

A note on a partial albino specimen of the  
species *Liza (Liza) ramada* (Risso, 1826) caught  
from the middle Adriatic

Bilješka o djelomičnom albinizmu kod jednog pimjerka vrste  
*Liza (Liza) Ramada* (Risso, 1826) ulovljenog u Srednjem Jadranu

Veronica Algeria Hernández and Gorenka Sinovčić

*Institute of Oceanography and Fisheries, Split, Yugoslavia*

A partial albino specimen was caught during experimental fishing for grey mullet in the area of Šibenik in 1984, among 4400 normally colorated grey-silvery specimens of grey mullet *Liza (Liza) ramada*. The specimen was caught along the shores of the town of Šibenik in March.

Owing to the fact that albino specimens rarely occur we have decided to publish this short communication on the albinism in fish.

IDENTIFICATION AND DESCRIPTION

The photo in Fig. 1 was taken of the fresh partial albino specimen together with a fresh normal specimen of the same size for comparison.

Identification was made according to the key for determination (Morović, 1957) and species description (Šoljan, 1965). The following determination characteristics were established: The tip of the pectoral fin bent forward did not reach the distal margin of the eye. Nine soft rays were counted on the anal fin. However, black spot in the upper angle of the basis of pectoral fin, characteristic for this species, was not observed in this specimen.

This specimen had the following meristic characteristics: total length 420 mm, standard length 340 mm, and body weight 590.4 g. Age was determined by length-age Von Bertalanffy's growth equation estimated for the

grey mullet population to which this albino specimen belongs (Sinovčić *et al.*, in press). On the basis of attained length and weight it was concluded that this specimen was of the six years of age. Dissection showed it to be female with the gonads under postspawning conditions. Level of fat was insignificant. However, dissection also showed the presence of pigmentation in peritoneal cavity which means that peritoneum didn't lack its dark grey coloration.



## DISCUSSION

There is no published report on this phenomenon in the Adriatic fish. Of different teratological phenomena in fish, morphological changes have been most frequently reported. This kind of abnormality was reported in some mullet species (Oselladore, 1949; Morović, 1954; Jardas and Morović, 1973, 1975). An atypical coloration of fish body was reported for only two specimens of *Anguilla anguilla* in which the metachromism was recorded (Jardas and Morović, 1975).

Albinism is a genetic abnormality which refers to the synthesis of melanin. This mutation occurs as a complete or incomplete elimination of the black pigmentation otherwise normally present on the skin, on the retina or other body parts. Gordon (1957) proved by experiments on the species *Xiphophorus helleri* a partial lethal effect of albino genes during later stages of the embryonic development of the fish. Haskins and Haskins, 1948 (in Gordon, 1957) came to the same results experimenting with the species

*Lebistes reticulatus*. In this respect this specimen of grey mullet is rather interesting since it attained six years of age.

Probably by mutational changes some genes inhibit the elaboration of melanin affecting the normal development of melanophores from the epidermis of ectodermal origin. However, they did not affect the pigmentation of the peritoneum which developed from the endoderm.

Since genetic changes may at a defined stage of development affect all the tissues of the same origin, it may be assumed that this was the case of partial albinism which affected the tissues of ectodermal origin.

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BILJEŠKA O DJELOMIČNOM ALBINIZMU KOD JEDNOG PRIMJERKA  
VRSTE *LIZA (LIZA) RAMADA* (RISSE, 1826) ULOVLJENOG  
U SREDNJEM JADRANU

Veronica Alegria-Hernández i Gorenka Sinovčić  
*Institut za oceanografiju i ribarstvo Split, Jugoslavija*

KRATKI SADRŽAJ

U radu se opisuje slučaj albinizma jednog primjerka cipla balavca (*Liza/Liza/ramada*) ulovljenog u šibenskom zaljevu za vrijeme eksperimentalnih lovina tokom 1984. Ovakva genetska abnormalnost razmatra se u odnosu na letalno ili semiletalno djelovanje gena za albinizam dokazano eksperimentima na drugim vrstama riba. Ističe se činjenica da je usprkos ove abnormalnosti primjerak dosegao starost od 6 godina.

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