

IN LESS THAN 10 YEARS THE SQUAT LOBSTER *MUNIDA RUTLLANTI* HAS REPLACED *M. INTERMEDIA* IN THE WESTERN POMO PIT (CENTRAL ADRIATIC)

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Abstract

Munida rutllanti was recorded for the first time in the central Adriatic in 2003 and today has almost completely replaced *M. intermedia*, ranking second by weight in the benthic decapod crustacean assemblage of the western Pomo pit.

Keywords: Decapoda, Adriatic Sea, Global Change

The “meso-Adriatic depression” (Pomo pit) is an important trawling ground for the Adriatic fishing fleet. *Munida intermedia* was, initially, the only squat lobster recorded in benthic decapod crustacean assemblage of the area, ranking second by weight after *Nephrops norvegicus* [1]. *Munida iris rutllanti* Zariquiey Alvarez 1952 was first described from the Alboran Sea (off Melilla). Since then, in the Mediterranean, it has been reported from the Alboran, Catalan and Northern Aegean Seas only, despite its distinctive characters and the numerous fishery surveys carried out throughout the western and central Mediterranean since the 1970s. In 2000 it was first collected in small numbers in the Southern Adriatic [2] and Eastern Ionian Seas [3]; and in June 2003 it was recorded for the first time in Pomo Pit when, already, it outnumbered *M. intermedia* [4]. Since 2003, the population of *M. rutllanti* has been opportunistically monitored and some aspects of its biology investigated and compared with information already available for *M. intermedia* [5]. *Munida intermedia* was absent in most of the hauls of the May 2009 trawl survey, the ratio *M. intermedia* / *M. rutllanti* was 1: 150 (TAB 1) whilst the overall abundance of squat lobsters in the decapods assemblage remained substantially unchanged. In the Pomo pit the two species reach similar maximum sizes and the smallest ovigerous females are around 8 mm CL for both; despite this, their reproductive strategies are different. *Munida rutllanti* spawns in late-spring and summer and is a multiple spawner, as shown by the large number of females carrying embryos ready to hatch, and having mature turquoise ovaries visible through the cuticle. *Munida intermedia*, on the contrary, spawns in winter and is a single spawner. The fecundity of the single batch of a female of *M. rutllanti* is higher than that of *M. intermedia* of the same size. Furthermore *M. rutllanti* is far less subject to parasitization by Rhizocephalans compared to *M. intermedia* (TAB. 1). Most Rhizocephalans are known to alter the reproductive success in a population by inducing castration of the host. Fishing trials carried out in 2004 [6] revealed that creels selectively caught *M. intermedia* compared to *M. rutllanti* (4:1) whilst the opposite was true for bottom trawl catches (1:4). This is suggestive of the fact that the two species may also have different feeding strategies.

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Tab. 1. Composition of the squat lobsters population in the Western Pomo pit in the period 1997-2009 and percentage of parasitization by Rhizocephalans in the two species of *Munida*

Year	1977	1993	1998	2003	2004	2005	2009
N. Squat lobster examined	786	2943	3174	733	8049	1206	1951
<i>M. intermedia</i> / <i>M. rutllanti</i>	1 / 0.0	1 / 0.0	1 / 0.0	1 / 3	1 / 5	1 / 12	1 / 150
<i>M. intermedia</i> % parasitized	35.2	14.5	X	26.6	37.6	40.2	39
<i>M. rutllanti</i> % parasitized	-	-	-	0.6	0.3	< 0.1	0.1

The capacity of *M. rutllanti* to outcompete *M. intermedia* is probably related to its life history, but climate warming and the effect of the Eastern Mediterranean Transient on overall Mediterranean circulation [7] could be at the origin of this recent spreading.

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