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COMPENDIUM of marine species from New Caledonia



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Phoronida of New Caledonia

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Worldwide, ten valid species of Phoronida are known. All have representative populations in the Pacific Ocean and four have been recorded in New Caledonian waters (Emig & Golikov, 1990; Emig & Roldán, 1992; and unpublished data). Benthic surveys of the lagoon of Nouméa (New Caledonia) in the 80's resulted in the first records of Phoronida: *Phoronis psammophila*, *P. muelleri*, *Phoronopsis albomaculata*, and *Phoronopsis harmeri*, and recently in Lifou Island (unpublished data).

In the Nouméa lagoon, *Phoronis psammophila*, a cosmopolitan species, occurs at a low density, from 3 to 100 individuals per square meter (Emig & Golikov, 1990; Emig & Roldán, 1992). It dwells in fine to coarse sands, generally covered with a rich epibiosis, and in seagrass beds of *Halodule minorvis* with *Halimeda*. This species sometimes shares its habitat with one or two other phoronid species, e.g., *Phoronis muelleri*, a cosmopolitan species, *Phoronopsis albomaculata*, and/or *Phoronopsis harmeri*, a species well-known in the Pacific (Emig, 1984, 1985). For example, in the Anse Vata and in the Baie des Citrons, *Phoronis psammophila* occurs with *Phoronopsis harmeri* at very shallow depth. *Phoronopsis albomaculata*, a tropical-temperate species, was collected at several stations at a low density of 3-9 individuals per square meter. This species occurs in sandy bottoms like those occupied by *Phoronis psammophila*, but in general they are somewhat coarser owing to stronger near-bottom currents. *P. psammophila* is more abundant in well-sorted fine sands, as for example in Sainte-Marie Bay where its density reaches 2000 individuals per square meter (ECOTROPE programme; unpublished data). *P. psammophila* has also been collected by Christer Erseus in the Chateaubriand Bay of Lifou Island (unpublished data).

The data obtained in New Caledonia confirm that, in the Phoronida, low densities occur in tropical and subtropical waters (Thomassin & Emig, 1983) in contrast to the higher densities cited at higher latitudes.

REFERENCES

- EMIG C.C. 1984. *New data on the phoronids, Lophophorata, collected by Soviet expeditions* [in Russian]. *Biol. Mor. Vladivostok*, 1984 (4), 65-67.
- EMIG C. C., 1985. *New data on the phoronids collected by Soviet expeditions*. *Soviet J. mar. Biol.*, 10 (4), 242-245
- EMIG C.C. & GOLIKOV A.N. 1990. *On phoronids of the Far Eastern seas of the USSR and their distribution in the Pacific Ocean* [in Russian]. *Zool. Zh.*, 69, 22-30.
- EMIG C.C. & ROLDÁN C. 1992. *The occurrence in Australia of three species of Phoronida (Lophophorata) and their distribution in the Pacific area*. *Rec. S. Aust. Mus.*, 26, 1-8.
- THOMASSIN B. A. & EMIG C. C. 1983. *Distribution des Phoronidiens dans les biotopes littoraux, coralliens et terrigènes, du Canal de Mozambique (S.W. Océan Indien)*. *Téthys*, 11 (1), 33-48.

See also: <http://paleopolis.rediris.es/Phoronida/>

List of Phoronida of New Caledonia (0-100 m)

Following the name of each species is the locality where it was first described.

LOPHOPHORATA

PHORONIDA Hatchek, 1888

- Phoronis muelleri* Selys-Longchamps, 1907 (Helgoland, Germany)
Phoronis psammophila Cori, 1889 (Messina, Italy)
Phoronopsis albomaculata Gilchrist, 1907 (False Bay, South Africa)
Phoronopsis harmeri Pixell, 1912 (Departure Bay, Vancouver, Canada)