

**Infection of *Succinea putris*
by *Leucochloridium paradoxum***

by

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Succinea putris has often been reported to be the host of the asexual part of the cycle of the parasitic trematode *Leucochloridium paradoxum*. A central sporocyst mass gives rise to rod-like processes (sacs) which contain from 100 to 200 metacercariae. The sporocyst causes great damage to reproductive and other organs of the intermediate host. The tips of two sporocyst sacs can enter into the optic tentacles, often pulsating under the influence of light. The sporocyst sac possesses either brown or green rings, both of which varieties have been found in the Netherlands. For a more extensive treatment of this subject the reader is referred to ZELLER (1874), WESENBERG-LUND (1931), VAN BENTHEM JUTTING (1933), VENMANS (1951), HONER (1960) and SCHMIDT (1964).

Infected specimens have not been found often in the Netherlands. Up to 1951, 16 infected animals had been reported (VENMANS). Some of these were specimens of *S. pfeifferi*, now known as *S. elegans* (VAN REGTEREN ALTENA, 1959). Thus both *S. elegans* and *S. putris* can be infected by this trematode. Since VENMANS' publication appeared, only a few other reports about observations of the parasite have appeared. Recently BUTOT (1966) reported that MEIJER found a specimen of *S. putris* infected with a parasite of the brown-ringed variety.

This would suggest that the infection rate in Dutch populations of *S. putris* is very low. In the present investigation, more than two thousand specimens were examined in connection with a research project on the central nervous system (to be published in Archives Néerlandaises de Zoologie, 1966). These specimens were collected near Ouderkerk aan de Amstel, on the banks of a small stream, the Bullewijk. Only once, on 22-IV-'65, was a specimen of *S. putris* infected with *Leucochloridium* found. It was of the brown-ringed variety (See plate 1 fig. 2). Although at the time it was discovered a sac was observable in only one of the optic tentacles, it developed a second sac for the other after being kept at the laboratory for a few months. The infected snail was kept alive at the laboratory until 13-X-'65, when it was killed for histological investigation.



Fig. 1. Schelpenbank op de Middelplaat in de Westerschelde op 16 maart 1959.

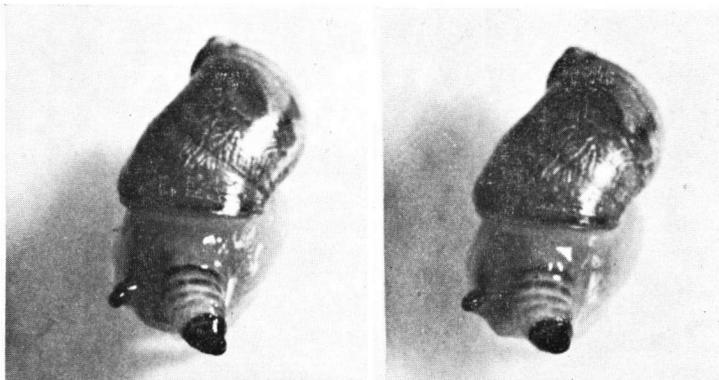


Fig. 2. The specimen of *Succinea putris* infected with *Leucochloridium paradoxum*. The tentacle into which a sporocyst has penetrated may be observed on the right side, while on the left side of the head region the normal tentacle may be seen. When the two photographs are compared an impression can be gained of the nature of the pulsating movement.

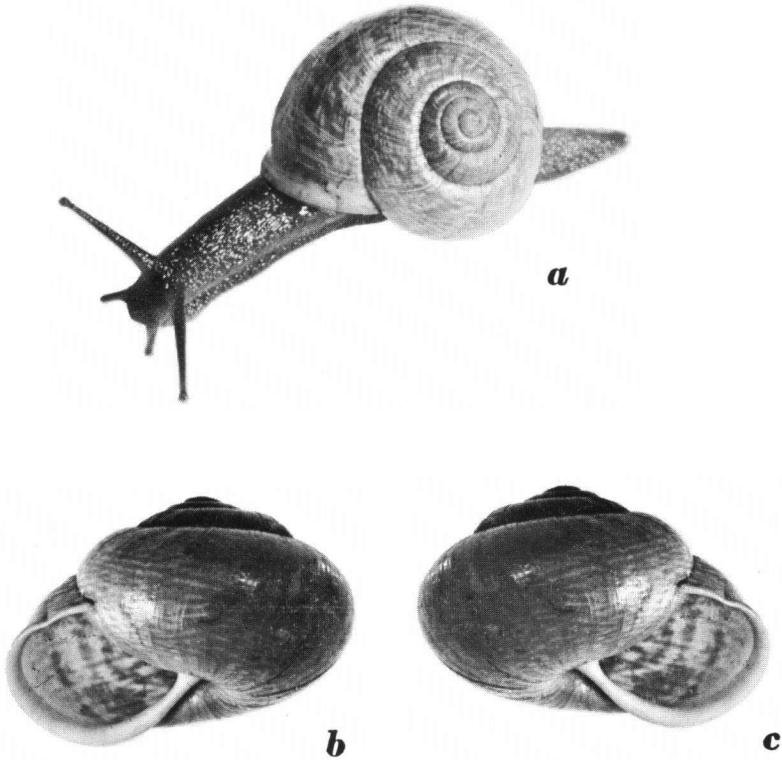


Fig. 1. *Arianta arbustorum* (L.), linksgewonden exemplaar; a: kruipend ($\times 1,6$); b: schelp ($\times 2$); c: spiegelbeeld van schelp ($\times 2$)

Thus it is apparent that the infection of *S. putris* by *Leucochloridium* is a rare occurrence in the population investigated. This is probably due to the fact that the habitat consisted chiefly of grasses. WESENBERG-LUND (1931) found that under different circumstances, which favoured infection (broad-leaved plants on which the rain mixed with the excrements of infected song-birds), the infection rate was somewhat higher.

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