

NOTES AND NEWS

DECAPOD CRUSTACEANS NEW TO THE FAUNA OF THE AEGEAN SEA

BY

A. KOUKOURAS¹⁾ and C. DOUNAS²⁾

¹⁾ Department of Zoology, Aristoteleio University of Thessaloniki, GR-540 06 Thessaloniki, Greece

²⁾ Institute of Marine Biology of Crete, P.O. Box 2214, GR-710 03 Iraklion, Greece

Koukouras et al. (1992) listed 231 decapod species (74 Natantia, 23 Macrura Reptantia, 35 Anomura, 99 Brachyura) known from the Aegean Sea. Since then, a number of publications (D'Udekem d'Acoz, 1992, 1993, 1995, 1996; Kevrekidis & Kevrekidis, 1996; Koukouras & Türkay, 1996; Koukouras, 1998; Koukouras et al., 1998, 1999) have increased the number of decapods known from this area.

Recent additional sampling (fig. 1), both in the northern and southern part of the Aegean Sea, revealed the presence of the following decapod species that have not been recorded before as elements of the Aegean fauna.

***Pandalina profunda* Holthuis, 1946**

1 ♂; sta. 3, off Iraklion, Crete, depth 500 m, silty substratum, 12.vi.1992; CI = 7 mm.

The known distribution of the species covers the eastern Atlantic (from Barents Sea and Norway to Senegal) and the Mediterranean (Zariquiey Alvarez, 1968; Lagardère 1970, 1971; Crosnier & Forest, 1973). In the Mediterranean, it has been known only from Rosas and the Barcelona coast (Zariquiey Alvarez, 1968) and Alboran Island in the western basin (García Raso, 1985), as well as from Pomo in the central part of the Adriatic (Frogliia, 1979). Its discovery in the Aegean significantly extends its known distribution in the Mediterranean.

***Lysmata nilita* Dohrn & Holthuis, 1950**

2 ♂♂; sta. 7, Olymbiada at Chalkidiki Peninsula, depth 0.9 m, among algae, 20.ix.1998; CI = 2.5 and 4.0 mm.

This Atlanto-Mediterranean species is reported for the first time from the eastern Mediterranean (Levantine basin and Aegean Sea). It is known from the eastern

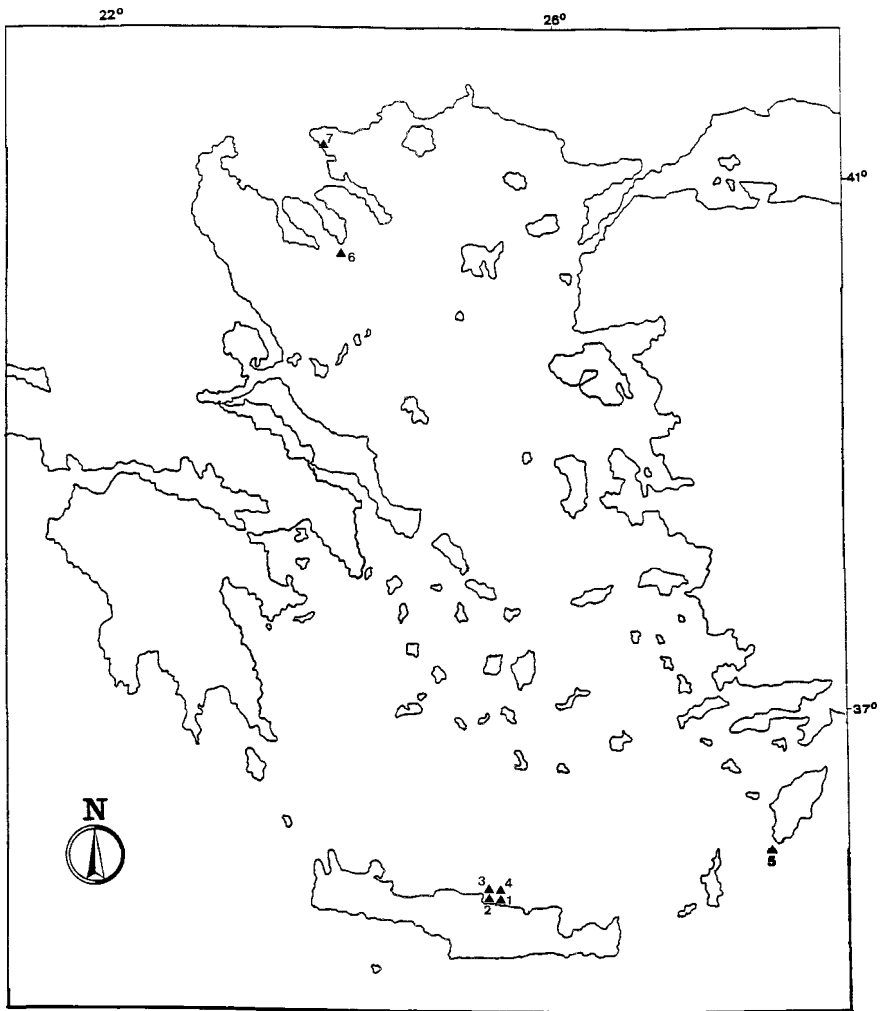


Fig. 1. Map of the Aegean Sea indicating the sampling stations.

central Atlantic, Canary Islands (Moreno & Fernández-Palacios, 1981). In the Mediterranean it was known from the Bay of Naples (Dohrn & Holthuis, 1950), Quarnazo, northern Adriatic (Frogliata, 1979) and Giglio Island in the Tuscany Archipelago (Grippa, 1991).

***Lysmata olavoi* Fransen, 1991**

2 ♂♂; sta. 1, off Iraklion, Crete, depth 70 m, silty substratum, 11.vi.1992; Cl = 4.7 and 5.0 mm.

The Aegean specimens are very similar to specimens from the type-locality (fig. 2), the Azores and the Salvage Islands in the Atlantic. The only minor

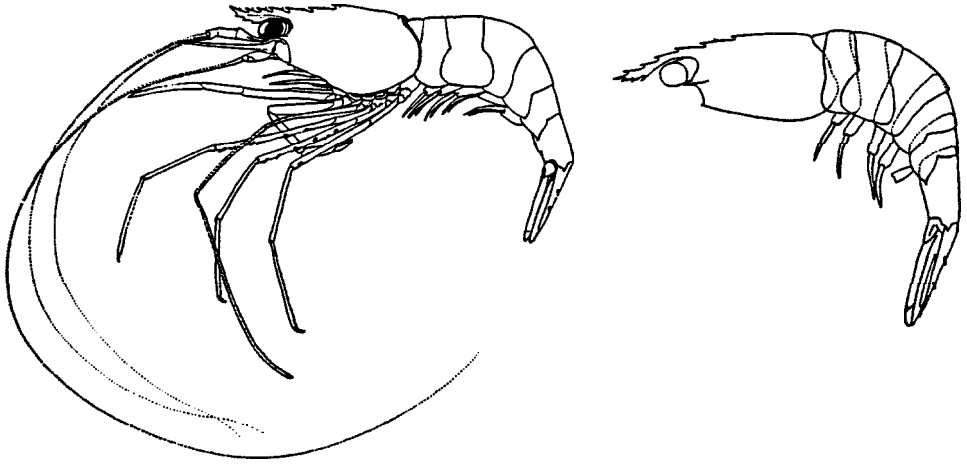


Fig. 2. *Lysmata olavoï* Fransen, 1991. On the left, male allotype (CI = 9.2 mm) (after Fransen, 1991); on the right, male from the Aegean Sea (CI = 5.0 mm).

difference observed concerns the number of fused antennular segments, which in the Aegean specimens are 14, while in *L. olavoï* there are at least 27. However, this character is correlated with the size of the specimens (Fransen, 1991) and the Aegean specimens are much smaller.

This species has been known only from its type-localities in the Atlantic (Fransen, 1991). The discovery of *L. olavoï* in the Aegean Sea significantly extends its known distributional area, while the number of species of the genus *Lysmata* known from the Mediterranean rises to three. The other species, *L. seticaudata* (Risso, 1816) and *L. nilita* Dohrn & Holthuis, 1950, are inhabitants of shallow waters (Dohrn, 1950; Dohrn & Holthuis, 1950), whereas *L. olavoï* seems to inhabit greater depths: the type-material was collected at 135-360 m (Fransen, 1991); our material from the Aegean, at 70 m depth.

Odontozona minoica Dounas & Koukouras, 1989

1 ♂; sta. 2, off Iraklion, Crete, depth 125 m, silty substratum, 15.vi.1991; CI (excluding rostrum) = 4.5 mm.

This endemic Mediterranean species has been known only from its type-locality (holotype, 1 ovigerous ♀) on the northwestern coast of Crete (Dounas & Koukouras, 1989). This new record refers to the first ♂ specimen, that is very similar to the female holotype. Pretus (1990) described *O. addaia*, the second Mediterranean *Odontozona*, and compared it with *O. minoica*.

***Eryoneicus puritanii* Lo Bianco, 1903**

2 ♂♂; sta. 6, off south coast of Sithonia Peninsula (Chalkidiki), depth 750 m (collected with mid-water trawl), 20.vii.1993; CI = 5.0 and 10.0 mm.

Bate (1888), who established the genus *Eryoneicus*, suggested for the first time that *Eryoneicus* specimens resemble the “young and immature form of some species allied to *Polycheles* . . . , but there are certain features that seem to be opposed to this supposition”. Lo Bianco (1903), accepting the view of Faxon (1895), that the *Eryoneicus* are individual forms, described *E. puritanii*. The old hypothesis of Bate (1888) was once strongly contradicted by Bouvier (1915), but Bernard (1953) presented sufficient arguments that the *Eryoneicus* are pelagic larvae of *Polycheles* and related genera.

Thus, our specimens, bearing a simple, strong rostrum, belong to *E. puritanii*, which is a larval stage of a species of the genus *Polycheles*. Taking into account that only *Polycheles typhlops typhlops* Heller, 1862 is known from the Mediterranean, we can accept that these specimens are larvae of this species.

E. puritanii was known in the Mediterranean only from the island of Capri (Lo Bianco, 1903). It is known from several localities in the Atlantic (Lo Bianco, 1903; Selbie, 1914; Bouvier, 1917; García Raso, 1996).

***Galathea machadoi* Barrois, 1888**

1 ♂; sta. 4, off Iraklion, Crete, depth 130 m, coralligenous substratum, 10.v.1990; CI = 5.0 mm. 1 ovig. ♀; sta. 2, off Iraklion, Crete, depth 130 m, coralligenous substratum, 7.iv.1989; CI = 6.0 mm, carrying about 70 eggs, with a mean diameter of 0.4 mm. 1 ♂; sta. 5, off southwestern coast of Rhodos Island, depth 130-140 m, coralligenous substratum, 14.vi.1990; CI = 5.0 mm.

These records of *G. machadoi* are the first from the Mediterranean. This Atlanto-Mediterranean species was known only from its type-locality, east of Pico Island, Azores (Barrois, 1888; Milne-Edwards & Bouvier, 1894) and from various sites around the Azores, Cape Verde Islands, and northern Bay of Biscay (De Saint-Laurent, 1971).

The above collections, combined with recent data from other authors, significantly increase the number of decapod species known from the Aegean Sea. Also, the known Mediterranean fauna is enriched by 2 more species (*Lysmata olavoii*, *Galathea machadoi*). The new information obtained on the decapod fauna should be attributed mainly to the increased sampling efforts in specific habitats, and at greater depths. On the other hand, these new data make the homogeneity of the decapod fauna from all over the Atlanto-Mediterranean zoogeographical subregion more obvious, especially both inside and outside the Mediterranean basin.

REFERENCES

- BARROIS, TH., 1888. Catalogue des Crustacés marins recueillis aux Açores durant les mois d'août et septembre 1887: 1-110, pls. 1-4. (Lille).
- BATE, C. S., 1888. Report on the Crustacea Macrura collected by H. M. S. "Challenger" during the years 1873-76. Rep. scient. Res. Voy. Challenger, (Zool.) **24**: 1-942, pls. 1-150.
- BERNARD, F., 1953. Decapoda Eryonidae (*Eryoneicus* et *Willemoesia*). Dana Rep., **37**: 1-93.
- BOUVIER, E. L., 1915. Observations nouvelles sur la genre *Eryoneicus*. Bull. Inst. océanogr. Monaco, **309**: 1-8.
- —, 1917. Crustacés Décapodes (Macroures marcheurs) provenant des campagnes des yachts Hironnelle et Princesse-Alice (1885-1915). Résult. Camp. scient. Monaco, **50**: 1-140.
- CROSNIER, A. & J. FOREST, 1973. Les crevettes profondes de l'Atlantique oriental tropical. Faune Tropicale, **19**: 1-409. (ORSTOM, Paris).
- DOHRN, P., 1950. Studi sulla *Lysmata seticaudata* Risso (Hyppolitidae). I: Le condizioni normali della sessualità in natura. Pubbl. Staz. zool. Napoli, **22**: 1-16.
- DOHRN, P. & L. B. HOLTHUIS, 1950. *Lysmata nilita*, a new species of prawn (Crustacea, Decapoda) from the western Mediterranean. Pubbl. Staz. zool. Napoli, **22**: 339-347.
- DOUNAS, C. & A. KOUKOURAS, 1989. *Odontozona minoica*, new species, from the eastern Mediterranean Sea (Decapoda: Stenopodidea). Journal of Crustacean Biology, **9** (2): 341-348.
- FAXON, W., 1895. The stalk-eyed Crustacea. Mem. Mus. comp. Zool. Harvard, **18**: 1-292, pls. 1-57.
- FRANSEN, C. H. J. M., 1991. *Lysmata olavo*, a new shrimp of the family Hippolytidae (Decapoda, Caridea) from the eastern Atlantic Ocean. Archipelago, Life Earth Sci., **99**: 63-73.
- FROGLIA, C., 1979. Segnalazione di alcuni Crostacei Decapodi nuovi per la fauna adriatica. Quad. Lab. Tecnol. Pesca, **2** (4): 191-196.
- GARCÍA RASO, J. E., 1985. Nuevas aportaciones a la fauna de crustáceos decápodos de la isla de Alboran (España). Bolm. Soc. Portuguesa Entomologia, **1**: 11-18.
- —, 1996. Crustacea Decapoda (excl. Sergestidae) from Ibero-Moroccan waters. Results of Balgim-84 Expedition. Bull. mar. Sci., **58** (3): 730-752.
- GRIPPA, G., 1991. Note sui Crostacei Decapodi dell'isola del Giglio (Arcipelago Toscano). Soc. Italiano Sci. nat. Museo civ. Storia nat., Milano, **131** (24): 337-363.
- KEVREKIDIS, K. & T. KEVREKIDIS, 1996. The occurrence of *Penaeus japonicus* Bate (Crustacea, Penaeidae) in the Aegean Sea. Crustaceana, **69** (7): 925-929.
- KOUKOURAS, A., 1998. The genus *Processa* Leach (Decapoda, Caridea) in the Aegean Sea. Crustaceana, **71** (2): 228-233.
- KOUKOURAS, A., C. DOUNAS, M. TÜRKAY & E. VOULTSIADOU-KOUKOURA, 1992. Decapod crustacean fauna of the Aegean Sea. New information, check list, affinities. Senckenbergiana marit., **22** (3/6): 217-244.
- KOUKOURAS, A., A. KALLIANIOTIS & D. VAFIDIS, 1998. The decapod crustacean genera *Plesionika* Bate (Natantia) and *Munida* Leach (Anomura) in the Aegean Sea. Crustaceana, **71** (6): 714-720.
- KOUKOURAS, A., M.-S. KITSOS & A. TSELEPIDES, 1999. The genera *Chaceon* Manning & Holthuis and *Geryon* Krøyer (Decapoda, Geryonidae) in the eastern Mediterranean. Crustaceana (in press).
- KOUKOURAS, A. & M. TÜRKAY, 1996. A new species of *Periclimenes* from the Aegean Sea (Crustacea: Decapoda: Palaemonidae). Senckenbergiana biologica, **76** (1/2): 135-142.
- LAGARDRE, J. P., 1970. Les crevettes du golfe de Gascogne (région sud). Téthys, **1** (4): 1023-1048.
- —, 1971. Les crevettes des côtes du Maroc. Trav. Inst. scient. chérif., Faculté des Sciences, (Zool.) **36**: 1-140.
- LO BIANCO, S., 1903. Le pesche abissali eseguite da F. A. Krupp col yacht "Puritan" nelle adiacenze di Capri ed in altre località del Mediterraneo. Mitt. zool. Stat. Neapel, **16**: 109-279.

- MILNE-EDWARDS, A. & E.-L. BOUVIER, 1894. Crustacés Décapodes provenant des campagnes du Yacht l'Hirondelle (1886, 1887 et 1888). Première partie. Brachyures et Anomoures. Rés. Camp. scient. Monaco, **7**: 1-112, pls. 1-11.
- MORENO, E. & H. FERNÁNDEZ-PALACIOS, 1981. Primera cita para el Atlántico centro-oriental de *Lysmata nilita* Dohrn & Holthuis, 1950 (Decapoda: Hippolytidae). Inv. Pesq., Barcelona, **45** (1): 27-32.
- PRETUS, J. LL., 1990. Description of *Odontozona addaia* spec. nov. (Crustacea: Decapoda: Stenopodidae) from a marine cave in the Island of Minorca, Western Mediterranean. Zoologische Mededelingen, Leiden, **63** (26): 343-357.
- SAINT-LAURENT, M. DE, 1971. Campagne d'essais du "Jean Charcot" (3-8 Décembre 1968). 6. Sur *Galathea machadoi* Barrois et *G. bispinosa* sp. nov. Clef des espèces européennes du genre *Galathea* (Crustacea Decapoda Galatheidae). Bull. Mus. nation. Hist. nat., Paris, (2) **42** (4): 716-724.
- SELBIE, C. M., 1914. Palinura, Astacura, and Anomura (except Paguridea). The Decapoda Reptantia of the coasts of Ireland. Part I. Sci. Invest. Fish. Branch Ireland, **1**: 1-116.
- UDEKEM D'ACÓZ, C. D', 1992. Contribution à la connaissance des Crustacés Décapodes Helléniques, I: Brachyura. Bios, **1**: 9-47.
- —, 1993. Description d'une nouvelle crevette de l'île de Lesbos: *Hippolyte saphica* sp. nov. (Crustacea, Decapoda, Caridea, Hippolytidae). Belgian Journ. Zool., **123** (1): 55-65.
- —, 1995. Contribution à la connaissance des Crustacés Décapodes Helléniques. II: Penaeidea, Stenopodidea, Palinuridea, Homaridea, Thalassinidea, Anomura, et note sur les Stomatopodes. Bios, **3**: 51-77.
- —, 1996. The genus *Hippolyte* Leach, 1814 (Crustacea: Decapoda: Caridea: Hippolytidae) in the east Atlantic Ocean and the Mediterranean Sea, with a checklist of all species in the genus. Zoologische Verhandelingen, Leiden, **303**: 1-133.
- ZARIQUIEY ALVAREZ, R., 1968. Crustáceos Decápodos Ibéricos. Inv. Pesq., Barcelona, **32**: 1-510.

First received 29 June 1999.

Final version accepted 7 September 1999.