PRELIMINARY NOTES ON THE *JAXEA NOCTURNA* NARDO (1847) LARVAE FROM TURKISH WATERS

by Ulker DEMIRHINDI

The family Laomediidae deserves attention in view of the extreme rarity of the species. In fact hitherto the only species of *Jaxea genus* which has been described is *Jaxea nocturna* NARDO (1847).

However GURNEY (1924) has recorded the occurrence of some larvae in New Zealand waters which shows certain minor differences from *Jaxea nocturna* and described them as « a second species ». After having obtained a single larva from Samoa measuring 3,55 mm and having no rostrum, GURNEY (1938) concluded there were two species differing slightly in degree of development at hatching in New Zealand waters. But GURNEY who remarked that « the two forms agree in having a pointed lateral process on abdominal somit I which appears to be lacking in *Jaxea nocturna* », wrote in his account of the Decapoda of Terra Nova (1924, p. 151) :

« In *J. nocturna* according to Cano the first somite has no spine, but I am doubtful if this is a real specific difference, since this spine is certainly present in a larva in a later stage (stage IV) taken on the Eddystone ground near Plymouth. This spine is, however, omitted from Bouvier's drawing (1914, fig. 1) ».

A contradiction is to be found in the writing of GURNEY who himself said « and the descriptions of the various authors are not always clear ».

On the other hand, KURIAN (1956) obtained a single specimen in stage VI from Mljet, which differs from both *Jaxea nocturna* and *Jaxea* sp. GURNEY mainly in the absence of lateral spines on the last abdominal somite and in possessing only 12 strong spines in the hollowed posterior margin. Thus he described it as a new species.

In the plancton samples from almost all stations located in Turkish waters (except the Black Sea), a large number of specimen larva was taken which agrees generally with the European Trachelifer. We noticed some minor differences in some specimens (fig. 1,2) * when compared with *Jaxea nocturna*. Some of them had already caused the authors to describe new species.

Judging from our findings in large number of *Jaxea* larvae from Turkish waters, we believe we would be right in supposing that the larva studied formerly was taken singly or in small number so that it would not be easy to show probable variations in some characteristics and when a larva with such minor differences is first observed it is thought that it belongs to a different species, though actually it belongs to the same species.

In fact, we did not observe characteristics formerly listed for stages I to III of the larvae *Jaxea nocturna*. Stages I-III were represented by some larvæ having minor differences. But

(*) The photos in text were taken by Mr Cafer TURKMEN.

taking 1404 larvae as a whole it is evident that all developmental stages complete a series and they belong to the same species, i.e. *Jaxea nocturna*.

Therefore we thought it well to summarize our conclusions from the characteristics which we observed :

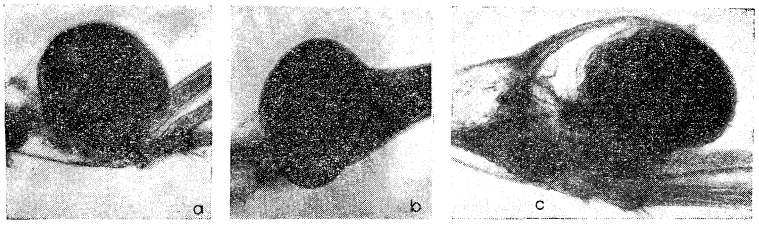

FIG. 1 — a) *Rostrum has not yet formed;*
b) *Rostrum in the form of a skin covering the eyes, in the front;*
c) *Separate rostrum.*

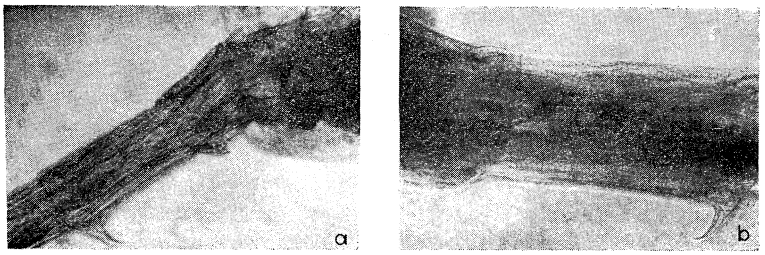

FIG. 2.— a) *1st abdominal somit with spine;*
b) *1st abdominal somit without spine.*

1°) In stage I (3,2-5,4 mm), the rostrum is generally extended in front of the eyes as a projection of the skin which covers the eyes. But it may be represented with a small bud which could be detected with a careful microscopical examination. In stages II (3,3-8,9 mm) to VI (13-15,2 mm) the rostrum is found to be stretched out between the eyes as a continuation of the neck.

2°) In stages I to III (5,2-11,1 mm) the fact that the first somite bears a pair of lateral hooks is not a specific characteristic of stages I-III. However, we have seen no spine in the later stages (stage IV, 7,3-12,1 mm) to VI.

3°) A hair varying in lenghts, emanates from the base of the outermost seta in stages I-III. This hair is easily overlooked except when the specimen is carefully examined under the microscope. A single or a pair of hairs may be seen on the terminal seta in stages IV-VI. In some specimens the outer margin of telson is slightly serrated in its distal third. Also some specimens have a tooth on the outer margin of the exopodite of uropods.

The distribution and seasonal occurrence of larvae.

The *Jaxea* larvae are widely distributed in the Sea of Marmara, Dardanelles, Aegean Sea (up to the Gulf of Izmir) and the Gulf of Iskenderun (fig. 3). In the Sea of Marmara the

larvae were taken from all stations. But the greatest number of larvae were obtained in the collection from costal waters and from stations having a total depth of 50 to 80 m. The larvae occur at all depths from the surface to a depth of 200 m. But we are unable to say if larvae occur at the depths greater than 200 m since no collection were made below this level.

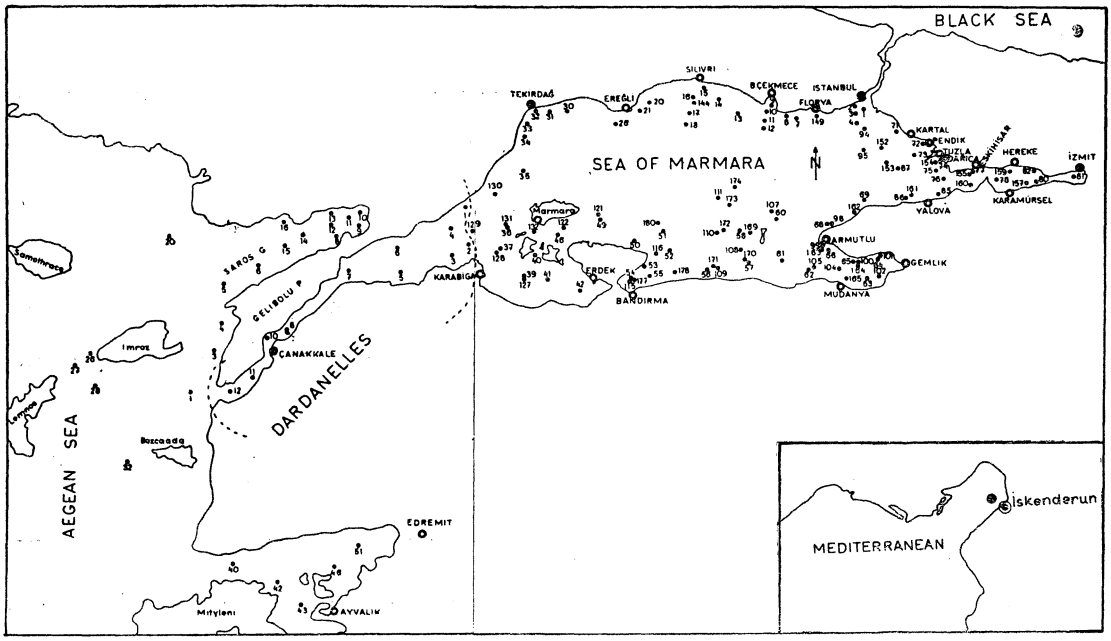

FIG. 3. — *Maps showing the stations where* Jaxea larvae *were obtained during the period of* 1952-1960.

Since adult forms do not sink deeper than 200 m if a larva is obtained from a depth greater than those for the adult it has no doubt been carried by the current out of its normal habitat.

Régions	Months							
	II	III	IV	V	VI	VII	VIII	IX
Sea of Marmara	—	+	+	+	+	+	+	+
Dardanelles	—	—	+	+	+	+	+	—
Argean Sea (1)	—	—	+	+	+	+	+	—
Gulf of Iskenderun	+	+	—	—	—	—	—	—

(1) From Dardanelles to gulf of Iskenderun.

TABLE I. — *Seasonal occurrence of* Jaxea larvae *according to the collections at hand.*

Seasonal occurrence of larvae in our costal waters are summarized in table I. The larvae in the first stage were collected from Marmara, from april to july, with a peak in june; from Dardanelles, in april, may and june with maximum in april; and from Aegean Sea, from april

to august with peak in may. The larva in first stage were found in collections made from the Gulf of Iskenderun during February (2 specimens). As seen in table I *Jaxea* larvae were found in Turkish waters throughout the year i.e. in Marmara from march to september. Generally speaking, in Marmara the spawning occurs a little late and covers rather a long period when compared with those in the Gulf of Iskenderun.

In the waters where the larvae occur temperature and salinity varied within 8-24° C and 22 ‰ — 38.5 ‰ respectively in accordance with time and locality.

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