidae et Hyadesidae (Astigmates). — *Acarologia*, 16(4): 684-708.
- LOHMANN, H., 1914. *Lentungula fusca* sp.n., eine marine Sarcoptide. — *Wiss. Meeresunters*, 1: 85-90.
- OUDEMANS, A. C., 1927. [Mededeling over Acari.] — *Tijdschr. Ent.*, 70: lxx-lxxvi.
- WOMERSLEY, H., 1961. New species of Acarina from the intertidal zone in Netherlands New Guinea. — *Zool. Meded.*, 37 (12): 204-209.