

DIET OF COMMON GUITARFISH (*RHINOBATOS RHINOBATOS* L., 1758) IN THE ISKENDERUN BAY (NORTHEASTERN MEDITERRANEAN)

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Abstract

Food composition of common guitarfish (*Rhinobatos rhinobatos*) was studied in the Iskenderun Bay (northeastern Mediterranean). A total of 115 common guitarfish were caught and examined. Fish ranged in total length (TL) from 39 to 146 cm and in weight between 121 and 13042 g. Males ranged from 39 to 124 cm TL, while females ranged between 42 and 147 cm TL. Of the fish examined, 49 individuals (43%) were males and 66 (57%) females. Out of 115 stomachs examined, 18 (15.7%) were empty, and 97 (84.3%) contained prey. A total of 392 prey items, belonging to 14 prey taxa, were counted. The main prey items found in the stomachs were unidentified shrimps (IRI%=35.89), unidentified teleosts (IRI%=34.51), unidentified crabs (IRI%=16.91), *Squilla mantis* (IRI%=5.11), and *Crangon crangon* (IRI%=4.69). Overall, the food of *R. rhinobatos* in the study area was mainly consisted of crustaceans (IRI%=72.04).

Keywords : Diet, Elasmobranchii, Eastern Mediterranean.

Introduction

Elasmobranchs are among the top predators in the marine environment, thus affecting the populations of both fish and invertebrates at the lower trophic levels [1]. Information on feeding habits of species contributes to a better understanding of the trophic dynamics and food webs, which is essential for fisheries management [2]. The common guitarfish (*Rhinobatos rhinobatos*) is a shallow water bottom-living elasmobranch found in the Eastern Atlantic, including the Mediterranean. The purpose of this study was to examine the feeding habits of common guitarfish caught in the Iskenderun Bay (Northeastern Mediterranean).

Material and Methods

Specimens were caught with longlines and otter trawl at depths 20 -120 m in all seasons in the Iskenderun Bay (36°33' N - 35°34' E, 36°18' N - 35°46' E, 36°54' N - 36°00' E, 36°35' N - 36°11' E) from April 2004 to May 2005. Stomachs with contents were placed in plastic bags and frozen for subsequent analysis. The gross stomach contents were noted and whenever possible, the fish remains were identified to species level. Account was taken of the fullness of the stomach. Prey groups were weighed to the nearest 1 g. Stomach content was analyzed using the percentage frequency of occurrence (O%), numerical percentage (N%), percentage by weight (W%), the index of relative importance (IRI), and percent of IRI (IRI%) for each prey type [3, 4]. The weights of the digested prey were estimated with two ways (1) length-weight relationships from the literature (e.g., www.fishbase.org) were used for calculating the weight of species having measurable parts (carapace width, vertebrae length or cephalothorax length) in the stomachs, and (2) the mean weight of the species found in the stomachs as a whole were used for estimating the weight of some digested species [5].

Results

A total of 115 common guitarfish were caught and examined. Fish ranged in size from 39 to 146 cm (TL) and in weight between 121 and 13042 g. Males ranged from 39 to 124 cm TL, while females ranged between 42 and 147 cm TL. Of the fish examined, 49 individuals (43%) were males and 66 (57%) females. Out of 115 stomachs examined, 18 (15.7%) were empty, and 97 (84.3%) contained prey. A total of 392 prey items, belonging to 14 prey taxa, were counted. The main prey items found in the stomachs were unidentified shrimps (IRI%=35.89), unidentified teleosts (IRI%=34.51), unidentified crabs (IRI%=16.91), *Squilla mantis* (IRI%=5.11), *Crangon crangon* (IRI%=4.69) and other species (IRI%=2.90).

Discussion

Generally, skates and rays are benthic feeders, eating organisms such as small fish, mollusks, crustaceans and worms [1, 6]. Beretovski [6] concludes that skates could not feed in the water column because of their morphology and suggests that pelagic fishes traumatized by trawls in the fishing grounds were subsequently preyed upon by skates. However, some researchers state that rays are active predators and able to feed semi-pelagically [7, 8]. According to Parin [8], the ability of skates to hunt in the water column, even reaching the sea surface, is well known.

In the current study, pelagic species were also found in the stomachs. The total IRI% of the identified pelagic species was 1.57. Differences in diet

composition of species reflect the faunal composition of the region [9]. Consequently, it may be concluded that common guitarfish do prey upon bony fishes and crustaceans, and is an indiscriminate predator preying upon those species that are most abundant and available in the area and season.

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