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# A RECORD OF THE OCEANIC PUFFER FISH *Lagocephalus lagocephalus* (L.), ORDER TETRAODONTOIDEA, FROM KING ISLAND, TASMANIA

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(With one text figure and one plate)

### ABSTRACT

A specimen of the Oceanic Puffer Fish, *Lagocephalus lagocephalus* (Linnaeus), found on a beach on King Island, Bass Strait is described. This appears to be the first Australian record of this species.

### INTRODUCTION

On 20 June 1967, a fish found washed up at Phoques Bay, 39° 40' S, 143° 55' 50" E, King Island, was handed in to the Sea Fisheries Division, Department of Agriculture, Hobart. The specimen was subsequently acquired by the Tasmanian Museum where it was identified as the Oceanic Puffer, *Lagocephalus lagocephalus*. Despite the fact that it was found dead the fish was in an excellent state of preservation and was kept in frozen storage pending its arrival at the museum where it was transferred to liquid preservative. As the specimen appears to be the first record of this tropical species for Australia a description is given of the King Island specimen together with some observations on its probable origin and mode of arrival.

### DESCRIPTION

The general form is shown in plate 1. As can be seen from the photograph the anterior air-sac which is characteristic of this group of fishes is not inflated, giving a somewhat wrinkled appearance to the abdomen. The posterior part of the lateral line can be clearly seen, but the position of the anterior branches with the exception of the section over the eye is less certain. The raised ventro-lateral skin fold on the tail mentioned by Smith (1950) is present, but less obvious than the one figured by Templeman (1962).

The caudal fin has the lower rays noticeably longer than the upper rays. This has been mentioned by Ramalho (1931) as a characteristic of the species. Ramalho also describes the short, rather blunted, four rooted spines on the belly. These spines, which in the King Island specimen extend in rows along the belly from about 4 cm behind the snout to within 2 cm of the cloaca, are about 2 mm high and the cross shaped roots are about 1 cm across (fig.).

The nostrils are simple pores on the dorsal surface of the head 2 cm in front of the anterior border of the eye. There are two pairs of nostrils

with no associated pits or tentacles. The skin is completely smooth except for the belly and the upper half is dark brownish-black in colour, merging into bluish-silver on the sides. The belly is creamy-white and the caudal, dorsal and upper part of the pectoral fins are a uniform dark brown. The anal and lower part of the pectoral fins are a yellowish-white. The gill slit which appears to partly encircle the base of the pectoral fin is black internally.

The upper and lower bones of the jaws are fused to form the characteristic beak-like structure, each divided by a medium suture and approximately equal in size. The number of vertebrae is seventeen (determined by radiograph). The table gives a list of measurements for the King Island specimen alongside the corresponding measurements for a specimen figured by Templeman (1962) from Newfoundland.

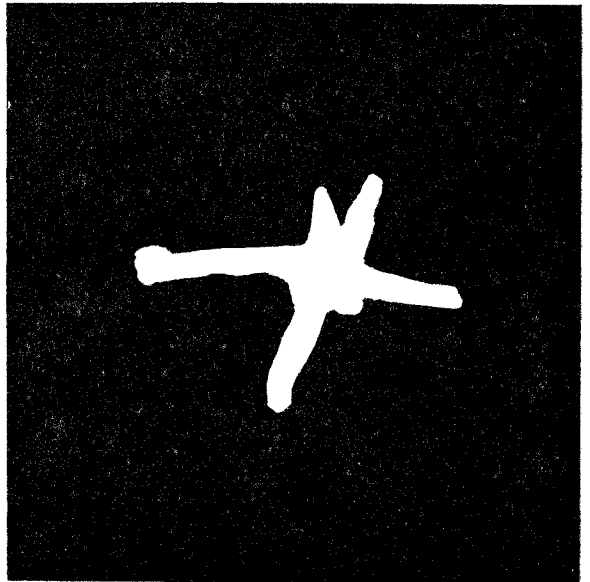


Fig.—Spine from *Lagocephalus lagocephalus* approximately 2 x natural size.

This species is quite distinct and readily distinguishable from all the Tasmanian members of the Tetraodontoidea by:—

- (1) The presence of spines on the belly only;
- (2) The simple nostrils;
- (3) The large size (60 cm); and
- (4) The four rooted spines.

#### DISCUSSION AND CONCLUSIONS

*Lagocephalus lagocephalus* is described by Ramalho (1931) as being rare in the Northern Atlantic, but more frequent in the Southern Mediterranean and tropical Atlantic Africa. Smith (1950) gives the distribution as 'widespread in the Atlantic and Indian Oceans' and mentions that the species is primarily pelagic. It would seem logical therefore to assume an Indian rather than Atlantic Ocean origin for the King Island fish. As Munro does not credit the species to the Ceylon or New Guinea lists (1955 and 1967 respectively), the King Island specimen probably originated in the Southern Indian Ocean and was carried across on the west wind drift current. Sverdrup, Johnson and Fleming (1942) illustrate the course of this current as following an isothermal line linking the southern tip of Africa and the Southern Australian coast and Bass Strait. They mention that in winter this current continues in part towards the Pacific along the Southern Australian coast, but during summer the current bends north before reaching the Australian continent.

The fact that the King Island fish was found on a west coast beach in winter would support the hypothesis that it followed a current of more

or less constant temperature eastwards to Australia. Although this could involve a distance of 7,000 miles or more it is not impossible when some of the peculiar characteristics of the fish are examined. Despite the fact that it is a feeble swimmer they are known for their ability to inflate the body with air and drift belly upwards with ocean currents (Smith, 1950). Like most of the other members of the order Tetraodontoidea the flesh is presumably toxic and protected by a tough, leathery skin rendering the fish almost immune from attack by other animals.

The specimen has been placed in the Tasmanian Museum ichthyological collection, registration number D934.

#### ACKNOWLEDGMENTS

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#### COMPARISON OF MEASUREMENTS OF THE KING ISLAND AND NEWFOUNDLAND SPECIMENS OF *Lagocephalus lagocephalus*

	<i>King Island</i>	<i>Newfoundland</i>
Length (Snout—mid caudal fork) . . . . .	56.5 cm	60.2 cm
Standard length . . . . .	51.3 cm	53.0 cm
Snout—tip of caudal (upper) . . . . .	58.3 cm	62.8 cm
Snout—tip of caudal (lower) . . . . .	60.8 cm	64.5 cm
Head (Snout—posterior border operculum) . . . . .	14.6 cm	15.8 cm
Snout—Anterior border eye . . . . .	6.4 cm	6.7 cm
Snout—Mid cloaca . . . . .	35.0 cm	37.3 cm
Snout—Dorsal origin . . . . .	36.7 cm	38.5 cm
Snout—Anal origin . . . . .	38.3 cm	39.9 cm
Dorsal fin, length 1st ray (longest) . . . . .	8.0 cm	9.6 cm
Caudal fin, length lower ray (longest) . . . . .	11.1 cm	12.5 cm
Gill slit height (vertical) . . . . .	3.2 cm	4.5 cm
Longitudinal diameter eyeball . . . . .	2.0 cm	2.0 cm
Fin rays:—		
Dorsal . . . . .	14+	15+
Anal . . . . .	13	14
Left Pectoral . . . . .	15	15
Right Pectoral . . . . .	15+	16
Vertebrae . . . . .	17	17



PLATE 1.—*Lagocephalus lagocephalus* from King Island, Bass Strait.

