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New records of marine tardigrades from Moorea, French Polynesia, with the description of *Styraconyx turbinarium* sp. nov. (Arthrotardigrada, Halechiniscidae)

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Abstract

Five marine arthrotardigrade species are recorded from Moorea, Society Islands, French Polynesia. Four were collected from coral sand; two, *Dipodartus anaholiensis* Pollock, 1995 and *Florarctus kwoni* Chang & Rho, 1997, are new records for the region, and two, *Halechiniscus perfectus* Schulz, 1955 and *Styraconyx kristenseni kristenseni* Renaud-Mornant, 1981, have been previously reported. The fifth, a new species *Styraconyx turbinarium* sp. nov., is described and was collected from the drifting brown alga *Turbinaria ornata*. The new species is characterized by the presence of peduncles on all digits, an elongate primary clava, and the lateral cirrus *A* arising from a common pedestal and enveloped by a common membrane extending almost to the claval tip. The new species differs from the most similar species, *Styraconyx tyrrhenus* D'Addabbo Gallo, Morone De Lucia & de Zio Grimaldi, 1989, by having longer and differently shaped primary clavae which are elongated in the new species and club-shaped in *S. tyrrhenus*. By having a dorsal cuticle that is coarsely punctated but without folds or other ornamentations, the new species can be easily distinguished from *S. craticulus* (Pollock, 1983), a species with similar primary clavae, but with cuticular dorsal folds ornamented with a grid-like pattern.

Key words: *Dipodartus*, *Florarctus*, *Halechiniscus*, *Styraconyx*, meiofauna, Pacific Ocean, Tardigrada, *Turbinaria*.

Introduction

Marine tardigrades are present in all oceans, ranging from the intertidal zone to abyssal depths, inhabiting a great diversity of sediments from fine mud to coarse sand, rocks, algae, and in a few cases living as commensals or ectoparasites (Kristensen & Hansen 2005) on larger invertebrates. Nevertheless, our knowledge of the marine tardigrade fauna is still very poor with less than 200 described species and subspecies (Guidetti & Bertolani 2005; Degma *et al.* 2009-2014). French Polynesia (Pacific Ocean) is one of the regions scarcely explored. Until now only six species, *Echiniscoides sigismundi polynesiensis* Renaud-Mornant, 1976, *Florarctus asper* Renaud-Mornant, 1989, *Florarctus stellatus* Renaud-Mornant, 1989, *Halechiniscus perfectus* Schulz, 1955, *Styraconyx kristenseni kristenseni* Renaud-Mornant, 1981, and *Tholoarctus natans natans* Kristensen & Renaud-Mornant, 1983 have been recorded for this region (Salvat & Renaud-Mornant 1969; Renaud-Mornant 1976, 1981, 1989; Kristensen & Renaud-Mornant 1983), and no collections have been made there for over 25 years.

Based on recently collected, shallow marine samples from Moorea Island, we provide a description of *Styraconyx turbinarium*, a species new to science, and present the first French Polynesian records for *Dipodartus anaholiensis* Pollock, 1995 and *Florarctus kwoni* Chang & Rho, 1997.