

## Natural History of Madang Lagoon with an Appendix of Collecting Localities\*

M.H.P. JEBB<sup>1</sup> & J.K. LOWRY<sup>2</sup>

<sup>1</sup> Christensen Research Institute, PO Box 305,  
Madang, Papua New Guinea

<sup>1</sup> Current address: Botany School, Trinity College, Dublin 2, Ireland  
mjebb@mail.tcd.ie

<sup>2</sup> Australian Museum, 6 College Street, Sydney NSW 2000, Australia  
jiml@amsg.austmus.oz.au

**ABSTRACT.** Systematic collections have revealed that the Madang Lagoon is a highly heterogeneous reef system which shows an unprecedented diversity of marine invertebrates (e.g., about 180 species of gammaridean Amphipoda). The characteristics of the Madang Lagoon, including its geological origin, physical geography, and physical and biological oceanography, are described and discussed. Traditional names are used for the reefs and islands of the lagoon. An appendix includes a list of all current collecting localities for the Madang Lagoon amphipod project. Coordinates for these collecting localities have been determined using a global positioning device.

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During parts of February and March from 1989 to 1991 J.L. Barnard, Smithsonian Institution, Washington, DC, USA (since deceased), J.K. Lowry, Australian Museum, Sydney, Australia, A.A. Myers, Cork College, Cork, Ireland and J.D. Thomas, Smithsonian Institution, Washington, DC (then of the Reef Foundation, Big Pine Key, Florida, USA), collected amphipods from the Madang Lagoon and adjacent waters (Fig. 1). The objective of this work was to collect all the gammaridean amphipod species from the lagoon and adjacent areas with the intention of describing the fauna. Because of

the unique tectonic and geological history of northern New Guinea in general and the Madang Lagoon in particular, the results of this work should, in addition to documenting the amphipod fauna, provide new insights into the diversity and distribution patterns of Indo-west Pacific amphipods.

Three hundred and six separate samples were made by diving and trapping. Coral rubble was collected in large buckets or bags. Sediments were collected in plastic bags, fine mesh bags by swimming along the bottom like a human dredge or with an airlift. Algae,