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The Halacaridae of Canso, N. S.

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Atlantic Biological Station

BIOLOGICAL BOARD OF CANADA

Manuscript Reports of the Biological Stations

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The Halacaridae of Canso, N. S.

By F. R. Anderson

The mites of the family Halacaridae are exclusively marine acar-  
iens distinguished from other closely allied forms by the absence of  
trachea and the form and attachment of the palps. The palps are  
attached laterally to the other mouth parts, and are pointed and styl-  
iform, not palpiform as in some other families. This family com-  
prised seven genera and about thirty six species. Specimens of two  
genera and eight species were found at Canso.

These mites live in salt water exclusively. They are not free-  
swimming, but proceed by crawling over the animals and plants of the  
bottom. Crustaceans, mollusks, algae, hydroids and sponges all form  
the hosts of these minute animals. They are not, however, to be con-  
sidered as parasites, for although the young are attached to animals  
and plants, they never draw their nourishment from them, while the  
adults are never in the least degree parasitic. Their food consists  
mostly of diatoms and like organisms which they find attached to the  
fronds of algae. From low-water mark to ten fathoms of depth the  
mites are found most abundantly, and in that range abound upon hy-  
droids and red algae, very few being found upon the brown or blue-

green algae.

The distinction of species in this family is exceedingly difficult on account of the great similarity of structure presented by the different species. Very little importance is to be attached to the general colour, as it varies with different kinds of food. It is also difficult to distinguish the nymph from the adult, because the nymph in its older stages shows a rudiment of a genital organ and considerable development of the dermal plates. In the younger stages of the nymph there is one segment less in the legs than in the adult form. The distinction of species in the adult depends in a great part on the following, - the bristling of the legs, the form of the mouth parts, and the structure of the dermal plates, and of the genital organs.

The genera Rhombognathus and Halacarus were found represented at Canso, the first by two and the second by six species.

Rhombognathus pascens

" seahani

Halacarus spinifer

" floridearum

" murrayi

" gracilipes

" longipes

Halacarus ?

The genus Rhombognathus is distinguished from the other genera of the family by the shortness of the mouth parts, the black colour, and the peculiar form of the claws. There is an additional segment between the tarsus and the claws. This in some species is prolonged

into the form of a hook between the claws. They are the smallest of the mites, ranging in length from 0.28 mm. to 0.45 mm. They are found most plentifully on eel-grass (Zostera), on Chorda filum, and on some hydroids. The species H. pascens was much more plentiful than R. seabani, of which only four specimens were found.

The genus Halacarus comprises by far the most species of any of the family. There are about twenty species in the genus. Six species were found at Canso. This genus is distinguished from others of the family by the following characteristics, - Elongated mouth parts. The palps formed of four segments of which the fourth is long, pointed and styliform, and the second longer than any of the others. The claws are inserted directly upon the tarsus without any additional segment. The general body colour is reddish. The species range in size from 0.40 mm. to 1.10 mm. The following is a list of the species in the order of their relative abundance at Canso.

Halacarus murrayi

" spinifer

" floridearum

" gracilipes

" longipes

Halacarus murrayi, H. spinifer and H. floridearum were found most plentifully on Obelia and occasionally on Campanularia. Halacarus spinifer was found on two occasions on red algae (Callithammon, Gigartina, Polysiphonia and Ptilota). Halacarus gracilipes and H. longipes were found only upon the red algae mentioned above.

The species of Halacarus that was identified resembled H. rhodostigma (Tronessart), but as the description of this species by Lohmann does not seem to agree with that of Troussert, the identification was not conclusive.