

TRANSACTIONS
OF THE
ROYAL SOCIETY OF NEW ZEALAND

ZOOLOGY

VOL. 4

No. 16

JULY 24, 1964

Extension of the Range of the Sea Urchin *Pseudoboletia indiana*
(Mich.) to the Tasman Sea

[Read before the Wellington Branch; received by the Editor, December 10, 1963.]

By ELIZABETH C. POPE, the Australian Museum, Sydney*

Abstract

RECENTLY two skin-divers, Messrs Donald Wilson and John Hughes, collected some unfamiliar, light-coloured sea urchins near the mouth of Sydney Harbour, New South Wales, which have now been identified as belonging to the Toxopneustid species *Pseudoboletia indiana* (Michelin). This identification has kindly been verified by Dr H. B. Fell, of Wellington, New Zealand, to whom a specimen was sent for examination.

THE urchins are reported to cling, sub-tidally to the near-vertical faces of sandstone rocks and almost invariably invest themselves with a covering of shell fragments, including oysters, mussels, limpets or any other mollusc shell available. Even glass fragments from broken bottles may be used.

However, chief interest in the recent discovery of *Pseudoboletia indiana* on the eastern coast of Australia lies in the fact that it extends the range southward in the Pacific and bridges a gap between the eastern population, recorded in the Hawaiian Islands, Ocean Island and the Moluccas and the western population in the Indian Ocean, recorded from Mauritius, Reunion and Madagascar and one lone record from Houtman's Abrolhos Islands, off Geraldton, in Western Australia.¹

A series of sixteen specimens has now been examined from Sydney Harbour, and all agree closely with Mortensen's description of the species in his revision of the Echinoidea.² There are, however, two distinct colour phases among Sydney specimens—the one being a "white" form in which the crowded, light coloured primary spines are tipped with mauve (like typical Hawaiian specimens) and the other having light green spines tipped with violet (as described by de Loriol³ in specimens from Mauritius). The Australian specimens bridge not only the geographical gap but also the morphological differences that existed between eastern and western populations.

Specimens were taken on four occasions between March and May, 1963, and in each sample several individuals spawned prolifically after capture. No correlation could be made, however, between the colour of the urchin and sex since both green and white individuals were seen to produce eggs or sperms.

* By permission of the Trustees.