



Four new species of the family Lithodidae (Decapoda: Anomura) from the collections of the National Museum of Natural History, Smithsonian Institution

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Abstract

Four new species of lithodid crab were identified in the collections of the National Museum of Natural History, Smithsonian Institution. These include three species of the genus *Paralomis*: *P. nivosa* from the Philippines, *P. makarovi* from the Bering Sea, and *P. alcockiana* from South Carolina; and one new species of the genus *Lithodes*, *L. galapagensis*, from the Galapagos archipelago. Two of these species, *P. nivosa* and *P. makarovi* were part of a collection of previously unidentified lithodid samples from the Albatross expeditions of 1906–1908. *Paralomis makarovi* may have been misidentified as *P. multispina* Benedict, 1894, or *P. hystrix* (De Haan, 1844) in other collections owing to superficial similarities in carapace ornamentation and overlapping distributions.

Key words: king crab, *Lithodes*, *Paralomis*, Albatross expedition, new species, Anomura, Lithodidae

Introduction

The family Lithodidae Samouelle, 1819, is a commercially important group of crustaceans inhabiting subtidal waters at high latitudes, as well as the deep sea in most of the world's oceans (Hall & Thatje 2009). The family consists of 109 species described to date; most of these belonging to the deep-sea genera *Lithodes* Latreille, 1806 (20 species), and *Paralomis* White, 1856 (57 species) (Zaklan 2002; Macpherson & Chan 2008; Spiridonov *et al.* 2006).

The National Museum of Natural History, Smithsonian Institution, Washington D.C. (USNM) currently curates over 700 samples belonging to the family Lithodidae — 684 of which are identified to species level. Several of the unidentified samples were collected in the early part of the 20th century by the U.S. Bureau of Fisheries steamer, “Albatross”.

The number of described species of the genus *Paralomis* has increased in recent decades (Takeda & Bussarawit 2007). We are beginning to understand the incredible diversity of deep-water forms at depths typically 500–1500 m.

No species of *Paralomis* have been previously reported from the Philippines, although the Albatross 1908–09 expedition to this region also yielded the holotype of *Paralomis ochthodes* Macpherson, 1988a, from the Gulf of Boni, about 1300 km to the south. In addition, *P. seagranti* Eldredge, 1976 and *P. haigae* Eldredge, 1976, were described from Guam, and *P. danida* Takeda & Bussarawit, 2007, was described from Thailand. Several species of *Paralomis*, including *P. dofleini* Balss, 1911, are known from Taiwan and Japan (Macpherson & Chan 2008; Takeda 1985; Takeda 1990; Takeda 1980; Sakai 1971; Sakai 1987).

The diversity of the family Lithodidae in the North Pacific is notably high, with most of the 14 lithodid genera being represented there. Only two species of *Paralomis* have been reported from the Bering Sea, namely *P. multispina* (Benedict, 1894) and *P. verrilli* (Benedict, 1894) (Sakai 1971). In this region, species of