

A SIMPLIFIED KEY TO THE SESSILE BARNACLES FOUND ON THE ROCKS, BOATS, WHARF PILES AND OTHER INSTALLATIONS IN PORT JACKSON AND ADJACENT WATERS.

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(Plates xxviii-xxx; Figures 1-5.)

Introduction.

It is generally considered by dock authorities that the fouling of ship bottoms by barnacles in the harbour of Sydney, Port Jackson, is heavy in comparison with other localities. Unlike most other organisms which attach themselves to the bottoms of ships, barnacle shells do not necessarily drop off or decay away once the organism in them dies, and docking and scraping are necessary to remove them effectively. This is an expensive process and consequently much attention is being given to the production of anti-fouling substances for use on harbour installations. Actually it is possible that a coating consisting of thousands of barnacles on a wharf pile or other wooden structure under water may itself, by the constant feeding of the individuals, cause considerable reduction in the numbers of swimming larvae of such undesirable wood-borers as the shipworm or Cobra (*Teredinine* borers).

Much work remains to be done in connection with both these problems, and it has become a primary necessity for the field worker to be able to distinguish quickly and easily the different species of barnacles found in the waters of Port Jackson. The various monographs and scientific papers dealing with this group of crustaceans are not as a rule easy of access to the workers on these problems and often contain unnecessarily detailed descriptions of the various species. This simple key has therefore been drawn up to help these workers. The author has assumed that some of the users of this key will be unfamiliar with the zoological terms usually applied to the various parts of the body and shells of these animals. Accordingly, as few of these technical terms as possible have been introduced, and differences in field occurrence and external structure will be used, as far as may be, to distinguish between one species and another, rather than the very necessary finer points of anatomical difference used by the specialists in this group. Workers desirous of more complete and detailed descriptions should refer to Darwin's monograph (1854) on this group or some other later standard work of that nature.

Relationships and Anatomy of the Barnacles.

In spite of their appearance, barnacles are not molluscs like mussels or oysters, but are close relatives of the prawns, crabs and other crustaceans. They have been aptly described by Huxley as shrimp-like animals which have become attached by their head ends to some submerged object and then have proceeded to construct round their bodies cases of armour-like plates. These plates butt one against the next and serve as a protection for the soft parts of the body. The technical name for the barnacles is Cirripedia, bestowed on them because of their feathery, cirrus-like feet which are protruded through a gap between parts of the hard shelly coat when the animal is feeding. These feathery feet are used to "comb" the barnacles' food-particles from the surrounding water.