

## SHORT COMMUNICATION

# Seven new records of fish from NGor Island, Senegal

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### INTRODUCTION

During dives along the coast of Senegal, in the vicinity of NGor Island, several fish species were observed that apparently have not yet been recorded from this area.

### MATERIAL & METHODS

All observations were made while SCUBA diving in the area of NGor Island, at the western tip of the Cape Verde peninsula (14°45'N, 17°30'W), in October 2009. Animals were photographed in the field and captured (with a small hand-held aquarium net) when possible. Specimens were deposited in the zoological collection of the natural history museum of Munich, Germany ("Zoologische Staatssammlung") under the numbers ZSM 40097 (*Thalassoma newtoni*), ZSM 40089 (*Diplecogaster ctenocrypta*) and ZSM 40091 (*Symphurus insularis*).

### RESULTS

#### *Chromis* sp.

The most common *Chromis* species in the area was *Chromis limbata* (Valenciennes, 1833). Large plankton-feeding aggregations of more than 100 individuals of this species and territorial males defending spawning areas on rocky bottom were observed in all dives deeper than 10 m. Dur-

ing some of the dives, *Chromis cadenati* Whitley, 1951 was also observed in small groups of up to 20 animals and in depths deeper than 20 m. During one dive, at 25 m depth, a single *Chromis* was observed and photographed (Fig. 1) but not identified at that moment. At first glance it appeared similar to *Chromis lubbocki* Edwards 1986, a species so far recorded only from the Cape Verde Islands (Edwards 1986), because of a blue margin to the anal fin. However, this blue margin is a thin line at the anterior edge of the anal fin in *lubbocki* (compare with Figure 1 below, showing animals from the Cape Verde Islands), whereas it is a much broader area and more to the rear of the anal fin in the photographed animal. There is no resemblance to the only other West African *Chromis*, i.e. *Chromis multilineata* (Guichenot, 1853), that is known from the Cape Verde Islands to São Tomé and Príncipe (but not from the coast of Senegal – see Discussion below). The animal photographed at NGor might belong to an undescribed species or (more likely as it was the only individual observed) might be a hybrid between *Chromis limbata* and a stray *C. lubbocki*. In the latter case it is likely to be the result of a female *C. lubbocki* mating with a male *C. limbata* (cf. Wirtz 1999).

#### *Coris atlantica* Günther, 1862

In the area of NGor, this was a very common species from shallow water down to at least 25 m depth (Fig. 2). The species was described by Günther from specimens from Sierra Leone but

subsequent authors mostly treated the name as a synonym of *Coris julis* (Linnaeus, 1758). Genetic studies (Guillemaud *et al.* 2000, Aurelle *et al.* 2003) confirmed its specific identity, suspected because of considerable differences in colour and body shape (Seret & Opic 1981, Wirtz 2003). Due to past confusion with *C. julis*, the exact dis-

tribution of *C. atlantica* is unknown; it has been recorded with certainty at the Cape Verde Islands (Guillemaud *et al.* 2000), Sierra Leone (the type locality) and São Tomé and Príncipe (Wirtz *et al.* 2007). Parenti and Randall (2000) state that it can be sympatric with *Coris julis* but I know of no evidence of this.



Fig. 1. *Chromis* sp. from NGor Island, Senegal, and *Chromis lubbocki* from the Cape Verde Islands for comparison (also with a female of *Thalassoma pavo*)

***Diplecogaster ctenocrypta* Briggs, 1955**

This species was described from a single specimen from 180 m depth at the Canary Islands;

there are, however, several photos of it in a book on fishes of the Canary Islands (Brito *et al.* 2002) showing individuals in the process of cleaning



Fig. 2. *Coris atlantica* (above) and *Epinephelus adscensionis* (below), from NGor Island, Senegal

moray eels and a grouper. Near NGor, six specimens were collected by spraying Quinaldine into a large rock fissure at 28 m depth. A photo taken in the same area shows an individual of this spe-

cies sitting on a large *Gymnothorax afer* (when taking the photo, the small goebiesocid had been overlooked).

***Epinephelus adscensionis*** (Osbeck, 1765)

The species is known from the Western Atlantic, Ascension and St. Helena Islands; in the Eastern Atlantic it was only known with certainty from São Tomé and Príncipe Islands (Wirtz 1992, Heemstra and Randall 1993, Wirtz *et al.* 2007). It was, however, seen and photographed during several dives in the area of NGor Island, where it appears to be common (Fig. 2).

***Serranus heterurus*** (Cadenat, 1937)

This little seabass was encountered during a dive at 28 m depth. When approached, it retreated into a small cavity between rubble. The species is known from the Cape Verde Islands (two specimens at the Stuttgart Natural History Museum, collected by P. Wirtz), the Coast of Guinea and off the Congo (Heemstra pers. com.).

***Symphurus insularis*** Munroe, Brito & Hernández, 2000

Two specimens of this little flatfish were collected at 28 m depth. The species is known from the Azores, Madeira, Canary and Cape Verde Islands (Brito *et al.* 1999).

***Thalassoma newtoni*** (Osório, 1891)

This is a common species in shallow water in the area of NGor. Males are easily recognised by a yellow girdle (cf. the photo in Wirtz *et al.* 2007), whereas the colour pattern of females is quite variable and can be similar to that of *Thalassoma pavo* (Linnaeus, 1758). The species was described from specimens from São Tomé and Príncipe but subsequently most authors treated the name as a synonym of *T. pavo*. Genetic studies (Costagliola *et al.* 2004) confirmed its specific identity: *T. newtoni* is genetically more similar to the Mid-Atlantic *T. santaehelenae* and *T. ascensionis* than to *T. pavo*. Three specimens collected at NGor (and now in the Munich Natural History Museum) were analysed genetically and closely fit samples of *T. newtoni* from São Tomé Island (Bernardi pers com).

Because of its frequent confusion with *Thalassoma pavo*, the distribution of *T. newtoni* is unknown. Up to now, *T. newtoni* was only recorded with certainty from São Tomé and Príncipe (Osório 1891, Costagliola *et al.* 2004, Wirtz *et al.* 2007). It does not live at the Cape Verde Islands,

where an apparently endemic colour morph of *T. pavo* can be encountered (Wirtz 2000, Costagliola *et al.* 2004); a female of this colour morph of *T. pavo* can be seen cleaning the *Chromis lubbocki* in figure 2. Parenti and Randall (2000) state that *Thalassoma pavo* reaches as far south as Gabon but in light of the current finding this appears unlikely. *T. pavo* probably has its southern limit at the Cape Verde Islands, whereas *T. newtoni* ranges from at least Senegal to São Tomé and probably further south.

## DISCUSSION

Seven fish species are here recorded from the Cape Verde Peninsula for the first time. The Cape Verde Islands lie 600 km east of the Cape Verde Peninsula. There are strong biogeographic links between these two places. For instance, they are the only two places where the little blenny *Malacoctenus africanus* has been recorded (Wirtz 1980; Brito *et al.* 1999). On the other hand, many species common in the Cape Verde Islands are not found along the coast of Senegal; some of these are endemic species, due presumably to the comparatively isolated position of the islands, such as for example the blenny *Microlipophrys caboverdensis* (Wirtz & Bath, 1989); others are more tropical species that cannot be found at Senegal but are common at the Cape Verde Islands as well as further south along the West African coast (e.g. *Chromis multilineata*). The absence of these more tropical species on the coast of Senegal is probably due to cold upwellings there, causing winter temperatures as low as 15 °C (Terashima *et al.* 2007), whereas winter temperature rarely drops below 20 degrees at the Cape Verde Islands, as pointed out by Türkay (1982).

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