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**Semblanzas Ictiológicas**  
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# Semblanzas Ictiológicas

Ricardo Jorge Casaux



Campaña en Punta Armonía, Islas Shetland del Sur, Antártida, 2010

**Hugo L. López y Justina Ponte Gómez**

**ProBiota**  
División Zoología Vertebrados  
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Imagen de Tapa  
Muestreos en Lago Vintter, Chubut, 2012

*El tiempo acaso no exista. Es posible que no pase y sólo pasemos nosotros.*

**Tulio Carella**

*Cinco minutos bastan para soñar toda una vida, así de relativo es el tiempo.*

**Mario Benedetti**

## **Semblanzas Ictiológicas**

A través de esta serie intentaremos conocer diferentes facetas personales de los integrantes de nuestra “comunidad”.

El cuestionario, además de su principal objetivo, con sus respuestas quizás nos ayude a encontrar entre nosotros puntos en común que vayan más allá de nuestros temas de trabajo y sea un aporte a futuros estudios históricos.

Esperamos que esta iniciativa pueda ser otro nexo entre los ictiólogos de la región, ya que consideramos que el resultado general trascendería nuestras fronteras.

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## Cuestionario

- Un libro: el próximo en leer
- Una película: Cinema Paradiso
- Un CD : muchos, cada uno en su momento
- Un artista: R. Arlt
- Un deporte: kayak de aguas blancas
- Un color: rojo
- Una comida: asado
- Un animal: perro
- Una palabra: puedo
- Un número: 19
- Una imagen: entrando a los rápidos del Futaleufú en Chile
- Un lugar: Las Lauras, mi chacra
- Una estación del año: verano
- Un nombre: Carlos Garibotti
- Un hombre: Ernest Shackleton
- Una mujer: Andrea, mi compañera de la vida
- Un personaje de ficción: ninguno
- Un superhéroe: Ernest Shackleton



Cursando primer grado, 1965



Muestreos en Costa Danco, Península Antártica, 1998



Remando en el Aluminé superior, 2013

Polar Biol (1990) 11: 63–72

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## Seasonal aspects of the biology and diet of nearshore nototheniid fish at Potter Cove, South Shetland Islands, Antarctica

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**Summary.** Approximately 1000 specimens belonging to eight fish species were collected at Potter Cove, King George Island, South Shetland Islands, from August 1985 to May 1986. This study deals with the dominant species *Notothenia neglecta*, *Notothenia gibberifrons*, *Trematomus newnesi* and *Notothenia rossii marmorata*. Age and size structure of the fish were analyzed using scale and otolith readings. *Notothenia neglecta* was the most abundant species. It spawns in the austral autumn. Juvenile *N. rossii marmorata* migrate offshore when sexually mature. Over eight hundred stomach contents were analyzed. The four species studied were generally benthophagous. However, in summer *T. newnesi* and *N. rossii marmorata*, carried out vertical migrations, feeding on pelagic organisms. Gammarid amphipods constituted the main food in all four species. Algae were consumed regularly throughout the year and we suggest that they are intentionally eaten by the fish, rather than by accident. Two 48 hour sampling periods, carried out in summer of 1987, showed that *N. neglecta* was more active during the day.

### Introduction

Nototheniids are widespread in the Antarctic Ocean. Several species are almost entirely neritic. In the last two decades, papers on the trophic ecology of these coastal fishes have dealt mainly with samples taken in offshore waters (Permitin and Tarverdiyeva 1972, 1978; Linkowski and Rembiszewski 1978; Tarverdiyeva and Pinskaya 1980; Targett 1981; Daniels 1982; Duhamel and Hureau 1985; Kock 1985; Williams 1985). Only a few nearshore studies were done by means of small trawlers, trammel nets, hooks and lines or traps (Moreno and Bahamonde 1975; Richardson 1975; Moreno and Osorio 1977; Moreno and Zamorano 1980; Linkowski et al. 1983; Daniels 1982; Burchett 1982, 1983a). Most of these samples were collected in summer and only a few studies were done year round.

Potter Cove, in King George Island, South Shetland Islands, is a convenient locality for nearshore community

studies because it is usually calm and drift ice is seldom encountered. With the exception of some winter months, when the cove remains frozen, samples can be obtained throughout the year.

This paper presents an analysis of the stomach contents of four nearshore nototheniids (*Notothenia neglecta*, *Notothenia gibberifrons*, *Trematomus newnesi* and *Notothenia rossii marmorata*) collected throughout a year.

### Study site, material and methods

Samples were collected in Potter Cove, King George I., South Shetland Is., close to the Scientific Station Jubany (62° 14'S and 58° 40'O) (Fig. 1).

The cove has an approximate area of 6.3 km<sup>2</sup>. Its profile is V-shaped and the maximum depth is 130 m. The cove can be divided into two zones. The internal or zone I (Fig. 1), bordered by a glacier, has the bottom covered with glacial sediments and is devoid of algae. The external or zone II (Fig. 1), is the entrance to the cove and constitutes the area sampled during this study. It has a rocky bottom covered mainly with Rodophyceae (*Gigartina* sp.) and Phaeophyceae (*Desmarestia* sp.) algae. Algal densities increase gradually from zone I to zone II.

The fauna associated with algal beds in the sampling area is rich and diverse. It includes: polychaetes, gammarid amphipods (*Eurimera monticulosa*, *Bovallia gigantea*, *Valettia coheres*), isopods (*Serolis* sp., *Glyptonotus antarcticus*), cephalopods, gastropods (*Laevilacunaria bransfieldensis*, *Margarita antarctica*, *Patinigera polaris*, *Eatoniella caliginosa*), chitons (*Quiton* sp.), bivalves (*Mysella charcoti*, *Laternula elliptica*), ophiuroids (*Amphiura deficiens*), asteroids (*Odonotaster validus*, *Labidiaster annulatus*, *Cuenotaster involutus*, *Lysasterias* spp., *Porania antarctica glabra*), echinoids (*Ctenocidaridaris speciosa*, *Sterechinus neumayeri*), tunicates (*Salpa thompsoni*), and fish.

Surface water temperature varied from -1.4° to +1.9°C during the year.

For the stomach content analysis and the study of reproductive aspects, sampling was carried out from August 1985 to May 1986 (the cove was frozen during June and July). Trammel-nets of 25 and 50 m length, 1.5 m width and 25 mm mesh size were used. The nets were fastened to a rock at the entrance to the cove and cast in various directions and depths from 8 to 48 m. During January and February 1987, two 48-h periods of sampling were undertaken. The nets were examined every 6 hours in order to obtain information on activity rates.



## SHORT NOTE

Ricardo Casaux

**The contrasting diet of *Harpagifer antarcticus* (Notothenioidei, Harpagiferidae) at two localities of the South Shetland Islands, Antarctica**

Received: 27 August 1997 / Accepted: 17 November 1997

**Abstract** The diet of *Harpagifer antarcticus* was studied at two localities of the South Shetland Islands, Antarctica. The analysis of the stomach contents of specimens collected in tide pools at Potter Cove, King George Island, indicated that gammarid amphipods (mainly *Gondogeneia* sp.) were the main prey of this fish, followed by polychaetes, gastropods and isopods. By contrast, the specimens from Harmony Point, Nelson Island, which were recovered from stomach contents of Antarctic shags *Phalacrocorax bransfieldensis* feeding at depths of 46–110 m, preyed almost exclusively on the Antarctic krill *Euphausia superba*. These results are discussed and compared with previous studies.

**Introduction**

The Antarctic plunder fish (*Harpagifer antarcticus*) inhabits shallow waters (<100 m; Kock 1992) from the Antarctic Peninsula to the South Sandwich Islands, including the South Orkney Islands (White and Burren 1992). This fish is an ambush feeder that mainly ingests active prey (Daniels 1982). Several authors have indicated that *H. antarcticus* prey almost exclusively on gammarid amphipods (Moreno 1971; Richardson 1975; Duarte and Moreno 1981; Targett 1981; Daniels 1982), but most of these studies deal with fish collected from a narrow depth range of 0–20 m.

The aim of this study was to compare the diet of *H. antarcticus* specimens collected in tide pools with that of specimens inhabiting deeper waters.

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**Materials and methods**

The fish investigated came from waters of two localities at the South Shetland Islands, Potter Cove (62°14'S, 58°40'W), King George Island, and Harmony Point (62°17'S, 59°13'W), Nelson Island. Those from Potter Cove (123) were caught by hand in tide pools located in the entrance of the cove in January and February 1992 (Fig. 1). The individuals from Harmony Point (44) were recovered intact from stomach contents of female Antarctic shags *Phalacrocorax bransfieldensis*, which were feeding at depths of 46–110 m in waters of Drake Passage, in January and February 1997. These maximum dive depths were estimated by the "capillary tube" technique, described by Burger and Wilson (1988), which has been extensively used in the literature (see Prince and Jones 1992; Adams and Walter 1993; Huin 1994; among others). Although there is no certainty about the depth at which these *H. antarcticus* specimens were caught, the brief duration of the shags' foraging trips suggest that they were caught close to, or at, the maximum dive depth reached by the shags that preyed on them.

The fish were measured in total length to the nearest millimeter below, weighed to 0.1 g and sexed.

The stomach contents of *H. antarcticus* were sorted into prey items to the lowest taxonomic level possible and the data were analysed by frequency of occurrence and by the mixed method of Hureau (1970). According to this last method, the results are provided in terms of the alimentary coefficient "Q", which is the product of the percentage by number and the percentage by mass of each prey type, thus reducing the biases related to numeric or gravimetric methods. "Q" values higher than 200 indicate main prey, between 200 and 20 secondary prey and lower than 20 occasional prey.

**Results**

The mean total length and mass of the specimens from Potter Cove were 7.8 cm (SD 0.7, range 6.5–11.0) and 7.8 g (SD 2.2, range 3.4–16.8). Female specimens predominated in the samples (67.5%) and were significantly smaller than males (Mann-Whitney *U*-test, *P* < 0.001). The analogous information on the specimens from Harmony Point was 7.8 cm (SD 1.0, range 6.0–10.3) and 8.7 g (SD 4.2, range 3.4–21.8). As observed at Potter Cove, females predominated in the samples (55.6%) but

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