

ABSTRACTS OF MEMOIRS

RECORDING WORK DONE AT THE PLYMOUTH LABORATORY

GEORGE, J. D., 1966. Reproduction and early development of the spionid polychaete, *Scolecoplepides viridis* (Verrill). *Biol. Bull. mar. biol. Lab., Woods Hole*, Vol. 130, pp. 76-93.

A re-description of the external morphology of the worm is given. It was found that the worm has a short breeding period in late March and early April. The onset of gamete formation coincides with a fall in the temperature following the summer maximum and spawning is mainly due to rising temperatures in the spring. In addition some spawning may result from sudden changes in salinity during a tidal cycle. Gametes are shed whilst the animals are still in their burrows and the resulting larval development is entirely planktonic. In laboratory cultures maintained at 10° C. and 30‰ photopositive trochopores begin swimming in 3-4 days and the 3-setiger stage is reached in 10 days. There follows a growth pause and the fourth setiger is not added for another 10 days. The first larvae start to metamorphose at the 9/10-setiger stage, but metamorphosis can be postponed until the 13-setiger stage if the substratum is not suitable. The fully metamorphosed 10-setiger worm is 750 μ long and 40 days old. The rate at which development proceeds in laboratory cultures is dependent on temperature and salinity. At 20° C. metamorphosis is reached in half the time taken at 10° C. At 2° C. no larvae develop beyond the 3/4-setiger stage. The rate of development is similar in salinities varying from 10 to 30‰. At 5‰, however, growth ceases. An attempt is made to relate the distribution of the worm along the east coast of North America to temperature.

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LLEWELLYN, L. C., 1965. Some aspects of the biology of the marine leech *Hemibdella soleae*. *Proc. zool. Soc. Lond.*, Vol. 145, pp. 509-28.

Soles become infected by *Hemibdella* mostly after they have reached maturity and multiple infections are common. The leeches, which are attached by their posterior sucker to the spines of the ctenoid scales or the upper surface of soles, are generally much more numerous than mature soles. They appear to migrate anteriorly, this movement probably being directed by the arrangement of the scales.

Leeches normally remain attached to the fish and deposit their cocoons on shell fragments with which the sole camouflages itself. They will lay their cocoons while in glass dishes and it was found that they develop singly within the cocoon and hatch in approximately 41 days at 17° C. They are then capable of re-infecting a new host or waiting up to 8 weeks before re-infection. After finding a host they reach maturity in 23 days and are fully grown in 37 days.

Several hosts of the genus *Solea* have been recorded for the leech in the Mediterranean, but only *S. solea* in British waters. They were very reluctant to attack the sand sole *S. hispidus*, perhaps because of the structure and arrangement of the scales.

Leeches failed to recover after an hour at temperatures of -3° and 31° C. They died within a week at 5° C. but survived indefinitely at 10° C. Cocoons were not deposited below 9° C.

The relative immunity of young soles may be due to them remaining close inshore, away from the gravel on which leech cocoons are laid.

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