



## Short communication

# Occurrence of the snowy grouper, *Hyporthodus niveatus* (Valenciennes, 1828), in Argentine waters

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### Introduction

*Hyporthodus niveatus* (Valenciennes, 1828) is a serranid distributed in the western Atlantic from Massachusetts (USA) (41°N) to southern Brazil and Uruguay (33°S) (Heemstra and Randall, 1993; Craig et al., 2012). It is a common reef-fish grouper of deep-water (30–525 m), and is even more common at depth between 100 and 200 m. The species is heavily fished throughout its range, particularly in the south-eastern United States (Craig et al., 2012) and Brazil (Paiva and Andrade-Tubino, 1998; Ávila-da-Silva et al., 2001). This species was previously placed in the genus *Epinephelus*, however Craig and Hastings (2007) divided the genus into two distinct clades, clustering 11 species into the complex ‘*niveatus*’ and considered them to be a unique genus, *Hyporthodus*,

the oldest available generic name for one of its members. In this note, we report the occurrence of *H. niveatus* at two new locations in Argentine waters, extending its range c.1000 km southwards of the previously reported limit (Fig. 1).

### Materials and methods

One *H. niveatus* specimen was caught in January 2013 near Puerto Piramides (42°49’S), Nuevo Gulf (NG), at 55 m depth (Fig. 1) by a recreational angler. The specimen was frozen whole and kept at –20°C for transportation to the laboratory of Centro Nacional Patagónico (CENPAT–CONICET). Specimen identification was based on Heemstra and Randall (1993) and Carvalho-Filho (1999). The specimen

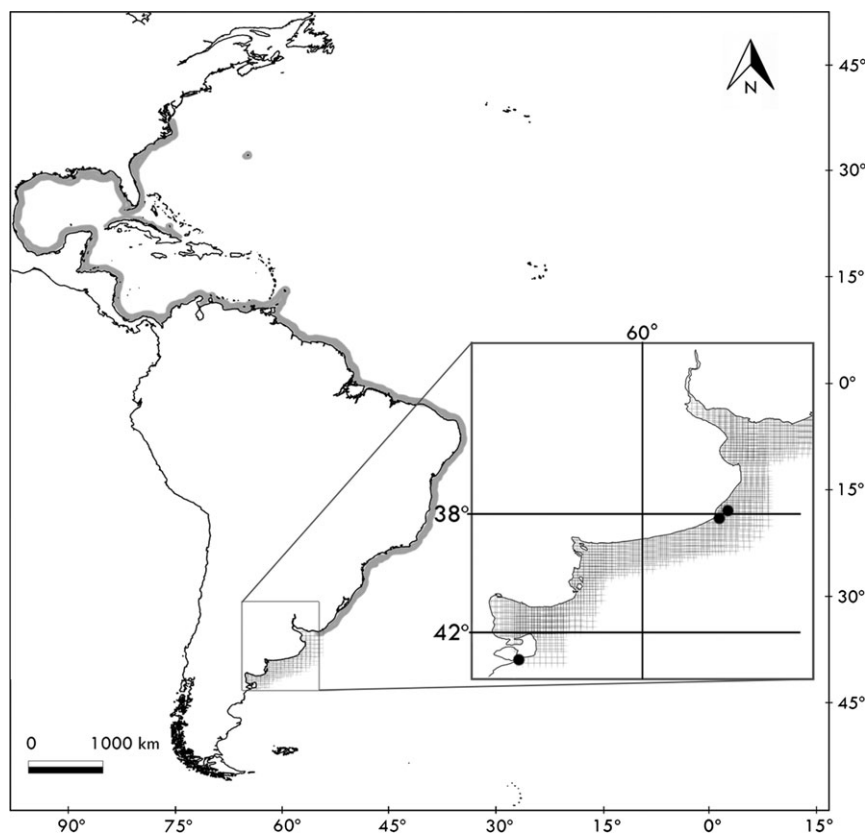


Fig. 1. Known *Hyporthodus niveatus* distributional range in the western Atlantic, from Massachusetts (USA) (41°N) to southern Brazil and Uruguay (33°S). Insert = location of three new occurrences in Argentine waters (black dots) beyond the previously known range

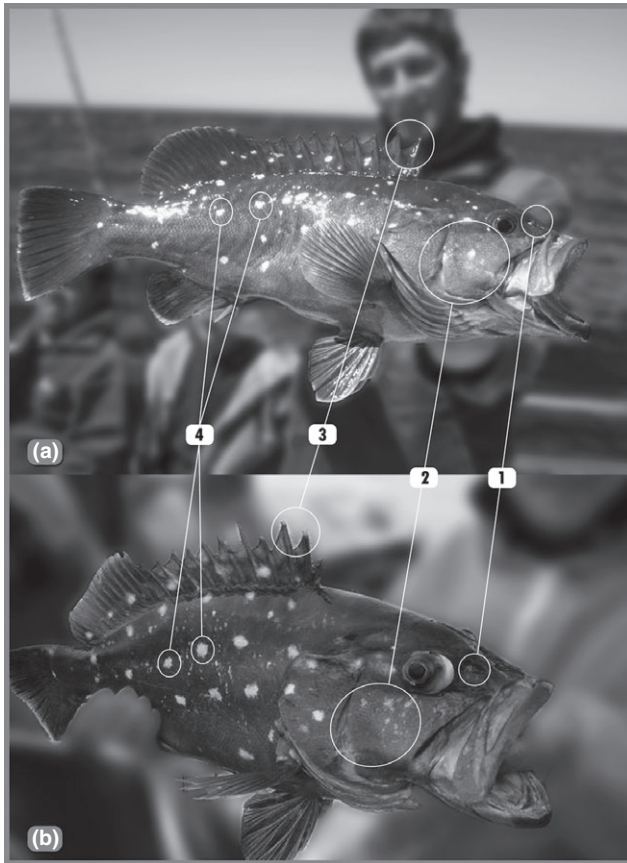


Fig. 2. *Hyporthodus niveatus* specimens captured by offshore anglers in Mar del Plata (38°S). These images are of public access in (a) <https://www.facebook.com/photo.php?fbid=106970069324599&set=a.106969509324655.11385.106966709324935&type=1&theater> and (b) [https://fbcdn-sphotos-e-a.akamaihd.net/hphotos-ak-prn1/65571\\_4988393302597\\_700153416\\_n.jpg](https://fbcdn-sphotos-e-a.akamaihd.net/hphotos-ak-prn1/65571_4988393302597_700153416_n.jpg). Some diagnostic features for identification in the image are: (1) posterior nostrils 3–5 times larger than anterior nostrils; (2) no blue line from eye to preopercle; (3) 6 dorsal-fin spines, the 2nd, 3rd or 4th spine being the longest (4) dark brown body color with conspicuous white spots

was preserved in formol and deposited as a voucher specimen in the ichthyological collection of CENPAT (CNPIC no. 2013/13). Diagnostic features used for specimen identification were: 13 dorsal-fin rays; 9 anal-fin rays; origin of pelvic-fin in front of the lower end of the pectoral-fin base; head and body not covered with dark red spots; 11 dorsal-fin spines, the 2nd, 3rd or 4th spine longest; no dark vertical bars on the body; posterior nostrils 3–5 times larger than anterior nostrils; 9 + 1 gill rakers on the upper limb, 16 on the lower limb, 26 in total; no blue line from the eye to the preopercle.

In addition to checking for previously unnoticed specimens of *H. niveatus* captured in Argentine waters, a photographic review was conducted through the web photo-galleries of well-known Argentinean recreational fishing companies. The search extended to May 2013.

## Results

The specimen (99 cm TL) matched all characteristic of *H. niveatus*. This positive identification extends the *H. niveatus* range c.1000 km southwards of the previously reported limit (Fig. 1), and represents a new record of the southernmost distributional range of this species.

The web photo-gallery review showed at least two positive records caught by recreational offshore anglers (Fig. 2). Features used to identify fish from photographs are given in Fig. 2. Both specimens were captured off the coast of Mar del Plata (province of Buenos Aires) in May 2010 and March 2013. Photographs were uploaded on the web pages of two local fishing companies, the Mako team and Sandokan.

## Discussion

The presence of *H. niveatus* in Argentina is an addition to other tropical or warm-temperate fish species where the distributional range is expanded to include higher latitudes (Galván et al., 2005; Irigoyen et al., 2005; Scenna et al., 2006; Venerus et al., 2007; Góngora et al., 2009; Delpiani et al., 2011; Milessi et al., 2012). However, we cannot overlook the possibility that the newly-cited species had been previously unnoticed due to: (i) morphological similarities with local species and other newly described specimens; (ii) scarcity of earlier systematic studies of fish communities in the area and the fact that most distributional ranges for the Argentine marine fish fauna were described according to offshore trawling data (Venerus et al., 2007). The increasing number of fishes reported southward of previous limits contrasts records for the opposite direction; Figueroa et al. (2005) and González-Castro et al. (2013) suggest that the new records indicate true southward expansions of warm-temperate species favored by a possible increase in water temperature. In the same way it can also be argued that many of the recently published southernmost reef-fish records are highly attached to refuges, such as serranids and pinguipedids (e.g. Irigoyen et al., 2005; Venerus et al., 2007) becoming more frequent beyond their previous known ranges. These records include more than one specimen (e.g. Irigoyen et al., 2005; this report). Such events were previously more commonly known from pelagic fish that could show exceptional migrations (e.g. Delpiani et al., 2011). However, this hypothesis cannot be convincingly evaluated because of a lack of historical data series on trends in temperature variations or shifts in other environmental variables. The absence of historical data on reef fish assemblage in the area complicates any causal assessment of these observations (Galván et al., 2005).

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