# PRELIMINARY BIOLOGICAL DATA ON THE EUROPEAN CONGER *CONGER CONGER* (LINNAEUS, 1758) IN CANDARLI BAY

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## Abstract
This study describes the length and weight frequency distributions, and length -weight relationships of *Conger conger* (Linnaeus, 1758) in Candarli Bay, Aegean Sea coast of Turkey. *C. conger* specimens were collected with fishing line during October 2015 – December 2015 from fishing port . Fish total lengths and weight ranged from 50.5 to 115.5 cm; 220 to 3550 g respectively. The length–weight relationship was determined for all fishes as $W = 0.004*L^{3.391}$. Sex determination and gonadal development were not possible from the direct observation of the gonads appearance in conger eels. For this reason five gonads were studied histologically. Stomach analyses indicated that the species feeds on three major groups of prey: Crustacea, Mollusca ve Teleostei.

*Keywords: Fishes, Teleostei, Aegean Sea, Life cycles*

The European conger eel *Conger conger* L., 1758 is distributed in the eastern Atlantic Ocean, from Norway to Senegal. It is also present in the Mediterranean and in the western part of the Black Sea [1]. European conger eel is an important benthic fish and represents a valuable fishery resource. Marketed as fresh and frozen. Eaten fried and baked. There are a few studies on population biology of *C. conger* in the Atlantic coast [2, 3]. European conger eel (*Conger conger*) is a common and widely distributed fish in the NE Atlantic and Mediterranean. Despite being a geographically widespread and important fisheries resource, knowledge of the population structure and ecology of *C. conger* is scarce and mainly concerns the early life history feeding ecology [4], and reproductive biology. On the other hand, no study is found about its population parameters in the Aegean Sea coast of Turkey and those in other Turkish. The purpose of this study is to investigate some biological characteristics of *C. conger* in Candarli Bay, Aegean Sea coast of Turkey.

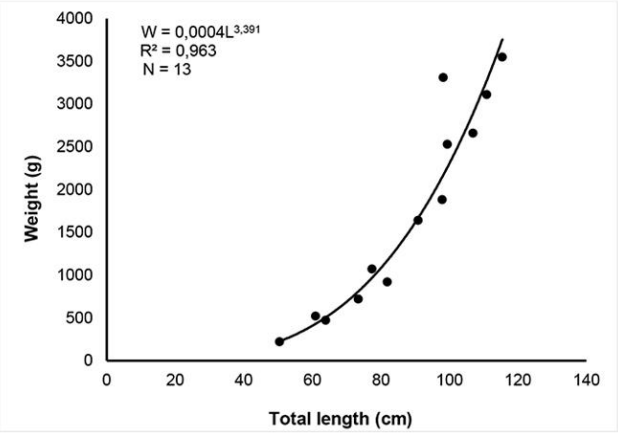


Fig. 1. Length-weight relationships of the *Conger conger*

A total of 13 specimens were caught with hand line from a fishing port in the area between October - December 2015. Total length (TL) and total weight (TW) were measured with 1cm and 0.01g precision, respectively. Sex determination and gonadal development were not possible from the direct observation of the gonads appearance in conger eels. For this reason gonads for histological studies were fixed in 10% buffered formalin solution. A portion of gonads was dehydrated through ethanol series, embedded in paraffin and sectioned 6 µm thin slices. The sections were stained with haematoxylin-eosin. Stomachs were removed from all fish soon after capture.

The length–weight relationship was determined for all fishes according to the equation $W = a*L^b$. Fish total lengths and weight ranged from 50.5 to 115.5 cm; 220 to 3550 g respectively (Table 1). The length–weight relationship was determined for all fishes equation; $W = 0.004*L^{3.391}$ (Figure 1). In the other studies, fish total length and weight range were 33-159 cm and 0.05-12.0 kg [2]; 38 - 173 cm and 125 – 14.553 g [3] respectively. From microscopical analysis of the gonad sections, all fishes were female and their stages were pre-vitellogenic and early vitellogenic. The contents of 13 *C. conger* stomachs were analyzed. Of the total number of stomachs examined, 23% were empty and 77% full. Considering the stomach content of the species in weight, teleostei was established as significant prey groups, followed by crustaceans and molluscs (Table 1). Similarly reported that the species feeds on teleosts followed by Natantia, Brachyura ve Cephalopoda in particular [4].

Tab. 1. Some biological data and diet composition of *Conger conger*

| Sampling date | Fish no | TL (cm) | W (g) | GW (g) | Sex | Prey items |
|---|---|---|---|---|---|---|
| October 2015 | 1 | 115.5 | 3.550 | 154.23 | Female | Crustacea |
| | 2 | 64.0 | 470 | 1.35 | Female | Cephalopoda |
| December 2015 | 3 | 61.0 | 520 | 2.81 | Female | Crustacea |
| | 4 | 99.5 | 2.530 | 49.45 | Female | Empty stomach |
| | 5 | 77.5 | 1.070 | 11.87 | Female | Teleostei, *Liza saliens* |
| | 6 | 50.5 | 220 | 0.81 | Female | Teleostei |
| | 7 | 111.0 | 3.110 | 160.00 | Female | Teleostei |
| | 8 | 91.0 | 1.640 | 26.52 | Female | Teleostei |
| | 9 | 107.0 | 2.660 | 125.78 | Female | Teleostei |
| | 10 | 98.0 | 1.880 | 40.00 | Female | Empty stomach |
| | 11 | 73.5 | 720 | 5.07 | Female | Empty stomach |
| | 12 | 82 | 920 | 7.80 | Female | Teleostei |
| | 13 | 98.3 | 3.310 | 188.15 | Female | Teleostei |

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