

Distribution and life cycle of *Perinereis rullieri* Pilato (Polychaeta, Nereididae), a Mediterranean Endemism

D. PREVEDELLI\*, A. CASTELLI\*, M. ABBATI\*\* and R. ZUNARELLI VANDINI\*

\*Dipartimento di Biologia Animale, Università di Modena, Via Università 4, 41100 Modena (Italia)

\*\*Dipartimento di Scienze dell'Ambiente e del Territorio, Università di Pisa, Via Volta 6, 56100 Pisa (Italia)

*Perinereis rullieri* has to date only been recorded along the Ionian coast of Sicily (PILATO, 1974); it is morphologically close to *P. cultrifera*, a widespread species in the Mediterranean (CAMPOY, 1982; FAUVEL, 1923). *P. rullieri* is distinguished from *P. cultrifera* chiefly by the number and size of the paragnaths and by the morphology of the spiniger setae.

During research carried out over the last year on brackish water assemblages, numerous specimens belonging to *P. rullieri* were found in the Venice Lagoon and along the coasts of Elba Island (Tuscan Archipelago) (Fig. 1). The distribution of this species is not therefore limited to the type locality. *P. rullieri* is a widespread species along the Italian coasts and presumably in the Mediterranean.

In the Venice Lagoon *P. rullieri* has been collected near Chioggia, on a mixed substrate containing stones, gravel and muddy sand in the intertidal zone. This habitat is very narrow and borders on areas having different hydrological and sedimentological features where *P. rullieri* is absent.

The life cycle of this population was studied by means of *in situ* and laboratory observations.

*P. rullieri* reaches sexual maturity when the specimens are two years old. Observations carried out over the last four years have demonstrated that spawning occurs when the water temperature reaches about 15 °C, which in the Venice Lagoon generally occurs in April. In the last two years, prevailing climatic conditions have advanced reproduction by about

one month. Sexual maturity is reached without epitoky, a feature common in sea-living nereidids and sometimes observed in brackish-water species (CAZAUX, 1965; DURCHON, 1951). Reproduction takes place on the bottom, and the fertilized eggs are encapsulated by a gelatinous envelope. This anchors them to the stones forming large, green colored clumps. The trochophora, metatrochophora and nectochaeta are enclosed in the periovarian gelatin. Subsequently, the nectochaeta with three setigerous segments hatches and begins free life. The hatched larvae has a mandible and complete digestive tube; feeding can begin at once even though a large supply of reserve material is present. Notwithstanding the trochus of cilia, the nectochaeta is a bottom dweller. Free life begins at an advanced stage when the larvae have acquired the characteristics that permit survival in the habitat of the adult-form.

The developmental pattern is in agreement with general models of lecithotrophic and benthic larval development in species living in fluctuating environment (FAUCHALD, 1983). The dispersal phase is extremely limited, allowing the larva to immediately settle a suitable habitat. The reproductive and developmental pattern of *P. rullieri* are quite similar to those described for *P. cultrifera* (CAZAUX, 1969) in the Mediterranean, where even the latter reproduces without epitoky.



- Fig. 1 - Distribution of *P. rullieri*  
\* - type locality  
▲ - new records

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