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The fishery for Crawfish, *Palinurus vulgaris* Latr., in Cornwall

by

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Introduction

On the extreme south-west coast of Cornwall and in the Isles of Scilly there exists a small, but locally important, fishery for crawfish, *Palinurus vulgaris*. Most of the crawfish are exported to Europe through merchants at Newlyn, Mevagissey and Porthleven. Usually French well-boats collect the fish from Newlyn and transport them alive in their flooded holds.

Importance of the fishery

Landings of crawfish for the five years 1958 to 1962 are shown in Table 1, in which is also included landings and values of lobsters and crabs in the same area, since the same boats and fishermen are engaged in all three fisheries.

Considering that the fishery is conducted over about only 90 miles of thinly populated coastline, it will be appreciated that the crawfish catch makes a substantial contribution to the economy of the area - a little less than the lobster fishery and slightly more than the crab fishery in terms of cash value.

Table 1. Landings and values of crawfish, lobsters and crabs in south-west Cornwall

Year	Crawfish		Lobsters		Crabs	
	Landings (cwt)	Value (£)	Landings (cwt)	Value (£)	Landings (cwt)	Value (£)
1958	611	12,276	724	17,703	3,171	12,250
1959	1,031	19,280	694	16,599	1,811	7,321
1960	853	16,548	517	13,479	3,012	10,786
1961	393	7,860	469	12,348	3,322	14,783
1962	491	9,820	not available			
Approximate average value		13,250		15,000		11,300

The area fished

The fishery is concentrated in the extreme south-west of Cornwall, as will be seen from Fig. 1 and Table 2, which shows landings at various ports, expressed as a percentage of total landings in England and Wales from 1958 to 1962.

Table 2 Landings of crawfish at various ports as a percentage of total landings in England and Wales

Place	1958	1959	1960	1961	1962	Average	Number on Figure 1
Falmouth	-	-	0.2	0.5	-	0.1	1
Coverack	0.9	0.5	1.6	2.5	0.2	1.0	2
Cadgwith	17.2	14.9	13.7	13.4	4.0	13.3	3
Mullion	8.2	8.8	9.9	8.1	5.9	8.5	4
Porthleven	24.6	16.0	4.9	13.1	3.2	12.5	5
Newlyn	11.1	11.8	19.3	16.1	1.2	12.6	6
Isles of Scilly	19.6	28.8	20.3	24.7	27.7	24.4	7
Sennen	13.4	13.3	17.1	7.3	12.4	13.5	8
St. Ives	3.6	1.5	1.7	1.0	35.8	6.8	9
Newquay	0.3	0.5	3.4	0.5	2.6	1.5	10
Padstow	0.6	0.8	0.8	6.5	0.2	1.4	11
Port Isaac	-	0.6	2.3	4.5	4.9	1.9	12
Totals	99.5	97.5	95.2	98.2	98.1		

It will be noticed that the area under consideration produces over 95% of the crawfish landed in England and Wales. The remainder are landed at scattered points on the south Cornish coast or in south-west Wales.

The marked fluctuations in the proportions landed at different ports, as at St. Ives 1962, Newlyn 1962, are mainly due to boats changing their centre of operations from port to port.

Since there are active fisheries for crabs and lobsters, using gear which is essentially similar to that used for crawfish, on the south coast of Cornwall in areas adjoining the area where the crawfish are taken, it is reasonable to assume that large quantities of crawfish are not present east of Falmouth, as very few crawfish are caught there. Similarly it may be assumed that large quantities of crawfish are absent from the coast of Wales, although there is some evidence to suggest that they may occur in the deeper offshore waters off Wales, but there is no Welsh-based fishery for these crustaceans.

Season of fishing

The fishery for crawfish lasts from late spring until the autumn, with peak landings usually during August, or occasionally September. In Fig. 2 the monthly landings are shown as a percentage of the total landings for the year, for the years 1956-1961. From this it will be seen that fishing usually begins in May, occasionally April, rises to the summer peak and then falls away during October and November. These fluctuations may be due to some extent to weather conditions limiting the amount of fishing which can be done at either end of the season, but many fishermen are

convinced that there are onshore and offshore migrations of crawfish in the spring and autumn respectively. Yet a third explanation could be that the activity of the crawfish increases with the spring rise in water temperature, and decreases with the autumn cooling, the increase in activity being reflected in heavier catches, but at present there is insufficient evidence to show which is the correct explanation.

Fishing gear and methods

Most of the crawfish boats (which also fish for crabs and lobsters with the same gear, and many fish for other fish with other gear) are small, up to about 30 ft in length and manned by a crew of one to three men, although recently a few larger boats have entered the fishery. Most of the boats are powered by inboard engines and many are equipped with capstans for hauling the pots.

The pots are of two main types: either the traditional Cornish "inkwell" pot, hemispherical in shape with a large eye, about 10" diameter, in the top, made either of willow or of wire with wooden hoops (see Fig. 3), or the "French type" pot, which is cylindrical, about 3 ft long and 1 ft 6 in diameter, of wooden slates on wooden hoops with netted ends. There is a rectangular eye in the side of the barrel and stones are lashed to the opposite side of the pot as ballast (see Fig 4).

The pots are usually worked in strings of up to 24, but may be worked singly if the area of suitable ground is limited. Each boat works from 50 to 150 pots, and they are hauled up to 3 times a day in good weather.

Various fish, gurnards, wrasse, skate, rays, fish offal, etc. are used as bait, depending on the fisherman's preferences and the availability.

The number of crawfish caught per haul is very variable; in the peak season it may average over 50 crawfish per 100 pots hauled, but the average for the year is, of course, considerably less than this.

The catch is stored either in floating boxes or in closed pots on the sea bottom until ready for collection by merchants. Collection takes place usually twice a week, more or less often depending on quantities being caught.

Size of crawfish caught

In June and July 1963, 153 female and 85 male crawfish were measured at Newlyn. The size frequency distribution is shown in Fig. 5, in 5 mm carapace length groups. It will be seen from this figure that the majority of female crawfish caught are over 110 mm carapace length, and the majority of males exceed 150 mm carapace length. The carapace length is taken from the tip of the rostrum to the hind end of the carapace in the mid-dorsal line.

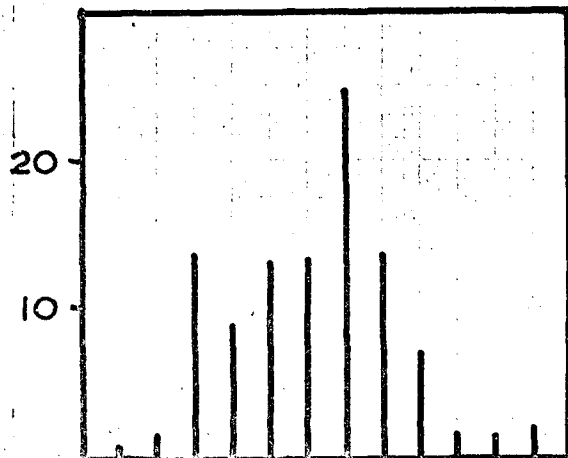
Average weights of crawfish

From fishermen's records it has been possible to calculate the average weight of crawfish landed for the Isles of Scilly and for St. Ives (Table 3).

Table 3 Calculation of average weights of crawfish,
from fishermen's records

Place	No. of crawfish	Wt. of crawfish	Average wt.
Isles of Scilly	883	2,651 lb	3.0 lb
St. Ives (1959)	536	2,399 "	4.5 "
" " (1958)	507	2,213 "	4.4 "
Total	1,926	7,263 "	3.8 "

AVERAGE LANDINGS AS
% OF ANNUAL TOTAL



1 2 3 4 5 6 7 8 9 10 11 12

STATION No.

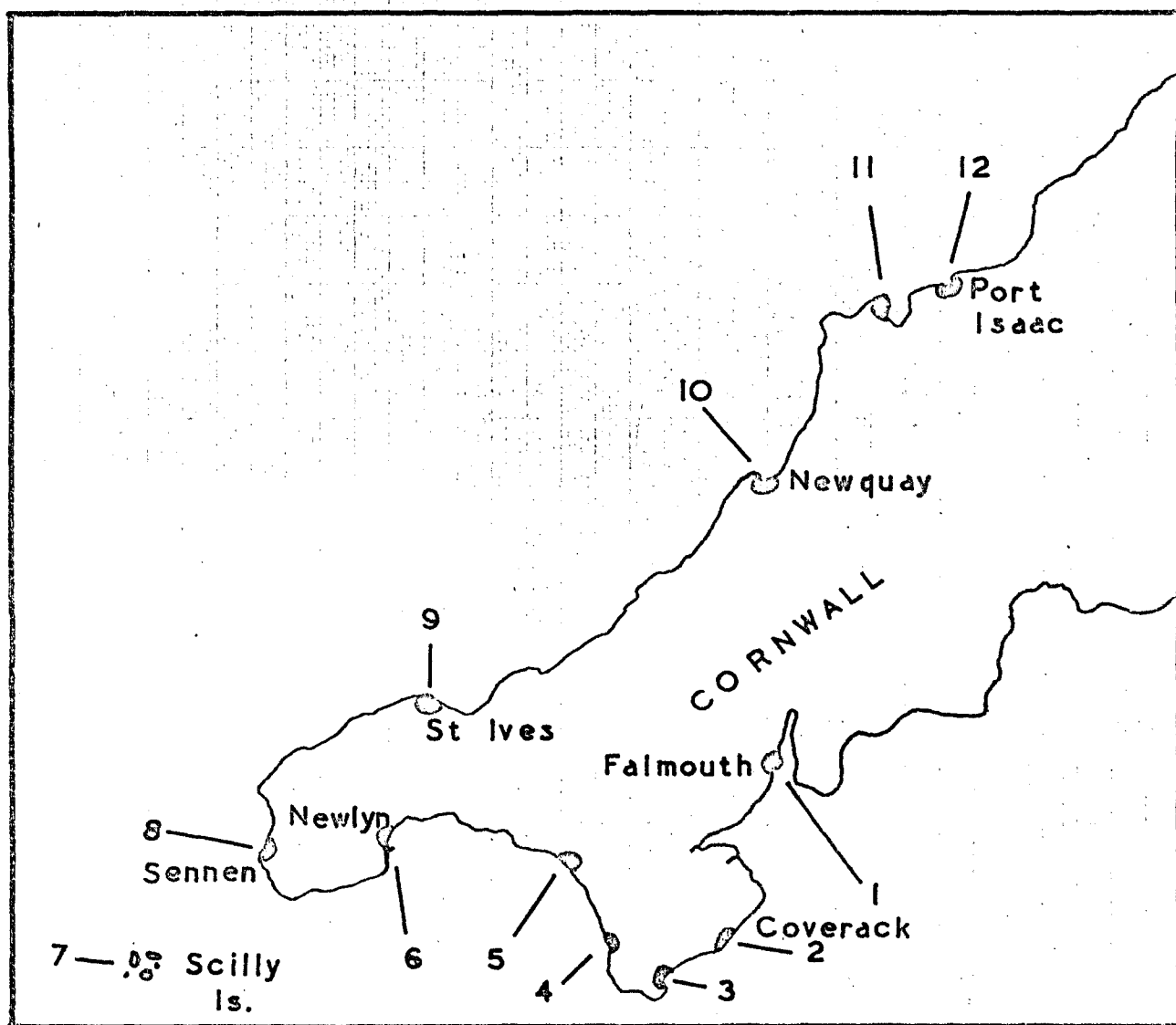
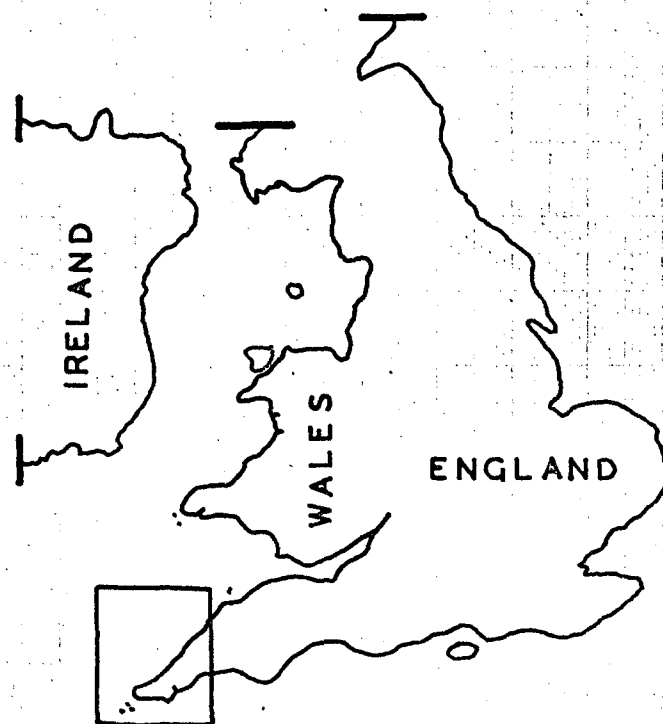


Fig. 1. Map of the area fished for crawfish with (inset) histogram of average annual landings, by ports, expressed as a percentage of average total landings in England and Wales, 1958-62.

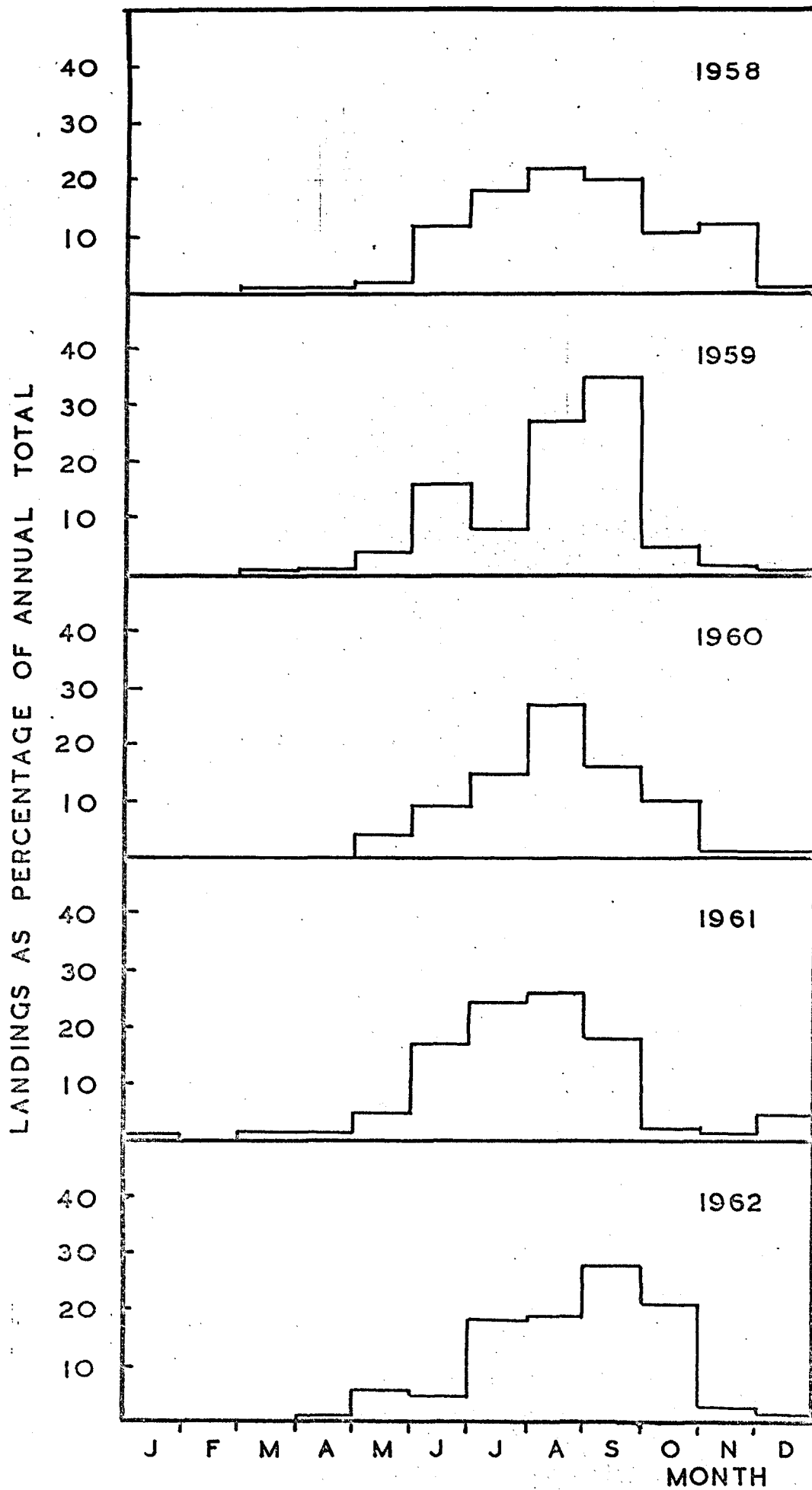


Fig. 2. Monthly landings of crawfish expressed as percentage of annual total landings for the years 1958-62.

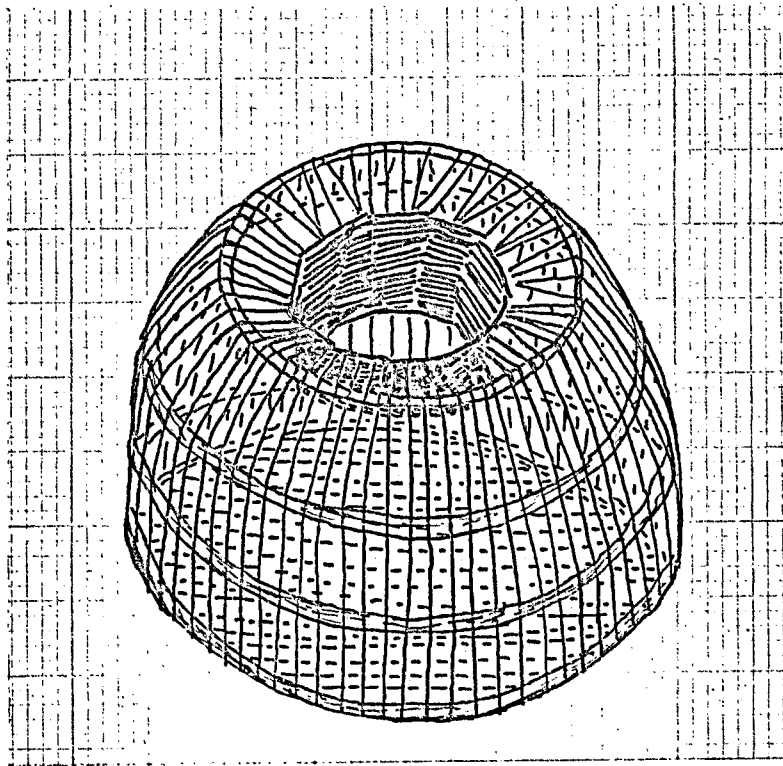


Fig. 3. Traditional Cornish "inkwell" type pot.

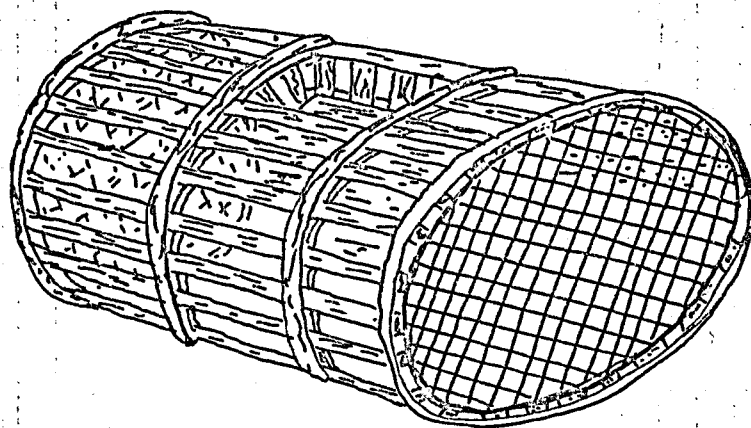


Fig. 4. "French type" pot.

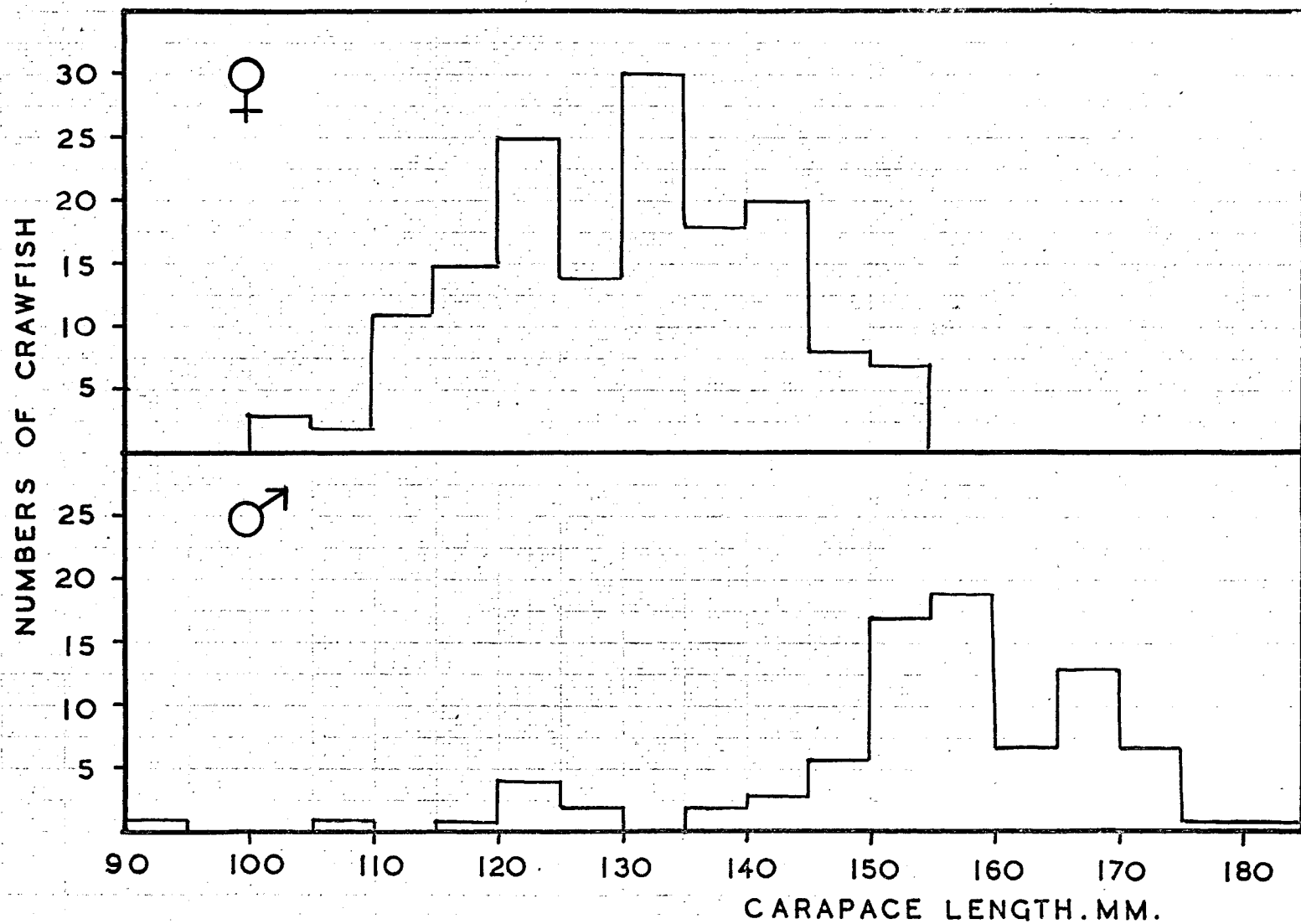


Fig. 5. Size frequency distribution, in 5 mm carapace length groups, of 153 female (above) and 85 male (below) crawfish measured at Newlyn, June-July 1963.