was in proof and added it in an addendum (p. 261) and referred the species to the genus *Macrobrachium*. Tiwari (1955: 230-236, fig. 1), still using the generic name *Palaemon* rather than *Macrobrachium*, considered *P. choprai* and *P. spinipes birmanicus* to be specifically synonyms, but subspecifically distinct, and used the names *P. c. choprai* and *P. c. birmanicus* for the Indian and Burmese subspecies, respectively. Ahmad (1957: 24, pl. 7 fig. 20) accepted Tiwari's taxonomy, but, in agreement with the International Code of Zoological Nomenclature, used the older of the two names for the nominal subspecies and (by inference) the younger for the second subspecies: *Palaemon b. birmanicus* Schenkel, 1902, for the Burmese subspecies, and *P. birmanicus choprai* Tiwari, 1949, for the Indian subspecies. Johnson (1973: 277-279) synonymized both *P. birmanicus* and *P. choprai* with *Macrobrachium malcolmsonii* (H. Milne Edwards, 1844); he treated *P. choprai* as a subspecies of *M. malcolmsonii* and considered the status of *P. spinipes birmanicus* to be rather doubtful. Holthuis (1980: 88, 89, 99) treated *M. choprai*, *M. birmanicus* and *M. malcolmsonii* as three good species. Recent investigations by one of us (K. K. T.) made us reach the conclusion that *Palaemon spinipes birmanicus* Schenkel, 1902, *Palaemon choprai* Tiwari, 1949, and now *Macrobrachium gangeticum* Bate, 1868, all belong to the same species, which, however, is specifically different from *M. malcolmsonii*. If the Burmese specimens of *Macrobrachium gangeticum* should deserve a subspecific status, the name *Macrobrachium gangeticum birmanicum* (Schenkel, 1902) is available for them.

The very confused nomenclatural situation of the species under consideration can easiest be solved by a strict adherence to the rules of the International Code of Zoological Nomenclature.

As no type material of *Macrobrachium gangeticum* is in existence anymore, it might be good, in order to avoid any difficulties, to select a neotype for that species. In our opinion the most simple and straightforward solution is to select as this neotype the adult male type specimen of *Palaemon choprai* from the Ganges River near the Dufferin Bridge at Rajghat, Banaras, India, described and figured by Tiwari, 1949. This specimen, which is preserved in the collection of the Zoological Survey in the Indian Museum, Calcutta, under the registered number C 2843/1, is now at the same time selected as the lectotype of *Palaemon choprai*. By these actions *Macrobrachium gangeticum* and *Palaemon choprai* become objective synonyms.

The large freshwater prawn of the middle and upper Ganges thus should be known as *Macrobrachium gangeticum* Bate, 1868; the junior synonyms of this name are *Palaemon spinipes birmanicus* Schenkel, 1902, and *Palaemon choprai* Tiwari, 1949. *Macrobrachium malcolmsonii* (H. Milne Edwards, 1844) is a different species.



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# THE OCCURRENCE OF *PENAEUS JAPONICUS* BATE (DECAPODA, PENAEIDAE) IN THE AEGEAN SEA

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The prawn *Penaeus japonicus* Bate, 1888 is an Indo-West Pacific species; it ranges from the Red Sea, East and Southeast Africa to Korea and Japan, southward to Indonesia, North and Northeast Australia and eastward to Fiji (Bailey-

TABLE I

Distance from coast, depth and substrate type of the four sampling locations near Rodos island

| Sampling location | | Distance from the coast (km) | Depth (m) | Substratum |
|---|---|---|---|---|
| Aerodromio | (A) | 0.74 | 29.0-31.0 | sand |
| Genadi | (B) | 1.11-1.57 | 14.5-22.0 | sand |
| Haraki | (C) | 1.48-1.85 | 14.5-40.0 | muddy sand |
| Kameiros | (D) | 1.7 | 47.0-64.0 | sand |

TABLE II

Total length (TL), carapace length (CL), wet weight and suggested age class of four males of *Penaeus japonicus* Bate collected at the four sampling locations

| Location | Number of specimens | TL (mm) | CL (mm) | Wet weight (g) | Age class (years) |
|---|---|---|---|---|---|
| A | 1 | 178 | 44 | 37.65 | $1^+$ |
| B | 1 | 210 | 52 | 58.2 | $2^+$ |
| C | 1 | 116 | 22 | 10.64 | $0^+$ |
| D | 1 | 173 | 43 | 39.38 | $1^+$ |

Brock & Moss, 1992). The species is also present along the south-eastern coast of the Mediterranean Sea where it has migrated from the Red Sea through the Suez Canal (Lessepsian migrant) (e.g., Por, 1978). *P. japonicus* was reported from Syria by Gruvel (1928) (in Por, 1978), while earlier the species had been reported from Port-Said, at the north end of Suez Canal (Balss, 1927 in Por, 1978).

Decapod crustaceans and especially Penaeidae are considered among the best colonizers and together with the Pisces and the Mollusca are a "leading" taxon among Lessepsian migrants (Por, 1978; Por & Dimentman, 1989). Por (1978) includes *Penaeus japonicus* among the 25 most successful migrants, in terms of area extension, from the list of high probability Lessepsian migrants. In the eastern Mediterranean Sea *P. japonicus* is found also along the coasts of Egypt, Israel, Lebanon, Cyprus, and the Mediterranean coast of Turkey (Alexandretta, Mersina, Attaleia) (e.g., Gottlieb, 1953; Holthuis, 1961; Geldiay & Kocataş, 1968; Dowidar & Ramadan, 1972; Shiber, 1976; Lewinsohn & Holthuis, 1986). At present, the species constitutes 30% of the total catch of prawns of the genus *Penaeus* in the area of Alexandria in Egypt, together with *P. semisulcatus* De Haan, 1844 (39%) and *P. kerathurus* (Forskål, 1775) (31%) (Dr. S. Ghoneim, pers. comm.). In Israel, fisheries return 20-30tn of *P. japonicus* per year (Holthuis, 1987).



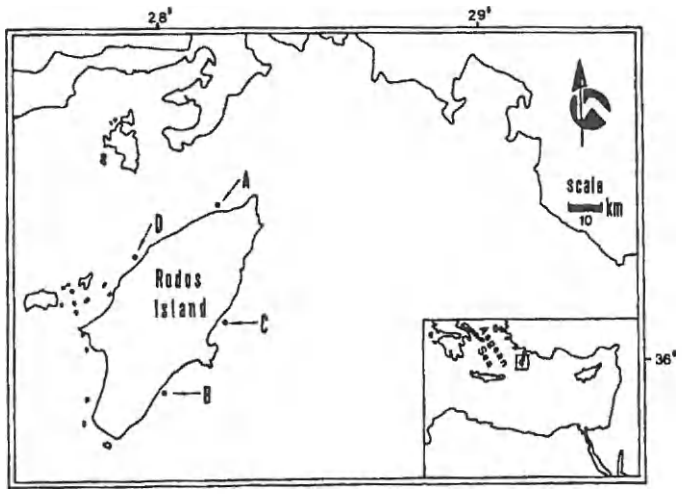


Fig. 1. Rodos island with sampling locations. A, Aerodromio; B, Genadi; C, Haraki; D, Kameiros.

On 13, 23, 24, and 26 of March, 1995, four different cruises were conducted by trawling inshore at the following four stations along the coast of Rodos island: Aerodromio (A), Genadi (B), Haraki (C) and Kameiros (D) (fig. 1). The type of substrate, the depth and the distance from the coast of the sampling locations are shown in table I. Four males of *Penaeus japonicus* were caught, one from each station. Measurements of total and carapace lengths, total wet weight and suggested age class (based on the somatometric characteristics) of each specimen are shown in table II. The present finds represent the first record of the occurrence of *P. japonicus* near Rodos island and, generally, in the Aegean Sea, since the species has not been reported previously from these areas. *P. japonicus* is not included in the list of decapods of Rodos island published by Lewinsohn (1976) and in that of the whole Aegean Sea presented by Koukouras *et al.* (1992).

This first record of *P. japonicus* in the Aegean Sea forms an extension of its distribution in the Mediterranean Sea and it is suggested to be the result of the gradual spreading of the species along the Mediterranean coast of Turkey.

Lumare & Casolino (1986) recorded *P. japonicus* in the Adriatic Sea, offshore between Termoli and Varano lagoon. This find was interpreted by the authors either as a result of the natural dispersal of the species in the eastern Mediterranean Sea, or due to the restocking trials, of artificially produced seed, in the Lesina and Varano lagoons. However, the first hypothesis is not supported by

the known distribution of the species in the Mediterranean Sea or by the view that the settlement areas of the Lessepsian migrants within the Mediterranean extend on the one hand up to a part of the South Aegean Sea and, on the other, up to the eastern coast of Sicily, excluding the Adriatic Sea (Por, 1990). On the contrary, the second hypothesis is supported by the presence of *P. japonicus* in coastal areas of the Atlantic Ocean (Rodriguez, 1989) and of the Mediterranean Sea (France, Sicily) (Holthuis, 1987; Noël, 1992), which was attributed to the escape of the species from aquaculture installations.

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