



<http://dx.doi.org/10.11646/zootaxa.3999.1.3>

<http://zoobank.org/urn:lsid:zoobank.org:pub:1FE7AFED-DC04-4E8C-BFB3-880A94B296DB>

On some sea cucumbers (Echinodermata: Holothuroidea) from off the south and west coasts of South Africa collected by the South African Environmental and Observation Network (SAEON)

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Abstract

Twenty four specimens of holothuroids recently received from the South African Environmental and Observation Network (SAEON), collected from off the south and west coasts of South Africa, are herein recorded and/or described. The specimens comprise eight nominal and one indeterminate species and represent both shallow-water and deep-sea forms, distributed from Plettenberg Bay to just north of Lambert's Bay in the Western Cape Province. There are no new species but two new records for the South African region and extensions of horizontal and bathymetric distributions of the other species. Additions to the South African fauna are *Zygothuria lactea* (Théel, 1886) and *Synallactes cf. challengerii* (Théel, 1886). The paper also contains the first definite record of *Thyone venusta* Selenka, 1868, originally described from the Red Sea. Distribution ranges of the following species have been altered *Synallactes viridilimus* Cherbonnier, 1952; *S. mollis* Cherbonnier, 1952 and *Psuedostichopus langeae* Thandar, 2009.

Key words: Dendrochirotida, Aspidochirotida, Synallactidae, Cucumariidae, Thyonidae, new records

Introduction

In the class Holothuroidea more than 1400 extant species have so far been described (Pawson 1970; Solis-Marin 2003). The class represents one of the most geographically radiated echinoderm group. One third of holothuroids are confined to the deep sea where, in some of the deepest trenches, they may account for 90% of the total biomass (Pawson 1970). Since 70% of the earth's surface is covered by deep waters, holothuroids are one of the most dominant organisms on the planet (Hendler *et al.* 1995, Solis-Marin 2003; Pawson *et al.* 2010).

The South African holothuroid fauna currently comprises approximately 150 nominal species distributed over 69 genera, giving an approximate genus:species ratio of 1:2. Deep-sea species (>200 m) make up about 34% of this fauna. Two pelagic species have so far been documented. Both shallow-water and deep-sea species display high degree of endemism.

The current collection received from the South African Environmental and Observation Network (SAEON), for identification comprises mostly deep-sea forms, with only two shallow-water representatives. The material represents seven nominal and one indeterminate species. The eight species are here re-described and/or recorded. For each of the known species distribution is given and some comments included. None of the species are new to science but there are two new records for South Africa (*Zygothuria lactea* and *Synallactes cf. challengerii*) and a definite record of *Thyone venusta*. The horizontal and/or bathymetric distributions of five species (*Zygothuria lactea*, *Psuedostichopus langeae*, *Synallactes viridilimus*, *S. cf. challengerii* and *Thyone venusta*) have been changed.

Material and methods

The material comprises a total of 24 specimens, trawled from off the south and west coasts of South Africa from