AMPHIPODS OF THE COLD SEEP COMMUNITY ON THE SOUTH BARBADOS ACCRETIONARY PRISM

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ABSTRACT

During the mission DIAPISUB, three dives of the submersible "Nautile" on the Barbados accretionary prism made it possible to collect eight species of amphipods around cold seeps, at depths between 1654 and 1951 m, viz., Sennaia bidactyla (Eurisidae); Leucothoe ayrtonia (Leucothoidae); Orenoqueia serrata, Stephonyx carinatus, Stephonyx incertus, and Tryphosella uristesi (Lysianassidae); ?Harpinia intermedia and Proharpinia barbada (Phoxocephalidae). All these species are new to science, two belonging to new genera, Sennaia and Orenoqueia.

RÉSUMÉ

Au cours de la mission DIAPISUB, trois plongées du sous-marin "Nautile" sur le complexe d'accrétion de la Barbade ont permis de récolter 8 espèces d'Amphipodes entre 1654 et 1951 m. C'est à dire: Eurisidae, Sennaia bidactyla; Leucothoidae, Leucothoe ayrtonia; Lysianassidae, Orenoqueia serrata, Stephonyx carinatus, Stephonyx incertus, Tryphosella uristesi; ?Harpinia intermedia et Proharpinia barbada, dans la communauté vivant autour des sources de fluides froids. Toutes ces espèces sont nouvelles, deux d'entre elles appartiennent à deux genres nouveaux, Sennaia et Orenoqueia.

INTRODUCTION

The biological research objective of the mission DIAPISUB in the sector of the southern termination of the Barbados accretionary prism, which results from subduction of the Atlantic plate under the Caribbean domain (Jollivet et al., 1990; in the limited sector, 10°16'N to 11°14'N and 58°36'W to 59°22'W), was the study of distribution, structure, and functioning of the benthic ecosystem associated with cold seeps.

Zones of subduction presenting cold seeps are colonized, just like hydrothermal vents, by rich communities whose economy is based on processes of chemosynthesis. These poorly known communities are dominated by large mussels, vesi-
comyid clams, and vestimentiferans. A rich community had been physiognomically described from between 1000 and 2000 m depth as a result of the Caracolante II et Diapicar missions (Jollivet et al., 1990), as consisting of sponges, bryozoans, gorgonians, galatheid crabs, anemones, holothurians, asteroids, ophiuroids, and fishes.

A number of those organisms have been sampled during the mission DIAPISUB, and the study of these would permit comparisons, on the one hand between the different sites of cold seep, and on the other hand between cold seeps and hydrothermal communities.

In a preceding work (Bellan-Santini, 1990) two species of amphipods have been described from cold seeps: *Orchomene kaikoi* from the pit of Nankai (35°54.2'N 142°30.7'E, depth 5640-5695 m) and *O. stocki* from the mission Baresnaud to Barbados (13°49'N 59°37'W, 4935 m depth). In this new investigation of the Barbados prism eight new species of amphipods have been found, two of which belong to new genera.

**MATERIALS AND METHODS**

Three dives of the submersible "Nautilus" have yielded amphipods: DS 10, 10°19.95'N 58°37.32'W, 1947-1951 m: *Leucothoe ayrtonia* (1 specimen), ? *Harpinia intermedia* (1 spm.), *Proharpinia barbada* (1 spm.); DS 12, 10°19.97'N 58°37.30'W, 1947 m: *Orenoqueia serrata* (26 spms.), *Stephonyx carinatus* (1 spm.), *Stephonyx incertus* (4 spms.), *Tryphosella uristesi* (19 spms.); DS 13, 10°20.90'N 58°51.26'W, 1654 m: *Sennaia bidactyla* (1 spm.). The material is lodged in the Museum National d'Histoire Naturelle, Paris.

**TAXONOMIC PART**

Family Eusiridae

*Sennaia* n. gen.

Description. — Body toothed, pleonites 1-2 with a dorsal tooth. No rostrum. Eyes present. Antenna 1 without accessory flagellum. Labrum rounded. Labium with small inner lobes. Molar not or poorly triturative. Maxilla 2 with inner plate shorter and broader than outer. Maxilliped with the outer plate longer than the inner one and longer than the first article of the palp. Coxae 1-2 with 2 large spines at the junction with the basis. Gnathopods alike, subchelate, not eusirid in type. Pereopods 5-7 with the dactylus bifid. Telson elongate, thrice as long as broad and cleft to halfway, without distal armament.