

THE FOOD OF *SAURIDA UNDOSQUAMIS*
IN THE EASTERN MEDITERRANEAN
IN COMPARISON WITH THAT IN JAPANESE WATERS (1)

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As has been noted for some time, fishes from the Red Sea have entered the Mediterranean Sea, most likely through the Suez Canal and have become established. This immigration is continuing (BEN-TUVIA, in press) and some of the species have increased in numbers to such an extent that they have become commercially important. One of the «immigrant» fishes from the Red Sea that has recently become important in the trawl fisheries off the coast of Israel is *Saurida undosquamis*. This species is known from Japan, the Indian Ocean, South Africa and the Red Sea. In the eastern Mediterranean it has been reported off Cyprus and as far north as Mersin Bay, Turkey.

As part of the study of its general biology, an investigation was started on the stomach contents of *S. undosquamis* in the eastern Mediterranean. For the preliminary survey, the stomach contents were identified as far as possible and the number of stomachs containing each item recorded (see tabl.).

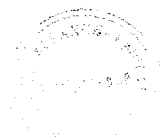
The food of *Saurida undosquamis* was studied quite intensively in Japan (T. HAYASHI *et al.*, 1960 ; T. HAYASHI and Y. YAMAGUCHI, 1960 ; M. TORIYAMA, 1958). On comparing the food items taken in the eastern Mediterranean (see table) with the list presented by TORIYAMA (1958) it can be seen that the feeding habits of *Saurida undosquamis* are very similar, fish forming about 78-80 p. 100 of the stomach contents in both areas.

The food of *Saurida undosquamis* — a comparison between the Mediterranean and Japanese regions.

Dussumeria productissima, *Leiognathus klunzingeri*, *Upeneus moluccensis* and *Upeneus tragula* which form considerable portions of the stomach contents of *Saurida undosquamis* in the eastern Mediterranean are also immigrants to this region from the Red Sea. There appears to be some selection in the capture of prey as *Triglida* species are rarely eaten although they occur in large numbers in the trawl together with red mullets, Leiognathidae, gobies and other fishes eaten by *Saurida undosquamis* off the Mediterranean coast of Israel. Anchovies (*Engraulis* spp.) are most important in the diet of *Saurida* both in the eastern Mediterranean and in Japanese waters. In both areas a number of crustaceans and cephalopods are also eaten.

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Prey found in stomachs	N ^o of stomachs	% of total n ^o of stomachs containing prey Mediterranean	% of n ^o of stomachs	% of total weight of stomach cont. Japan (1)
Clupeoid fish (sardines, anchovies)	68	7.92	4.65	23.4
<i>Dussumieridae</i>	4	.47	.27	
<i>Breogmacerotidae</i>				1.6
Apodes	1	.12	.07	.3
<i>Serranidae</i>	11	1.28	.7	
<i>Apogonidae</i>				1.2
<i>Carangidae</i>	1	.12	.07	2.2
<i>Leiognathidae</i>	10	1.16	.68	6.4
<i>Mullidae</i>	40	4.66	2.74	1.6
<i>Sparidae</i>	5	.34	.58	
<i>Champsodontidae</i>				3.2
<i>Maenidae</i>	11	1.28	.75	
<i>Gobiidae</i>	28	3.26	1.91	.3
<i>Callionymidae</i>				.3
<i>Blenniidae</i>				.6
<i>Triglidae</i>	1	.12	.07	
<i>Platycephalidae</i>				.6
<i>Heterosomata</i>	3	.35	.21	.6
unidentified fish	481	56.0	32.9	35.6
p. 100 of stomachs containing fish			77.32	78.5
invertebrates				
unidentified	4	.47	.27	
cephalopods	14	1.63	.96	12.0 (mollusca)
crustaceans	78	9.08	5.34	6.1
sea pens	15	1.75	1.03	
p. 100 of stomachs (with contents) containing invert. unidentified matter	77	8.46	5.27	12.0
algae	7	.81	.48	
miscellaneous				9.27
Total n ^o of stomachs with contents	859	99.52	99.92	98.2
Total n ^o of stomachs examined	1462			

(1) Data taken from M. TORIYAMA, 1958.

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