

Some large worms were extended by immersing them in a finger bowl of 10% formalin and drawing them over the edge of the container several times while grasping them loosely with forceps. Small worms in syracuse dishes were carefully extended with a camel's hair brush after pipetting off the sea water, and 10% formalin added gently by medicine dropper. Occasionally worms were killed by rapidly immersing them in hot tap water (at 67° C.) and immediately transferring them to 10% formalin. Some specimens were placed directly in glacial acetic acid, where they were killed in an extended condition, and immediately transferred to 70% alcohol, according to the method of Berland (1961).

After fixation the parasites were stored in 70% ethyl alcohol, overstained in a weak solution of Henneguy's acetic carmine and destained in 35% acid alcohol. Histological sections were made at five or ten microns and stained in Ehrlich's hematoxylin and eosin.

All drawings were made with a Watson camera lucida.

Type specimens are deposited in the Zoology Department Collection, Victoria University, Wellington, and paratype specimens in the author's collection.

Order TETRAPHYLLIDEA

PHYLLOBOTHRIIDAE Braun, 1900

PHYLLOBOTHRIMUM van Beneden, 1849

Phyllobothrium lactuca van Beneden, 1850.

HOST: *Mustelus lenticulatus* Phillips.

LOCALITY: Cook Strait, Oamaru Harbour.

HABITAT: Spiral valve.

Robinson (1959a) recorded this species from *Carcharodon carcharias* (Linnaeus) and *Mustelus lenticulatus* Phillips. All seven of the specimens of the latter host examined during the present study contained this species in the spiral valve. Robinson notes the scolex of his specimens were pale orange in colour; this was not observed by the writer. However, it is of interest that *Calliobothrium tylocephalum* n. sp., which occurred along with this species was conspicuous by its possession of bright orange pigment in its bothridia (see below).

Living, unembryonated eggs of *P. lactuca* in sea water are spherical and measure 0.022–0.024mm in diameter.

Phyllobothrium dohrnii (Oerley, 1885).

HOST: *Notorhynchus pectorosus* (Garman).

LOCALITY: Cape Campbell.

HABITAT: Spiral valve.

As in Robinson's study, a single specimen of the host examined harboured this parasite in small numbers in the spiral valve. When the worms are placed in sea water, the bothridia are quite active; they are broadly pyriform in shape with thickened margins when moving, but when fixed in a relaxed condition become more expanded, thinner and broader in outline.

Eggs extruded in sea water are unembryonated, spherical, and possess an outer capsule 0.025–0.028 mm in diameter, and an inner, denser mass 0.017–0.020mm in diameter.