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Feeding accustomation of the ballan wrasse in the Sea of Marmara

Labrus bergylta Ascanius 1767

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Abstract:

Labrus bergylta Ascanius 1767, a large common labrid inhabiting shallow waters around Sea of Marmara. The North-west Sea of Marmara population of Ballan wrasse (*Labrus bergylta*) ranges along the Barbaros, Uçmakdere, to Ince Burun. Although *L. bergylta* is abundant in this region, very little is known about important aspects of its biology, such as feeding habits. This study investigated feeding accustomation of the northwest Sea of Marmara of *L. bergylta* population through analysis of stomach contents.

Representative samples were collected (early June to late August) from areas known as rocky areas that distributes of ballan wrasse from the area monthly (June 2000-August 2004) around Sarkoy on the North-west coast of the Sea of Marmara.

Their diet, temporal variation in prey and gut fullness and feeding behavior of maturing *L. bergylta* were investigated. The stomach contents of ballan wrasse were examined to determine level of feeding activity and taxa of dominant prey items. *L. bergylta* is a generalist predator, the major prey items being bivalves, echinoderms and crabs, which varied temporally in their diet. There were size specific changes in their diet. Small forms (200-250mm.) ate mostly amphipods and echinoderms, whereas larger fish (>300mm.) ate mainly echinoderms, crabs and bivalves. There was a temporal variation in gut fullness but no significant difference between sexes.

Key words: *Labrus bergylta*, Ballan wrasse, Sea of Marmara, Kikla

Material-method:

Labrus bergylta Ascanius 1767 were sampled by diving with harpoon in the area, between 2004 and 2006. Intact stomachs were removed by cutting above the esophagus and below the large intestine. Stomachs were labeled and transported in thermos bag with ice to the laboratory and examined in relatively fresh condition. The contents of stomachs were emptied onto a 500- μ m mesh sieve for rinsing and sorting. Samples were prepared for separating organic matter. Organic contents were strained, spread out on paper towels before counts and identifications to the lowest possible taxon were made.

Investigations:

Habitat: *Labrus bergylta* Ascanius 1767 is usually found in the vicinity of steep rock faces or boulder slopes at depths down to 6m. The juveniles are occasionally found in seaweed covered rocky areas on the low shore, from 1m. to 5m. deep. The diet consists mainly of molluscs that live attached to the seabed e.g. mussels (*Mytilus galloprovincialis*) echinoderms (*Paracentrotus lividus*) and crustaceans (*Eriphia spinifrons*, *Macropipus depurator*)

Distribution: This species is widespread all around the coasts of Sea of Marmara. (Also familiar in Aegeis and Mediterranean coasts of Turkish Riviera)

Feeding behavior of *L. Bergylta*

Complete list of the diet composition of ballan wrasse (n= 158; stomachs with contents), *Labrus bergylta*, from the west part of Sea of Marmara is tabulated below. Values of percent of weight (%W), frequency of occurrence (%O), and weighted resultant index (%Rw) for each food item are presented.

Food items	<i>Labrus bergylta</i>		
	% W	% O	% Rw
Algae (un)	1.68	3.12	3.03
Corallinaceae (un)	0.23	2.40	0.52
<i>Lithothamnium fruticulosum</i>	0.15	0.90	0.31
Porifera (un)	1.36	0.51	1.11
Cnidaria (un)	0.01	1.03	0.03
Hydrozoa (un)	0.03	0.12	0.01
Polychaeta (un)	0.41	3.21	0.86
Serpulidae (un)	0.08	1.50	0.13
Sipuncula (un)	0.08	0.36	0.16
<i>Aspidosiphon muelleri</i>	0.01	0.23	0.02
Cirripedia (un)	0.07	0.27	0.15
<i>Chthamalus depressus</i>	0.02	0.21	0.04
Balanidae (un)	0.00	0.07	0.00
Verrucidae (un)	0.01	0.21	0.04
Gammaridea (un)	0.13	2.20	0.26
Caprellidea (un)	1.51	0.85	2.04
<i>Phtisica marina</i>	0.01	0.13	0.01
Tanaidacea (un)	0.01	0.61	0.02
Anthuridae (un)	0.01	0.13	0.01
<i>Anthura gracilis</i>	0.01	0.07	0.01
Isopoda (un)	0.01	0.07	0.01
Decapoda (un)	8.48	3.23	9.21
Paguridae (un)	1.01	0.13	0.02
<i>Clibanarius erythropus</i>	2.01	0.96	0.73
Brachyura (un)	2.42	1.11	4.76
Xanthidae (un)	0.57	1.71	1.19
<i>Eriphia spinifrons</i>	0.00	1.07	0.01
<i>Macropipus depurator</i>	0.04	0.13	0.08
Pycnogonida (un)	0.00	0.37	0.00
Ostracoda (un)	0.01	1.07	0.00
Mollusca (un)	2.18	0.62	1.37
Polyplacophora (un)	0.14	1.23	0.26
Prosobranchia (un)	0.43	2.18	0.84
<i>Haliotis sp.</i>	1.61	1.63	3.72
Triphoridae (un)	0.01	0.29	0.01
Gastropoda (un)	0.85	2.12	1.79
Bivalvia (un)	0.61	1.54	1.37
<i>Mytillus galoprovincialis</i>	0.01	0.07	0.01
<i>Nucula nucleus</i>	0.09	1.60	0.20
Holothuroidea (un)	0.02	0.12	0.01
Asteroidea (un)	0.03	0.42	0.05
Echinoidea (un)	0.33	1.06	0.81
<i>Paracentrotus lividus</i>	4.34	1.99	6.23
Total PISCES	0.09	0.16	0.18
Pisces (un)	0.05	0.10	0.11
Labridae (un)	0.01	0.02	0.05
Other items			
Fish Scales	0.02	0.45	0.07
Sediment	2.27	4.05	5.18
Anorganic material	0.14	0.13	0.24
Unidentifiable items	4.53	4.71	5.97

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