



## Short communication

### Occurrence of *Acanthistius brasilianus* (Cuvier, 1828) in Uruguayan waters (35°45'S): when poor taxonomy means poor ecological knowledge

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*Acanthistius brasilianus* is an uncommon species distributed in Brazilian waters from Bahia to Sao Paulo (15°–23°S), on rocky bottoms at depths of 15–60 m (Carvalho-Filho, 1999; Irigoyen et al., 2008). We report here on the presence of *A. brasilianus* as a common rocky reef species in Uruguay (35°45'S), 1300 km south of its previously recorded limit of distribution. This information arises after a taxonomic misidentification was resolved for two species of *Acanthistius* (Gill, 1862) described for the Southwest Atlantic (Irigoyen et al., 2008): *Acanthistius brasilianus* (Cuvier and Valenciennes, 1828) based on two specimens collected off Brazil, and *Acanthistius patachonicus* (Jenyns, 1842) based on three specimens collected by Darwin off Argentina (Fig. 1). In 1974, *A. patachonicus* was considered to be a synonym of *A. brasilianus* up to 2008 (De Mahieu and Capezzani, 1974;

Irigoyen et al., 2008). During this period, a great deal of scientific work on *A. patachonicus* was mistakenly publicized as *A. brasilianus*, the former being one of the most common reef fish species from Argentina and with a high commercial importance. The synonyms resulted in erroneous distributional charts and other information, for example in the widely-used database FISHBASE (<http://www.fishbase.com>) (e.g. Ciechowski and Casia, 1976; San Román, 1980; Dell'Arciprete et al., 1987; Cousseau and Perrotta, 2000; Irigoyen and Venerus, 2008). Once the taxonomic status as a separate species was resolved, Uruguayan ichthyologists distinguished the *A. brasilianus* in data bases from the *A. patachonicus*, which were recorded as different phenotypes of 'groupers'.

In this report we present data from 23 fishery research trips conducted from September 2004 to August 2005 in Uruguayan waters (35°10'–35°45'S). On each trip, fishing sessions were conducted over rocky reef areas in depths of 20–40 m using the hook and line technique and where *Pagrus pagrus* was the target species. From total catches, *A. brasilianus* (Fig. 2) was the third most important species in number and total weight (total capture = 307 kg, n = 143, Lt min = 23 cm, Lt max = 62 cm, LT mean = 35.4 cm ± 7.44 SD), but far from the catches of *P. pagrus* and *Seriola lalandi* (n = 22082 of



Fig. 1. Geographic ranges of *Acanthistius brasilianus* (solid line, 20°–23°S) and *A. patachonicus* (dotted line, 23°–48°S). (1) Area of occurrence reported for *A. brasilianus* (near the mouth of Rio de La Plata, 35°45'S)



Fig. 2. *A. brasilianus* specimen collected at 35°40'S on experimental fishing trip over rocky reefs at 20–40 m depths

*P. pagrus* and  $n = 387$  of *S. lalandi*). On the other hand, *A. patachonicus* was the fourth species in number and the third in weight (total capture = 103 kg,  $n = 61$ , Lt min = 25 cm, Lt max = 48 cm, LT mean = 39.6 cm  $\pm$  9.61 SD). From this information we can state that *A. brasiliensis* is a common species of rocky reefs in Uruguay.

Berg (1895) reported both species of *Acanthistius* in Argentina. However, in spite of thousands of diving hours, biological surveys, examination of museum material (Irigoyen et al., 2008), and formal and informal interviews with fishermen and ichthyologists, *A. brasiliensis* was neither found nor reported in Argentina. To our knowledge its presence in Argentinean waters could not be effectively registered, although it is possible that this species inhabits northern waters in low densities, close to the sampling area reported in this work.

Finally, this work shows how the poor taxonomy of species can undermine ecological knowledge: *A. brasiliensis* remained an almost unknown species for many years until the taxonomy status was resolved and the confusing and erroneous information was finally corrected, with the otherwise obvious negative consequences for management and conservation.

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