

Annual and diurnal vertical migrations and the food of *Mysis relicta* in Lake Pääjärvi, Southern Finland

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Most of the *Mysis relicta* population of Lake Pääjärvi was found to be pelagic during the summer months. The summer distribution pattern was established in May soon after the spring overturn. A distinct daytime density maximum was normally observed between depths of 15 and 25 meters. The density maximum gradually decreased towards the autumn and was not detected above 50 meters in October.

Diurnal vertical migrations started before 18.00 hours and the maximum numbers of the migrating Mysids were observed near the surface at 12.00 hours. The daytime distribution was resumed at about 06.00 hours. The time spent near the surface was considerably shorter during midsummer than in the autumn. The overwintered generation migrated in the early summer, but was less active later.

The time spent in the epilimnion and the daytime distribution was assumed to be regulated by the light intensity and by the temperature. The maximum density of the Mysids was always detected below 8°C in the daytime.

The diet of *M. relicta* showed that the species is an omnivore, but has a distinct preference for zooplankton. *Bosmina* and *Daphnia* species were frequently observed in the guts of *M. relicta*, especially in samples taken at night.