

Second capture of *Odontozona foresti* Hendrickx, 2002 (Stenopodidea) and *Munida bapensis* Hendrickx, 2000 (Galatheoidea) in western Mexico

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ABSTRACT.- Two species of deep water decapod crustaceans, *Odontozona foresti* Hendrickx, 2002 (Stenopodidea) and *Munida bapensis* Hendrickx, 2000 (Galatheoidea) were found for the second time off the coast of Mexico. Rediscovery of the former species off SW Mexico corresponds to a range extension to the south of over seven degrees of latitude. The latter species is collected for the second time in the central Gulf of California, in the vicinity of the type locality, but in much large number (ca 1190 specimens per hectare), thus demonstrating that it is a very abundant component of the benthic community in the area.

Key words: Deep-water crustaceans, *Odontozona foresti*, *Munida bapensis*, Mexican Pacific.

Palabras clave: Crustáceos de aguas profundas, *Odontozona foresti*, *Munida bapensis*, Pacífico mexicano.

Introduction

The genus *Munida* is represented in the eastern Pacific by 18 species, of which three were recently described (Hendrickx 2000, 2003). One of these, *M. bapensis* Hendrickx, 2000, is currently known only from one locality in the Gulf of California, Mexico, and only a few specimens had been collected. The family Stenopodidae contains only three species of the genus *Odontozona* described for the eastern Pacific, including *Odonthozona foresti* Hendrickx, 2002 recently described from a deep-water sample also collected in the Gulf of California (see Hendrickx, 2002).

Samples of benthic crustaceans obtained at two localities along the Pacific coast of Mexico during the TALUD cruises (R/V “El Puma, Universidad Nacional Autónoma de México) contained specimens of these two species and represent the second capture for each. It either represents a new distribution record or a dramatic increase in specimens number collected in a single sample. Abbreviations used are: St., sampling station; CL, carapace length; EMU, catalogue of the Regional Invertebrate Collection, Unidad Académica Mazatlán, Mexico.

Stenopodidae

Odontozona foresti Hendrickx, 2002

Odontozona foresti Hendrickx, 2002: 405-411, figs. 1-3.

Material examined.- TALUD XII, St. 23, 18°32'02", 103°57'45", 01/Apr/2008, R/V “El Puma”, one female (CL 12.0 mm), box core, 1058-1088 m depth (EMU-8274).

Distribution.- The only specimen of *O. foresti* previously known was captured with a deep water sledge in the central Gulf of California (25°43.5'N, 109°53.7'W). Present record increases the distribution range of this species by 7°09' of latitude to the south, to off the northern limit of the state of Michoacan.

Habitat.- The holotype of *O. foresti* was collected at a depth of 1240-1270 m, on a muddy bottom with 0.86 ml/l O₂ concentration (Hendrickx, 2002). Present record is in slightly shallower water (1058-1088 m) and in even less oxygenated water (0.28 ml/l O₂), on muddy bottom and with epibenthic temperature of 4.4°C.

Color.- Fresh specimen whitish, with no color marks on carapace and appendages.

Galatheidae

Munida bapensis Hendrickx, 2000

Munida bapensis Hendrickx, 2000: 165-168, fig. 3.



Fig. 1. *Munida bapensis* Hendrickx, 2000. Male, dorsal view (EMU-8277).

Material examined.- TALUD X, St. 4, 28°16'06"N, 112°32'50"W, 09/Feb/2007, R/V "El Puma", 211 males (CL, 10.0-33.4 mm), 271 females (CL, 9.9-31.3 mm), and six ovigerous females (CL, 25.6-34.4 mm), benthic sledge, 587-633 m depth (EMU-8277, 8458, 8459, 8460, 8461).

Distribution.- The type locality of *M. bapensis* is in the central Gulf of California (27°52.5'N, 112°31.5'W), where only three specimens were collected at 620 m depth in a box core and were all used as type material. The very abundant material reported here was captured in a nearby locality (ca 25 nm to the north), with a different gear operating in a depth range of 587-633 m.

Abundance and size.- Reported size (CL) for the two males and the only female previously collected (type material) were 12.8-24.3 mm and 14.9 mm, respectively. Maximum sizes of material examined (33.4 mm CL for males; 34.4 mm for females) considerably increase the previously reported maximum sizes for both sexes. Material

reported herein includes a total of 488 specimens, thus dramatically increases the number of known specimens for this species of *Munida*. Estimated density based on the gear size (2.4 m width) and towing speed (1.5-2.0 knots) is of 1,290 specimens per hectare. Although there are few data related to density of species of *Munida* in the eastern Pacific, there is no report of such large quantity of specimens in a single trawl or dredge for the entire area (see Hendrickx 2000, 2003). The dominance of *Munida bapensis* in the sample examined was notorious. By-catch decapods included *Heterocarpus vicarius* Faxon, 1893, *Cancer johngarthi* Carvacho, 1989, and *Glyphocrangon spinulosa* Faxon, 1893, in order of abundance.

Some species of macro-crustaceans are very abundant in the central and upper Gulf of California continental slope, where they dominate the benthic crustaceans communities. *Squilla bigelowi* Schmitt, 1940 (Stomatopoda), is known to yield total catches of over 3000 specimens per hectare (Hendrickx and Salgado-Barragán 1989). *Sicyonia penicillata* Lockington, 1879, a commercial rock-shrimp occasionally fished in the same area, features a documented maximum density of ca 3140 specimens per hectare (calculated on the basis of abundances per catch provided by Hendrickx 1996). Importance of these two species in the trophic chain has been assessed. *Sicyonia penicillata* is a benthic feeder, mostly using small polychaetes, mollusks, crustaceans and detritus as food items (Hendrickx 1984). *Squilla bigelowi* is a predator, feeding on fish and shrimps (with a slight preference for species of "*Penaeus*" s.l.) (Hatzilos 1985). There is no information related to diet of *Munida bapensis* but, as other species of his genus, it probably competes for small preys and detritus with co-occurring benthic feeders.

Sex proportion.- Only six ovigerous females (1.2 % of total) were found and all were partially to almost totally spent. In the large sample examined, there was a significant dominance of females (M:F ratio, 1:1.33). Size distribution (Fig. 2) indicates that females were larger than males, with 61% of specimens larger than 17.6 mm CL vs. 40% in males.

Habitat.- Except for depth, no environmental data were available for the type material. The specimens collected during this study were

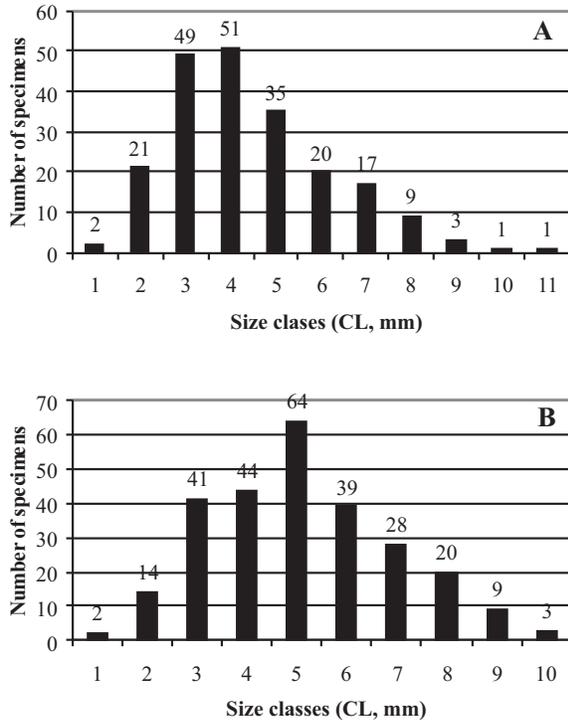


Fig. 2. Size distribution of *Munida bapensis* Hendrickx, 2000. A. Males, n=211. B. Females, n=271.

were collected on rather hard, consolidated bottom. Epibenthic oxygen concentration was a low 0.29 ml/l and water temperature was 8.22°C.

Color.- Type material was discolored when described. Color (dorsal) of fresh specimens (based on color photograph taken immediately after capture; Fig. 1) is light orange, slightly darker on chelipeds and walking legs. Setiferous transverse striae dark orange. Fingers of claws, dactyl of second pereopods, supraocular spines, and anterior margin of abdominal somites cream with scattered flushes of light orange.

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Resumen

Dos especies de crustáceos decápodos de aguas profundas, *Odontozona foresti* Hendrickx, 2002 (Stenopodidea) y *Munida bapensis* Hendrickx, 2000 (Galatheoidea) se encontraron por segunda vez frente a la costa de México. El redescubrimiento de la primera especie, frente al SW de México, corresponde a una extensión del intervalo hacia el sur de más de siete grados de latitud. La segunda especie es recolectada por segunda vez en el centro del Golfo de California, en las inmediaciones de la localidad tipo, pero en gran número (unos 1.190 ejemplares por hectárea), lo que demuestra que es un componente muy abundante de la comunidad bentónica en la zona.

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