



## New records and new species of Ophiuroidea (Echinodermata) from Lifou, Loyalty Islands, New Caledonia

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## Abstract

New Caledonia is a species-rich region that has been the focus of biodiversity research for over 40 years. The expedition “Atelier Lifou 2000” collected benthic fauna at the island of Lifou, Loyalty Islands, New Caledonia, in November of 2000. This is a taxonomic account of the brittle stars found. 94 species were identified, 51 of them new for the region, and seven new to science, increasing the total number of species known from the New Caledonia region to 204. New species are described in the genera *Squamophis*, *Astroceras*, *Astrogymnotes*, *Ophiochondrus*, *Ophiomoeris*, *Ophiozonella* and *Amphipholis*. Three species and a subspecies are revised, one of them placed in a new genus. The taxonomic status of *Euryale* Lamarck, 1816, a junior homonym of *Euryale* Péron & Lesueur, 1810 (a medusa), is stabilized by formally establishing precedence over the senior name.

**Key words:** brittle stars, taxonomy, nomenclature, scanning electron microscopy, morphology

## Introduction

New Caledonia is a particularly species rich area, a so-called “hotspot” of biodiversity. Since 1977, a concerted effort has been made to study the biochemistry, geology and biology of the sea around New Caledonia (Richer de Forge 1990). A recent study (Bouchet *et al.* 2002) found 2738 species of marine molluscs on a 295 km<sup>2</sup>-site on the west coast of the main island, Grande Terre, the highest number ever recorded anywhere in the world. Brittle stars, with currently about 2200 described species worldwide (Stöhr & O’Hara 2007) are a comparatively small group and not considered a key indicator taxon for biodiversity assessments of tropical areas, but 146 species have so far been reported from New Caledonia (Ameziane 2007). Many of these have been found only once and/or in small numbers. The true richness of the ophiuroid fauna around New Caledonia is still unknown. This reflects the global situation, since in the past decade on average seven species a year have been described as new (Stöhr & O’Hara 2007), even from well-studied regions such as the North Atlantic Ocean.

Previous expeditions covered the continental slope of Grande Terre, the Loyalty Ridge and seamounts to the east, the Norfolk Ridge and the area around the Chesterfield Islands (Bouchet *et al.* 2008). Part of the ophiuroid fauna collected has been reviewed by O’Hara & Stöhr (2006). Two expeditions have previously collected benthic fauna at Lifou, the largest of the Loyalty islands, MUSORSTOM 6 off its northwest and east coasts (Richer de Forge 1990) and CALSUB in the Bay of Santal and off the north coast (Roux 1994). These expeditions collected mainly at greater depth, from several hundred to almost three thousand metres. In 2000, an expedition to Lifou was