A survey was made of the subfamilies possessing eyespots or having genera that showed this feature. The subfamily Lepocreadiinae Odhner, 1905, as described by Yamaguti (1958: 143) had this diagnostic character and others shown by the present material—viz., body oval, spined, oculate, small acetabulum, pharynx distinct, oesophagus short, intestinal caeca usually reaching close to the posterior extremity, and long excretory vesicle.

Lebour (1916) described the larval trematode she found in *P. pileus* as *Pharyngora bacillaris* (Molin, 1859) now *Opechona bacillaris*. This genus is one of the nine described under the subfamily Lepocreadiinae and is undoubtedly similar to the present trematodes. However, *Opechona* is described both by Lebour and Yamaguti as having a very distinct prepharynx. This feature is not shown by the present larval specimens. Another distinguishing character of *Opechona* is the "oesophagus usually long, partly lined with epithelia". Neither in living specimens nor preserved material was such a condition observed in any of the New Zealand larval trematodes.

Of other genera in the subfamily Lepocreadiinae the genera *Pseudocreadium* Layman, 1930, and *Hypocreadium* Ozaki, 1936, share some features in common with the present trematode larvae. These genera are closely allied, and on occasion in the past *Hypocreadium* has been incorrectly identified as *Pseudocreadium*. Descriptions of the latter show it to be more like the New Zealand specimens than *Hypocreadium* as it possesses a flattened oval body, spines, subterminal oral sucker, very poorly developed prepharynx, comparatively large pharynx and short oesophagus, arcuate caeca, a small acetabulum near the centre of the body, and a curving, tubular excretory vesicle which intrudes into the forebody and opens by a dorsal pore.

Adult *Pseudocreadium* have been found in the intestine of marine fishes, particularly the leather jacket *Cantherines scaber* (Bloch & Schn.) in New Zealand waters, and also in the western Pacific. Elsewhere it has been taken from various perches. Leather jackets in our waters feed largely upon hydroids and the type of algae with which the hydroids are associated. Also occasionally tubeworms, amphipods and isopods have been seen to be ingested (Graham, 1956: 373–377). Thus the leather jacket appears not to be highly selective in its feeding, and the possibility of this fish sometimes taking *P. pileus*, particularly when the ctenophore is in great abundance in the plankton, should be borne in mind when considering the identity of the present specimens. The occurrence in larger numbers in the Kau/Mahanga Bay areas than elsewhere of these larval trematode specimens, is considered as evidence of the strong probability of their being larval *Pseudocreadium* species. Moreover, leather jackets frequent these bays in some numbers, to feed among the large beds of brown kelp *Macrocystis pyrifera*.

However, adult trematodes of the genus *Hypocreadium* are likewise known (Manter, 1940) in the trigger fish *Balistes polylepis* and *B. verres*.

The present specimens are thus recognized as belonging to the F. Allocreadiidae and subfamily Lepocreadiinae, but their generic identification is uncertain. They are rather similar to, but can be distinguished from *Opechona* as described by Lebour and Yamaguti because of the absence of a distinct prepharynx. But neither can they be assigned with certainty to either *Pseudocreadium* or *Hypocreadium* because of the lack of direct evidence of the ctenophore host forming a regular source of food for the fish in which the adult trematode is found. There is, however, some indication that the leather jacket *Cantherines scaber*, in which the adult *Pseudocreadium* is found, may fortuitously take ctenophores for food. The larval form of *Pseudocreadium* is very similar to the present specimens, and it seems probable that the latter are the larvae of this genus.