

# First record of reversal in a thickback sole *Microchirus variegatus* from the Adriatic Sea

Première signalisation d'inversion chez la sole-perdrix commune  
*Microchirus variegatus* en mer Adriatique

Giambattista Bello

Arion, C.P. 61, 70042 Mola di Bari (Italy)

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## ABSTRACT

Bello G., 1996 - First record of reversal in a thickback sole *Microchirus variegatus* from the Adriatic Sea. Mar. Life, 6 (1-2) : 51-52.

A sexually mature female thickback sole, *Microchirus variegatus* (Pleuronectiformes, Soleidae), affected by inverted orientation (reversal) of the body, i.e. sinistrally oriented, was collected by bottom trawl in the South-Western Adriatic Sea. This specimen represents the first recorded occurrence of reversal in this species..

## RÉSUMÉ

Bello G., 1996 - [Première signalisation d'inversion chez la sole-perdrix commune *Microchirus variegatus* en mer Adriatique]. Mar. Life, 6 (1-2) : 51-52.

Une femelle mature de sole-perdrix commune, *Microchirus variegatus* (Pleuronectiformes, Soleidae), affectée d'inversion du corps, c'est-à-dire avec asymétrie senestre, a été recueillie par chalut dans le sud-ouest de l'Adriatique. Ce spécimen constitue la première signalisation d'inversion chez cette espèce.

## INTRODUCTION

The most evident character of Pleuronectiformes is the asymmetrical flattening of the body accompanied by the migration of one eye from one side to the other so that one side becomes blind (nadiral side) and the other double-eyed (zenithal side). The polarity of eye migration appears to be family-specific in most cases, so that some taxa are dextral, i.e. with both eyes on the right side, whereas other taxa display a sinistral orientation, i.e. both eyes are placed on the left side (Hensley, Ahlstrom, 1984).

Several cases of reversal, i.e. inverted body orientation, have been recorded in Pleuro-

nectiformes. This phenomenon usually involves a minimal fraction of the population, although the occurrence of high percentages of reversal is known for certain species (see reviews by Chanet [1993] and Vassilopoulou [1994]).

In this note the occurrence of a sinistrally oriented thickback sole, *Microchirus variegatus* (Donovan, 1802) (Soleidae), is reported; the regular body orientation of the members of the family Soleidae is dextral.

The specimen was caught by bottom trawl on the 8 May 1995, in the South-Western Adriatic Sea off Mola di Bari, during daytime, at the depth of 150 m, on a muddy bottom. It was a female, sexually mature, 13.1 cm in total length. All its characters, except the body orientation, agree with

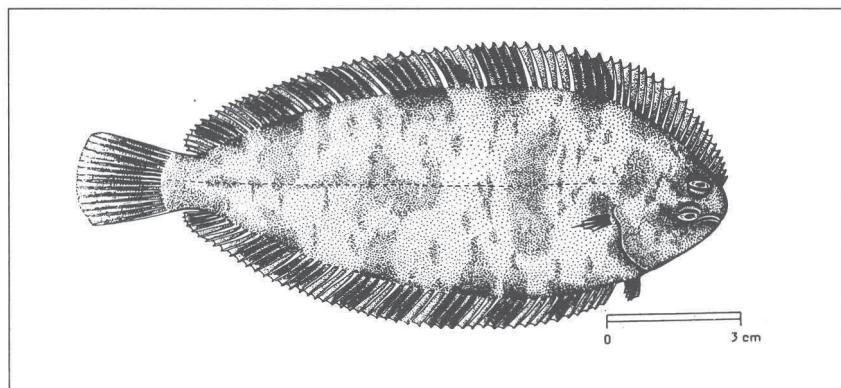


Figure 1 - Reversed thickback sole caught in the Adriatic Sea./*Solea perdix commune inversée pêchée en mer Adriatique.*

the descriptions of the species (e.g. Quéro et al., 1986; Bauchot, 1987). The present specimen of *M. variegatus* is the only one inversely oriented out of several tens observed by the author, all of them from the southern Adriatic Sea; the thickback sole is commonly netted there (Bello, Rizzi, 1988). The uniqueness of this find does not allow any significant computation of the incidence of reversal in the local population of *M. variegatus*.

To the best of the author's knowledge, this specimen of *M. variegatus* represents the first recorded occurrence of reversal in this species. Reversal is considered a rare teratological phenomenon in the Soleoidei (Chanet, 1993, Munroe, 1996). For instance, Chabanaud (1936) reported 4 ou 5 spécimens inversés sur quelques centaines de *Solea solea* L. [= *Solea vulgaris* Quensel, 1806]; the incidence of reversal in the southern-Adriatic population of *M. variegatus* appears to be of that same order of magnitude.

As regards the causes of reversals and other abnormalities in flatfishes, Munroe (1996) discusses data from the literature that suggest a relationship between the instability of ecological conditions and the frequency of occurrence of abnormalities. According to those data, reversals are most frequent in species inhabiting shallow-water areas (less than 5 m of depth) in temperate or boreal environments. The thickback sole is a deep-water species and lives in a fairly stable environment - for the Mediterranean Sea - which fact may contribute to explain the rarity of reversal in this fish.

Bauchot (1987) states that the thickback sole is *commun de 12 à 15 cm*; according to Bini (1968) it rarely reaches 14 cm in total length. The reversed specimen described herein was an adult and, seemingly, a thriving one. This fact is not in agreement with the supposition by Vassilopoulou (1994), who dealt with the body inversion in *Lepidorhombus boscii* (Risso, 1810) (Scophthalmidae), that reversed flatfishes possibly exhibit a higher mortality-rate than that of normal specimens.

The thickback sole described here has been deposited in the personal collection of the author.

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