

**HYADESIA AUSTRALIANA**

sp. n. (Astigmata, Hyadesiidae)

FROM SOUTH-EASTERN AUSTRALIA\*

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by A. FAIN\*\* and R. SYNNOT\*\*\*

**Abstract**

A new species of *Hyadesia*, subgenus *Hyadesia*, *H. australiana* is described from algae at lower intertidal levels at Gunnamatta Beach, Victoria.

The new species which is described here was discovered by the junior author on the alga *Gelidium pusillum* at low intertidal levels at the Western end of Gunnamatta Beach, Mornington Peninsula, near Melbourne, Victoria, Australia. It belongs to a group of species characterized by the shape of the propodonal shield which is wider than long, and the small development of the setae *sc i*. It is distinguished from the two species of this group by several important characters.

FAMILY HYADESIIDAE

Genus *Hyadesia* MEGNIN, 1891

Subgenus *Hyadesia* MEGNIN, 1891 (Fain, 1974)

***Hyadesia (Hyadesia) australiana* sp.n.**

*Female* : (Fig. 1, 2, 5-9) : Holotype 408  $\mu$  long and 255  $\mu$  wide (idiosoma). In 4 paratypes these measurements are : 430  $\times$  270  $\mu$  ; 475  $\times$  275  $\mu$ , 455  $\times$  304  $\mu$ , 458  $\times$  285  $\mu$ . *Dorsum* : Propodono-

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FIG. 1. — *Hyadesia australiana* sp. n. Female in ventral view.

tal shield much wider ( $75\ \mu$ ) than long ( $27\ \mu$ ) in the midline. A system of oil-grooves is present on hysteronotum, as in the other species of the genus. Orifice of the bursa very small and situated  $40\ \mu$  in front of posterior extremity. *Venter* : Anus ventro-terminal.

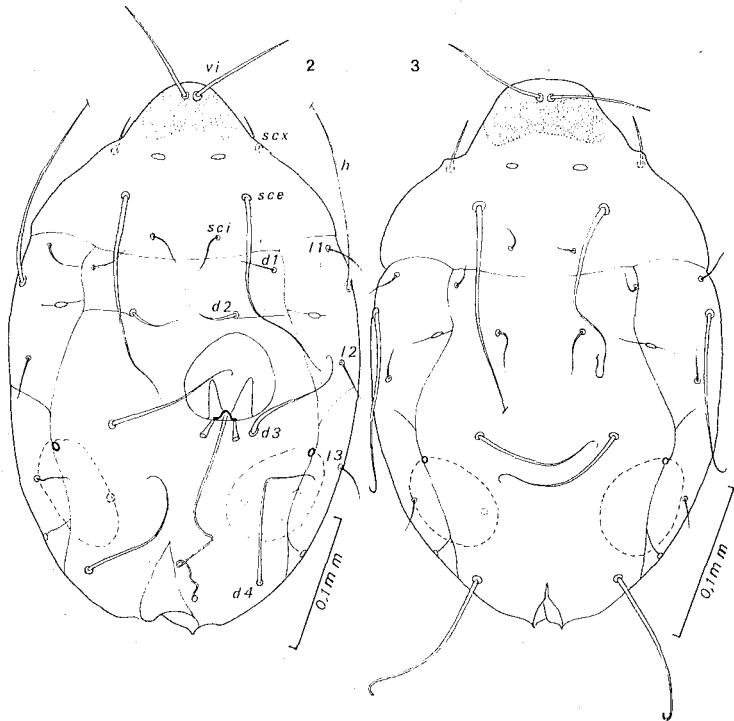


FIG. 2-3. — *Hyadesia australiana* sp. n. : - 1, Female in dorsal view ;  
- 2, Male in dorsal view.

There are 3 pairs of short anal setae and 2 pairs of short genital setae. Genital suckers absent. Sternum long, free. Epimera II long, free. Epimera III and IV fused to the epimerite II which is long. Bursa long ( $130\ \mu$ ) ; spermatheca with a distinct and characteristic pattern. *Legs* : Tarsi I-IV  $30\ \mu$  -  $27\ \mu$  -  $39\ \mu$  and  $43\ \mu$  long respectively (apical spine and pretarsus not included). Claws I-II  $12\ \mu$  long, their pretarsus  $33\ \mu$  and  $36\ \mu$  long ; Claws III-IV  $31\ \mu$  long, with a pretarsus of  $12$  -  $14\ \mu$  long, Gnathosoma  $75\ \mu$  long,  $63\ \mu$  wide (palp included). Grandjean's organ well developed,  $30\ \mu$  long.

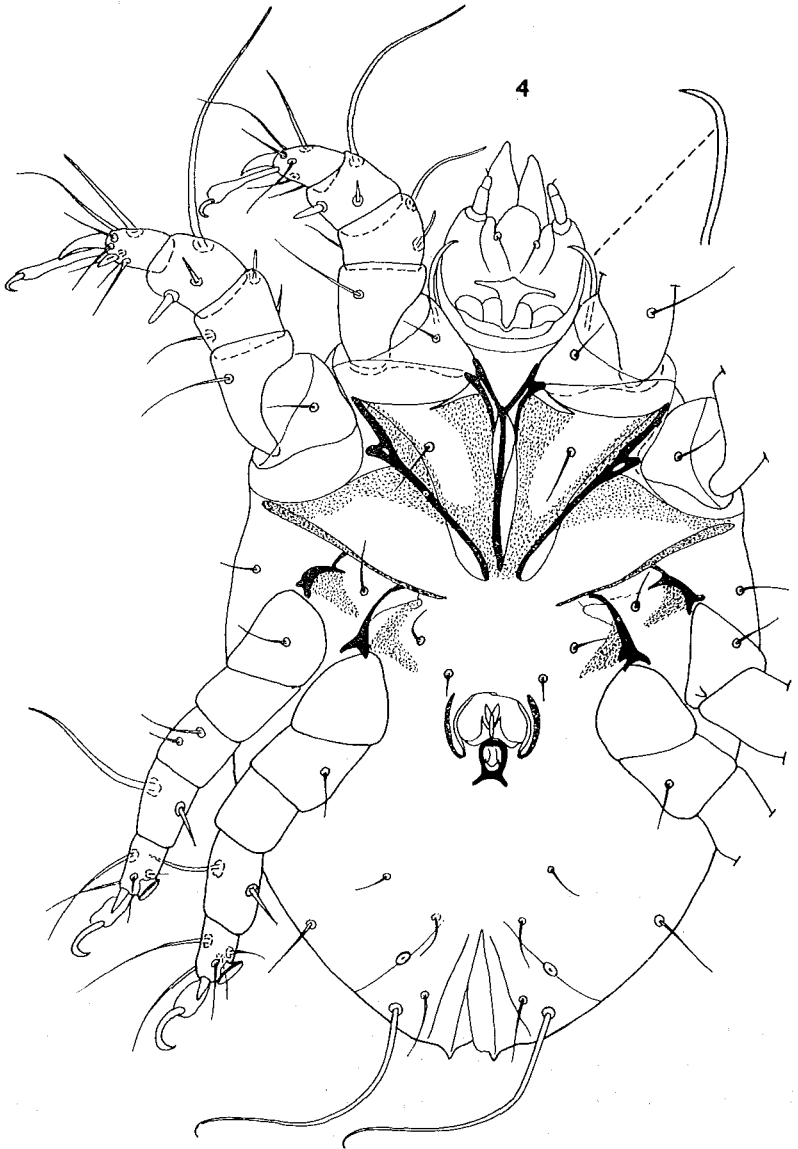


FIG. 4. — *Hyadesia australiana* sp. n. : - 4, Male in ventral view.

*Chaetotaxy*: Setae *vi* 51  $\mu$ ; *s cx* 30  $\mu$  very shortly barbed (difficult to see); *sci* 20-25  $\mu$ , very thin; *sc e* 150  $\mu$ , with basal part inflated; *d 1* 21  $\mu$ , very thin, *d 2* 40  $\mu$ ; *d 3* 90  $\mu$  with basal part inflated and apex hooked; *d 4* 110  $\mu$ , similar to *d 3*; *d 5* 25  $\mu$ , ventral, thin; *l 1*, *l 2* and *l 3*, 18 to 25  $\mu$ , thin; *l 4* 30  $\mu$  thin; *l 5* 118  $\mu$ , ventral, similar in shape to *d 3* and *d 4*; *h* 112  $\mu$ , similar to *d 3*; *sh* 15  $\mu$  thin; *a 1* longer (20-28  $\mu$ ) than *a 2* and *a 3* (13-18  $\mu$ ).

*Leg Chaetotaxy*: Tarsi I and II with a strong apical spine, a much smaller subapical spine and 6 simple setae. Tarsi III-IV with 3 subapical spines and 5 simple setae. Tibiae with 2-2-1-1 setae; the ventral setae are spines, thick on tarsi I-II, thinner on tarsi III-IV. Solenidiotaxy: Tarsus I with  $\omega 1$  longer and thicker (45  $\mu$ ) than  $\omega 3$  (25  $\mu$ );  $\omega 2$  is very short.

*Male allotype* (fig. 3, 4, 10-13): Length of idiosoma 339  $\mu$ , width 210  $\mu$ . In 2 paratypes: 366  $\times$  235  $\mu$  and 350  $\times$  225  $\mu$ . *Dorsum*: as in the female but the shield is smaller and the setae shorter. Grandjean's organ cylindricoconical, 30  $\mu$  long. Setae *s cx* finely barbed and 30  $\mu$  long. *Venter*: Epimera, genital setae and anus as in female but there are only 2 pairs of anals, the *a 3* are lacking. Genital organ 30  $\mu$  wide (internal ring). Gnathosoma as in female. *Legs*: Tarsi I-IV, 26  $\mu$ -30  $\mu$ -25  $\mu$ -27  $\mu$  respectively. Claws I-II 12  $\mu$ , claws III-IV 21  $\mu$ . Tarsi I, III and IV bear a subapical-ventral sucker; tarsus I has no subapical spine and tarsi III-IV have only 1 apico-ventral spine; the subapical spines present in the female are replaced by a sucker in the male.

*Tritonymph*: Two tritonymphs measure (idiosoma) 330  $\mu$   $\times$  210  $\mu$  and 328  $\mu$   $\times$  217  $\mu$ . General characters as in female except that there are only 2 pairs of anal setae and the genital organs are lacking. There are 2 pairs of genital setae and 1 pair of very small paramedian orifices (? remnants of genital suckers).

*Protonymph*: Idiosoma 235  $\mu$  long and 165  $\mu$  wide. Differs from tritonymph by the absence of setae on trochanters I-III, the presence of only one pair of genital setae and several other characters.

*Larva*: Not observed.

*Remarks*: This new species is closest to *H. curassaviensis* Viets. It differs from it in the female by the presence of 3 pairs of anal

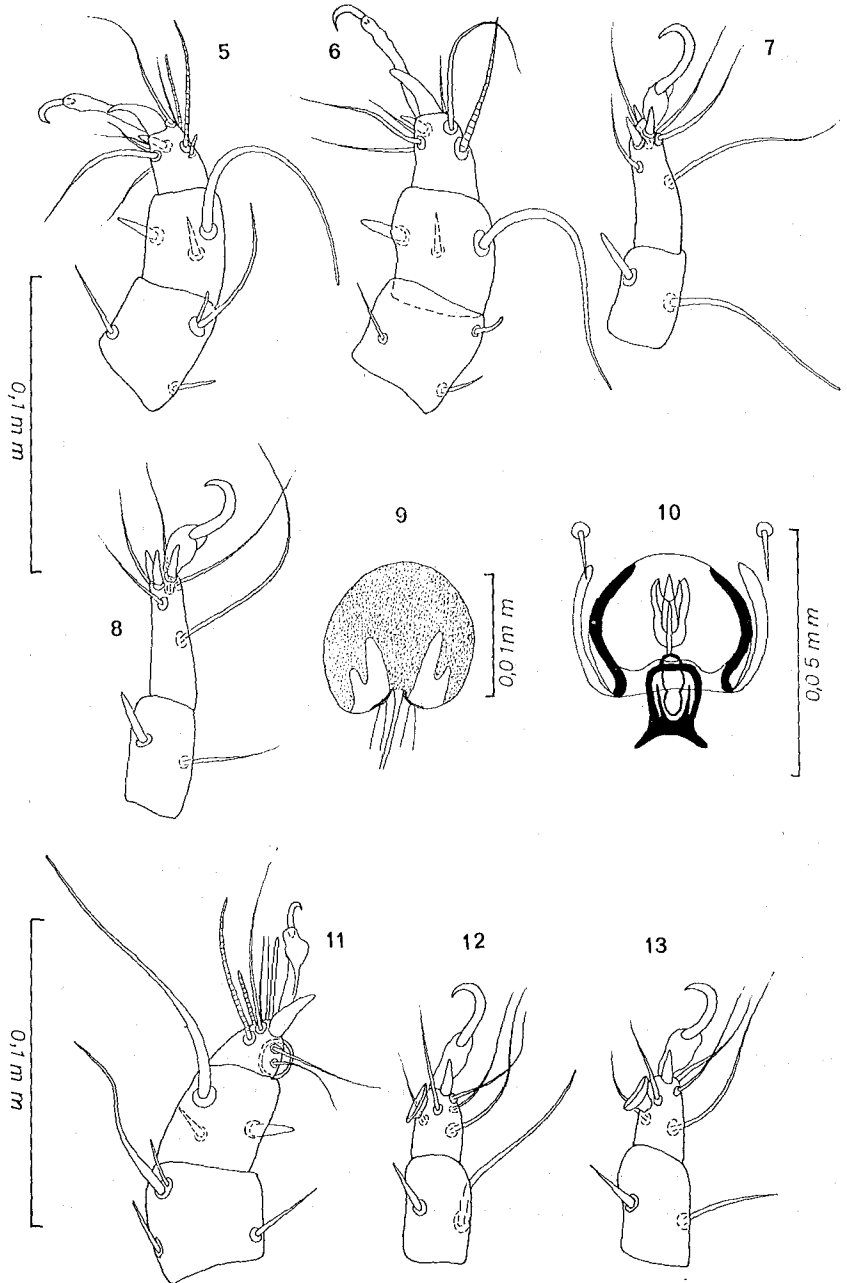


FIG. 5-13. — *Hyadesia australiana* sp. n. : FIG. 5-9 : Female : - 5, Leg I ; - 6, Leg II - 7, Leg III ; - 8, Leg IV ; - 9, Spermatheca. FIG. 10-13 : Male : - 10, Genital organ ; - 11, Leg, I, - 12, Leg III ; - 13, Leg IV.

setae (1 pair in *H. curassaviensis*), the greater length of the tarsal claws, the greater size of the body, the smaller length of setae *d* 2 and the greater length of *d* 4 and *d* 5, the greater length of the bursa, the different structure of the spermatheca, the greater length of solenidion  $\omega$  1 compared to  $\omega$  3 (subequal in *H. curassaviensis*).

*Locality*: All these mites were collected from an algal mat of *Gelidium pusillum* at low intertidal levels at the western end of Gunnamatta Beach, Mornington Peninsula, near Melbourne, Victoria, Australia. (Holotype and 15 paratype females, allotype and 20 paratype males, 10 tritonymph paratypes) (Coll. R.S. 18 August 1980). Holotype and paratypes in the National Museum (Melbourne). Paratypes in the Institut royal des Sciences naturelles de Belgique; in British Museum, London; in U.S. National Museum, Washington, and in the collection of authors.

### Bibliography

- FAIN A., 1981. — Notes on the Hyadesiidae Halbert, 1915 and Algophagidae Fain, 1974, nov. tax. (Acari, Astigmata), with a redescription of *Hyadesia curassaviensis* VIETS, and *H. sellai* VIETS. *Acarologia*, 22 (1): 47-61.
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