

Ambicoloration in the flatfish  
*Symphurus tessellatus* (Cynoglossidae)  
from southern Brazil.

Anficoloração no linguado  
*Symphurus tessellatus* (Cynoglossidae)  
Do Sul Do **Brasil**.

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The pigmentation of the blind side of the body, a phenomenon known as ambicoloration, has been reported in the literature for several species of flatfish. A larger frequency occurs in individuals born in captivity than in wild individuals (BOLKER &

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HILL, 2000). Although the characteristics of ambicoloration are the opposite of albinism, the phenomenon is also considered an abnormality in ontogenetic development. It can be explained by the fact that, during metamorphosis, larval melanophores are not only substituted by differentiated adult pigment cells in the ocular side of the body, but also in the blind side (BOLKER & HILL, *op. cit.*).

*Symphurus* is the only genus of the family Cynoglossidae found in the western Atlantic Ocean. *S. tessellatus* (Quoy & Gaimard) occurs from Central America to the south of Brazil (MUNROE, 1998), and is one of the most frequent tonguefish species registered in trawls. On the coast of the State of Paraná (25°50'S), *S. tessellatus* is relatively common both in the shallow continental shelf, where it is part of the shrimp fishery, and inside the estuaries, where it is captured easily in experimental fishing with bottom trawls (CHAVES & BOUCHEREAU, 1999). Although its length surpasses 20 cm, it does not have any commercial value in Brazil (FIGUEIREDO & MENEZES, 2000). MUNROE (1998) and the recent reviews by VENIZELOS & BENETTI (1999) and BOLKER & HILL (2000) about pigmentation in flatfishes do not mention ambicoloration in species of *Symphurus*. Therefore, the present note is the first report of ambicoloration for a specimen of *Symphurus*.

The specimen (103 mm total length) was captured on the coast of the State of Paraná, south of Brazil (25°57'S; 48°34'W), at a depth of nine meters, on December 16, 2001, during an experimental fishing operation using a bottom trawl. The left side of the body, the ocular side, was totally pigmented and the right, blind side, was also pigmented, except in the cephalic region (Fig. 1). Normal specimens of the same species accompanied the doubly-pigmented specimen.

Absence of pigmentation on the head was also registered by DIAZ DE ASTARLOA (1995) in ambicoloured *Paralichthys patagonicus* from the Argentinean coast. According to BOLKER & HILL (2000), it is probable that the pigmentation on the blind side has very little or no adaptive value in the natural environment. The captured *S. tessellatus* specimen could not come from a fish farm. *Paralichthys orbignyanus* and *P. patagonicus* are the only flatfish

species cultivated in the south of Brazil on an experimental scale and in an area located 200 km to the south from where the ambicoloured specimen was found.



Fig. 1. Right, blind side of *S. tessellatus*, of 103 mm TL, Southern Brazil. Note that the cephalic region is not pigmented (scale = 10 mm).

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## RESUMO

Registra-se a primeira ocorrência de um exemplar de linguado *Symphurus tessellatus* com pigmentação em ambos os lados do corpo. O espécime foi coletado com arrasto de fundo na costa sul do Brasil. Em seu lado cego, apenas a região cefálica não era pigmentada.

PALAVRAS CHAVES: anficoloração, linguado, *Symphurus*,

## Cynoglossidae

## SUMMARY

The first occurrence of an ambicoloured flatfish specimen of *Symphurus tessellatus* is reported. The specimen was collected by bottom trawling on the south coast of Brazil. On the blind side of its body, only the cephalic region had no pigment.

KEY WORDS: ambicoloration; flatfish; *Symphurus*; Cynoglossidae.

## RÉSUMÉ

Il est rapportée la première occurrence d'un exemplaire du poisson-plat *Symphurus tessellatus* pigmenté dans les deux côtés de son corp. Cet exemplaire a été capturé par chalut de fond au sud du Brésil. Dans son côté aveugle, seulement la région céphalique n'était pas pigmentée.

MOTS CLÉS: double-pigmentation; poisson-plat; *Symphurus*; Cynoglossidae.

## BIBLIOGRAPHY

- BOLKER, J.A. & C.R. HILL. 2000. Pigmentation development in hatchery-reared flatfishes. *Journal of Fish Biology* 56:1029-1052. doi: 10.1006/jfb.2000.1260
- CHAVES, P. & J.-L. BOUCHEREAU. 1999. Biodiversité et dynamique des peuplements ichtyiques de la mangrove de Guaratuba, Brésil. *Oceanologica Acta* 22:353-364.
- DIAZ DE ASTARLOA, J.M. 1995. Ambicoloration in two flounders, *Paralichthys patagonicus* and *Xystreuris rasile*. *Journal of Fish Biology* 47:168-170
- FIGUEIREDO, J.L. & N.A. MENEZES. 2000. *Manual de Peixes Marinhos do Sudeste do Brasil. VI. Teleostei (5)*. Museu de Zoo-

logia, Universidade de São Paulo, S. Paulo. 116p.

MUNROE, T.A. 1998. Systematics and ecology of tonguefishes of the genus *Symphurus* (Cynoglossidae: Pleuronectiformes) from the western Atlantic Ocean. *Fishery Bulletin*, Washington DC 96:1-182.

VENIZELOS, A. & D.D. BENETTI. 1999. Pigment abnormalities in flatfish. *Aquaculture* 176:181-188.

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Em branco