

## **Salinity effects on competition between cryptic species of the nematode *Rhabditis (Pellioditis) marina*.**

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Behind the morphological similarity of many species, a substantial hidden genetic diversity can be found. This cryptic diversity has been well documented in the marine nematode, *Rhabditis (Pellioditis) marina*, where several cryptic species occur sympatrically. Despite the growing knowledge about its cryptic diversity, little is known about potential differences in the ecology and functional roles of the different species. In this experiment, we investigated differences in salinity preferences of different cryptic species and how these differences may affect the outcome of their competitive interactions. The juvenile and adult population dynamics of mono-specific cultures of four cryptic species of *Rhabditis (Pellioditis) marina* were examined under standardised conditions at two different salinity concentrations to investigate the effect of salinity on the life history traits. In addition, these four cryptic species were reared together, starting from identical initial abundances at two different salinity concentrations to investigate the effect of salinity on competition. Every fifth day of the experiment one third of the adult population was removed for analyzing the genetic composition of the population; adult and juvenile population dynamics were also examined. The first results show (1) an effect of salinity on the life history of one cryptic species, (2) an effect of competition on the life history of all cryptic species but one and (3) an effect of salinity on the competition with higher competition at lower salinity. These results show that salinity has a possible effect on the coexistence of cryptic species of *Rhabditis (Pellioditis) marina*.

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