

A Preliminary Report on the Norway Lobster (*Nephrops norvegicus* L.) in the Jabuka Pit

by

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LORENZ [1863] maintained that the Norway Lobster was a relic of the glacial epoch in the Adriatic. In the last and at the beginning of this century LORENZ' hypothesis was accepted by many authors who were investigating the Adriatic fauna. The presence of the Norway Lobster in the Adriatic raised a great interest from the ecologic and zoogeographic point of view.

Some authors [PESTA, 1918; KARLOVAC, 1953] have not accepted LORENZ' hypothesis that the Norway Lobster is a glacial relic in the Adriatic. KARLOVAC has been of the opinion that the nature of the sea-bottom is the decisive factor responsible for the Norway Lobster distribution in the open Adriatic.

The most recent researches on the Norway Lobster ecology [JENSEN, 1965; DYBERN & HÖISAETER, 1965] show that temperature and light can also influence the distribution, availability and behaviour of this decapod.

Distribution, behaviour and availability of the Norway Lobster in the Jabuka Pit

The Jabuka Pit presents a favourable area for the life and distribution of the Norway Lobster. The fine colloidal mud, which enables quick burrowing, very low temperatures all the year round, the high grade of sea-water transparency, accompanied by the appearance of higher algae (*Laminaria rodri-*

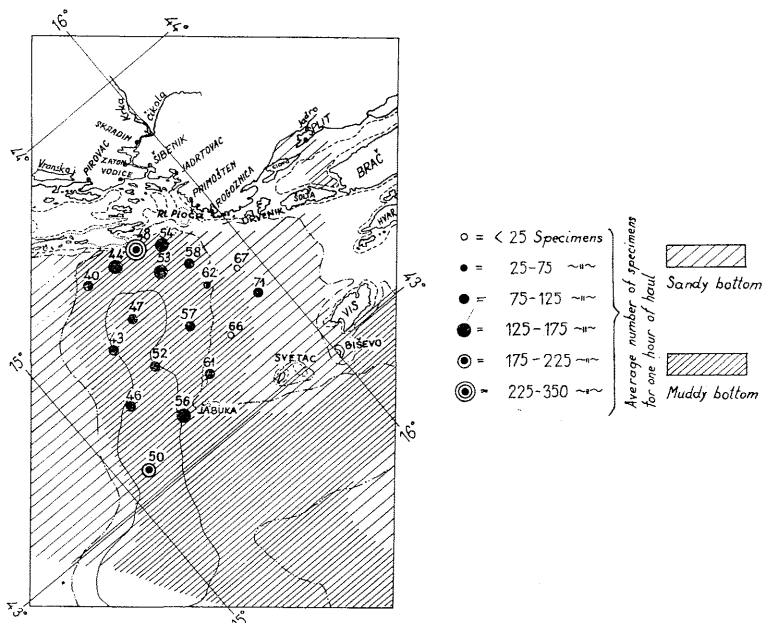


FIG. 1. — The relative density of the Norway Lobster (*Nephrops norvegicus* L.) in the Jabuka Pit in the period 1948-1965.

guezii, and *Halarachnium spathulatum fo. luxuriens*), the luxuriant "prairie" of the octocorals *Funiculina quadrangularis* and the thick colonies of the sponge *Thenea muricata* — make the Jabuka Pit one of the richest areas for Norway Lobster fishing in the Adriatic.

The relative density of the Norway Lobster in the Jabuka Pit in the period 1948-1965 is shown in Fig. 1. As the unit of the relative density the mean catch per unit effort of one hour-trawling has been used. The total of 22,987 Norway Lobster specimens or 191 hauls of one hour-trawling have been analyzed.

The fluctuation of the Norway Lobster catches by the Yugoslav trawlers at the stations nearer to the coast, and the fluctuation of the catches by the research ship *Bios* of the Institute of Oceanography and Fisheries at Split, for the period 1956-1965 are shown in Table I.

Analyzing the mean catch of one hour-trawling in Fig. 1, one can see that the most densely populated Norway Lobster stations are mostly nearer to the mainland.

From the data in Table I, we can conclude that the Norway Lobster catches at the stations nearer to the mainland in the Jabuka Pit have decreased from 64,573 kg in 1957 to only 10,419 kg in 1963. The maximal catches were attained in 1956 and 1957, the minimal in 1962 and 1963. The average catch in one fishing day shows similar fluctuations. Similar fluctuations are also seen from the data on the mean (N) catch per one hour-trawling by the research ship *Bios*.

Fig. 2. shows relation between the Norway Lobster catches in the last ten years and the fluctuation of the mean bottom temperature in the Jabuka Pit*.

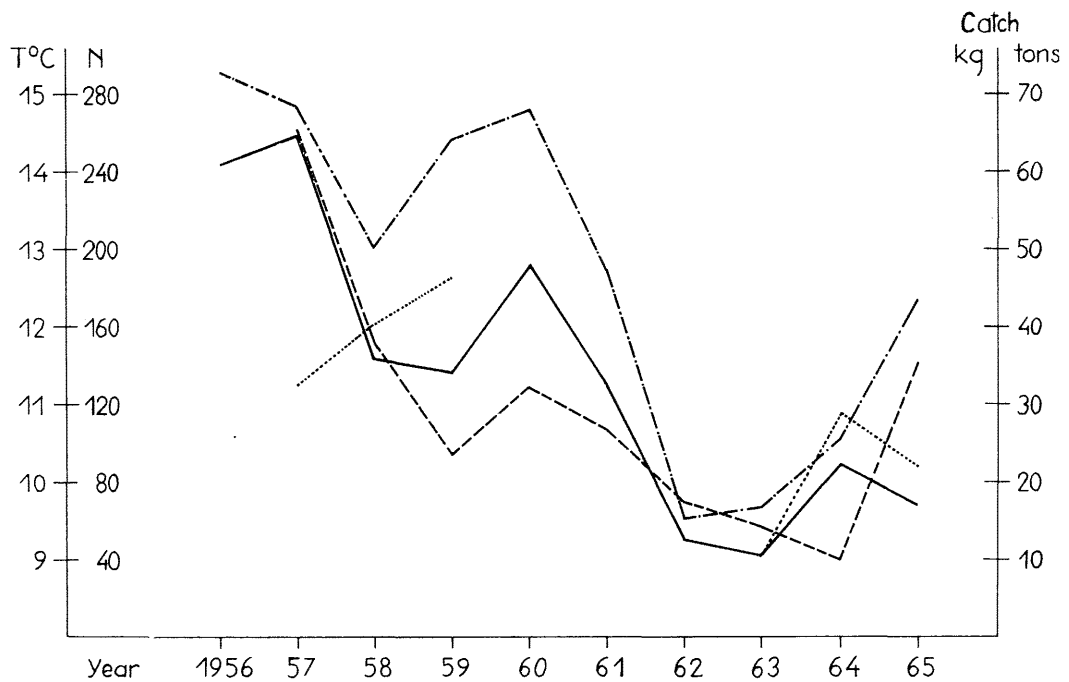


FIG. 2. — Relation between the Norway Lobster (*Nephrops norvegicus* L.) catches by the Yugoslav trawlers, the catches by the research ship "Bios" and the mean bottom temperature in the Jabuka Pit in the period 1956-1965.

- Total catches by the Yugoslav commercial trawlers (tons)
- Average catch per day fishing (kg)
- Average number of specimens for one hour of haul (m/b "Bios")
- · - · - Mean bottom temperature in the Jabuka Pit (T°C)

* The data on the bottom temperature for June and Sept., 1957 and for June 1958 have been taken from the work of M. BULJAN and M. ZORE-ARMANDA: "Hydrographic data for the Adriatic collected in the period 1952-1964" (in press).

TABLE I. *The catches of Norway Lobster in the Jabuka Pit*

Year	Commercial catch (kg)	Effective Days fishing	Catch per day fishing (kg)	Catch per Bios (N/hour) N
1956	60 818	835	72,84	—
1957	64 573	947	68,19	262
1958	35 629	712	50,04	151
1959	33 937	530	64,03	93
1960	47 834	706	67,75	128
1961	32 429	688	47,14	106
1962	12 493	822	15,20	69
1963	10 419	626	16,64	56
1964	22 254	880	25,29	39
1965	16 779	386	43,47	142

The obtained data in Fig. 2 denote (though the data on temperature are incomplete) that the Norway Lobster in the Jabuka Pit shows, in relation to temperature, some seasonal fluctuations in its availability to catches. Lower temperatures, probably like in the north [JENSEN, op. cit.], influence their deeper burrowing in the mud thus becoming less available to catches. This hypothesis is very important to the commercial fisheries and its confirmation in experimental conditions might be of great use.

References

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