

**Orange roughy**  
*Hoplostethus atlanticus*

**Species Profile**

**SEAFO**  
**South East Atlantic Fisheries Organization**



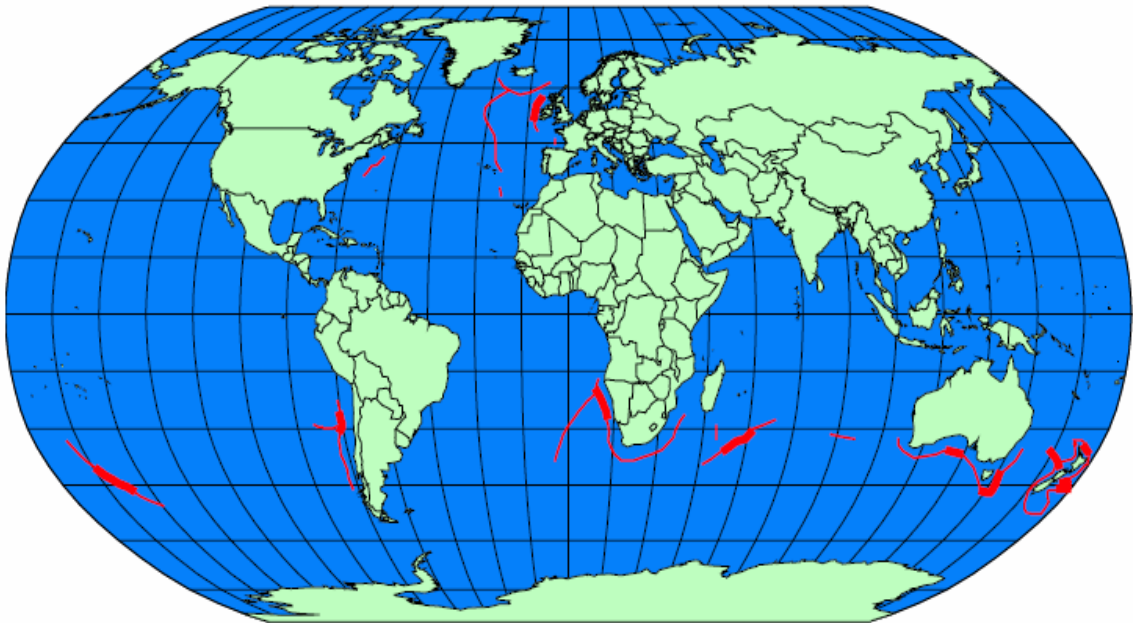
## 1. Taxonomy

|             |                                               |
|-------------|-----------------------------------------------|
| Phylum      | Chordata                                      |
| Subphylum   | Vertebrata                                    |
| Superclass  | Osteichthyes                                  |
| Class       | Actinopterygii                                |
| Subclass    | Neopterygii                                   |
| Infraclass  | Teleostei                                     |
| Superorder  | Acanthopterygii                               |
| Order       | Beryciformes                                  |
| Suborder    |                                               |
| Family      | Trachichthyidae (slimeheads)                  |
| Genus       | <i>Hoplostethus</i>                           |
| Species     | <i>Hoplostethus atlanticus collett</i> (1889) |
| Common name | Orange rougy (En), Reloj anaranjado (Sp)      |

## 2. Species Characteristics

### 2.1 Distribution

Global, distribution map: Orange roughy occurs in temperate waters of the North and South Atlantic Ocean, southern Indian Ocean, and in the South Pacific. It is not known to occur in the northern Pacific.



### 2.2 Habitat

Orange roughy is a bathypelagic species occurring at depths from 400 to 1100 m, but are most abundant between 400 and 800 m. They generally stay within 50-100 m of the seafloor, and do not undertake extensive vertical migrations. Depth preference varies geographically, with the fish most abundant at 800 – 1000 m in New Zealand and Australia, 500 – 700 m off Namibia and over 1000 m in the North Atlantic.

### 2.3 Biological Characteristics

Orange roughy is one of 55 species of the Trachichthyidae family or slime heads, characterized by mucus cavities on the head, a distinct spine at the preopercle angle, the pelvic fins with one normal spine and six or seven soft rays and the abdomen with a median ridge of scutes. The colour of the body is red to dark orange. The opercular membrane is black. The swim bladder is not filled with gas or air but a waxy substance.

### 2.4 Population Structure

The size of orange roughy differs between parts of the world. Fish in New Zealand and Australia are typically about 35 cm SL, those off Namibia around 25 – 30 cm, and in the north Atlantic about 50 cm SL. These differences are possibly related to the length of time prior to maturation, after which adult growth is believed to be very slow.

### *2.5 Behaviour*

Orange roughy are not believed to undertake large migrations. However, they can move several hundred kilometers in some areas to and from the spawning grounds (e.g. Chatham Rise fishery in New Zealand, from southern Tasmania to St Helens seamount in Australia).

### *2.6 Resilience/ productivity*

In the Southwest Pacific , the growth of orange roughy is believed to be very slow. Fish do not mature until about 25 years of age, and the bigger fish might live to over 100 years. Age has been estimated by otolith zone counts, measurements of Pb-Rn radio-isotope ratios, daily otolith growth increments and micro chemical composition. Results have varied, although most indicate high longevity. Maximum ages from the various techniques range from 15-20 years to several hundred years.

## **3. Fisheries**

### *3.1 Fleets*

Orange roughy is a highly valued commercial species, and major trawl fisheries have developed around New Zealand, off Tasmania, Namibia, west of the British Isles and off Chile and also in the southern Indian Ocean.