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# FRAGMENTOS TAXONÓMICOS, COROLÓGICOS, NOMENCLATURALES Y FITOCENOLÓGICOS (95-107)

## 95. MARINE BENTHIC ALGAE FROM URUÇUCA, BAHIA, BRAZIL

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*Algas marinas bentónicas del municipio de Uruçuca, Bahia, Brasil.*

Key words. Bahia, Brasil, check-list, seaweeds.

Palabras clave. Algas marinas, catálogo, Bahía, Brasil.

This paper aims to contribute to the knowledge of marine algae from south Bahia started by Nunes *et al* (1999), which contains a brief historic of the systematic studies undertaken in the south and southernmost coast of Bahia. Species listings from this area have been published by Nunes & Paula (2000, 2001) in their studies about *Padina* and *Dictyota* respectively. Recently, the marine benthic algae from south Bahia has been addressed by Amado-Filho *et al* (1997), Coutinho *et al* (1993), Figueiredo (1997) and Villaça & Pitombo (1997). However, these studies concentrate solely in ecological aspects of the Abrolhos Archipelago species. Moura & Yamaguishi (1998) included south Bahian material, precisely from Ponta Grande beach (Porto Seguro) and recorded *Jania ungulata* (Yendo) Yendo f. *brevior* (Yendo) Yendo for the first time for the Atlantic waters.

This study aimed to record the biodiversity of the marine benthic algae from the State of Bahia, is part of program "Inventory of the Marine Benthic Algae from South Bahia", developed in collaboration with the Department of Biological Sciences from the Universidade Estadual de Santa Cruz, Universidade Federal da Bahia, Universidade do Estado da Bahia and Instituto de Botânica do Estado de São Paulo. This paper provides essential

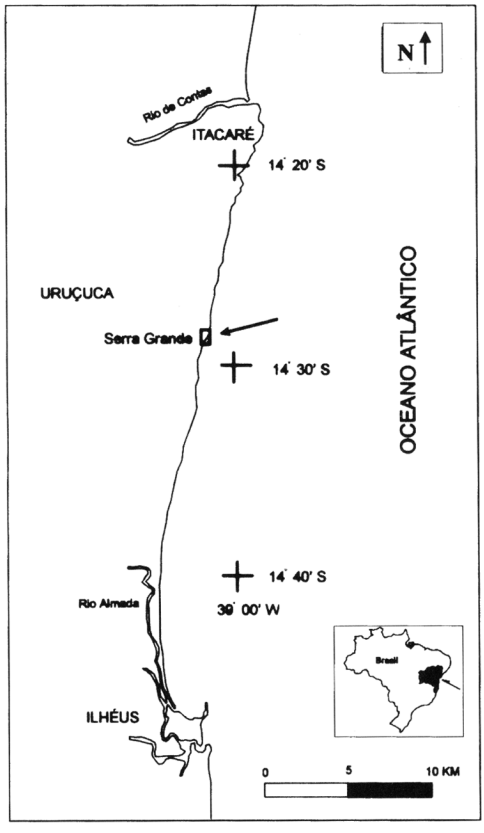


Figura 1. Serra Grande beach, Uruçuca, Bahia Brazil.

information for rational use and preservation of the natural resources, as well as mapping the species distribution in the Brazilian littoral.

Uruçuca City is located down to the south at 405 km off Salvador City. The coastline of Uruçuca is about 9.2 km long and it has humid climate, with annual average temperature of 24.4 °C, rainfall 1200-2200 $mm^{-3}$, with highest rainfall records between May and July (Cei/ Conder, 1994).

The material was collected from the Serra Grande beach (14° 20'S/39° 00'W) from July 1996 to May 1997 (fig. 1). An emerged crystalline rock structure characterizes this beach (Martin *et al.* 1980). The external side of the rock bodies is exposed to the hydrodynamic action of waves, thus reducing colonisation by benthic algae.

All the material has been collected during the low tide, throughout the intertidal zone, which was subdivided according to its hydrodynamics: (i) high energy, (ii) moderately high and (iii) shallow pools.

The specimens were obtained with appropriate equipment, stored in plastic bags and labelled for further preservation following Cordeiro-Marino *et al.* (1984). Identification was addressed according to the specific literature and the classification adopted follows Wynne (1998). All material has been stored at the Herbarium Alexandre Leal Costa (ALCB) from the Institute of Biology, Universidade Federal da Bahia and for each species the following data has been recorded:

a. Reproduction: IO - intercalary organs; PO - Plurilocular organs; SPO - Sporangia; FEM - Female; MH - Male; MONO - Monoecious; T - Tetrasporangia and C-Cystocarp.

b. Ecology: E - Epiphyte; RS - rocky substrate; HZ - high-energy zone; MH - moderately high and SHP - shallow pool.

c. Herbarium Number;

d. Comments.

In the studied area seventy infra-generic taxa were recorded. Forty Rhodophyta represented by twelve orders and sixteen families, being Rodomelaceae, Ceramiaceae and Corallinaceae the most abundant with nine, six and five taxa, respectively. Thirteen Phaeophyta represented by four orders and four families, being Dictyotaceae and Sargassaceae the most abundant with five taxa each. Seventeen Chlorophyta taxa were distributed into three Orders and eight families. The families Caulerpaceae and Cladophoraceae were the most abundant, both with four taxa. The same number of Rhodophyta (40) has been observed to Ilhéus City (Nunes *et al.* 1999).

There have been observed some differences in the occurrence of taxa from the various sampled zones in accordance to the hydrodynamics. Sixty-three distinct taxa have been recorded from the high-energy zone, forty-three from the moderately high and fourteen from the shallow pools. However, only 13 taxa have been recorded to all sampled zones. These numbers are in accordance to the previously studied areas in the Bahian coastline, e.g. Salvador City (Nunes, 1998) and Ilhéus (Nunes *et al.* 1999), where the highest number of taxa is recorded to the high-energy zone, decreasing towards the shallow pools. However, Altamirano & Nunes (1997) affirmed that the number of taxa recorded from the moderately high-energy zone is relatively higher. Conversely, Martins *et al.* (1991) concluded that the highest number of taxa is recorded from the shallow pools.

Fifty-five taxa were common to Uruçuca and Ilhéus City. However, only eight species were recorded as epiphytes for Uruçuca city. This number is relatively small when compared with the data presented by Nunes *et al.* (1999) for Ilhéus City.

*Cladophora dalmatica* Kützing & Ugadim e *Gymnothamnion elegans* (Schousboe *ex* C. Agardh) J. Agardh are recorded for the first time to the State of Bahia and *Champia minuscula* A. B. Joly for Northeast Brazil.

## TAXONOMIC ACCOUNT

CHLOROPHYTA

ULVALES

**Ulvaceae**

*Enteromorpha flexuosa* (Wulfen *ex* Roth) J. Agardh
RS, HZ, MH. (ALCB 22261).

*Ulva fasciata* Delile
RS, HZ, MH, SHP. (ALCB 22379).

CLADOPHORALES

**Anadyomenaceae**

*Anadyomene stellata* (Wulfen *in* Jacq.) C. Agardh
RS, HZ, MH. (ALCB 22275).

**Cladophoraceae**

*Chaetomorpha antennina* (Bory) Kützing
RS, HZ. (ALCB 34724).

*Cladophora dalmatica* Kützing
E, HZ. (ALCB 34783). Epiphyting *Osmundaria obtusiloba.*

*C. prolifera* (Roth) Kützing
E, HZ. (ALCB 48350).

*C. vagabunda* (L.) C. Hoek
RS, HZ, MH. (ALCB 34811).

**Siphonocladaceae**

*Dictyosphaeria versluysii* Weber Bosse
RS, HZ, MH. (ALCB 49411).

BRYOPSIDALES

**Bryopsidaceae**

*Bryopsis pennata* J. V. Lamouroux
RS, HZ. (ALCB 49243).

**Codiaceae**

*Codium intertextum* Collins & Hervey
RS, HZ. (ALCB 22272).

*C. isthmocladum* Vickers
RS, HZ, MH. (ALCB 22257).

*C. taylorii* P. C. Silva
RS, HZ. (ALCB 34814).

**Caulerpaceae**

*Caulerpa cupressoides* (H. West *in* Vahl) C. Agardh
RS, HZ, MH. (ALCB 22274).

*C. fastigiata* Montagne
RS, HZ, MH. (ALCB 34812).

*C. mexicana* Sonder *ex* Kützing
RS, HZ, MH. (ALCB 22267).

*C. taxifolia* (H. West *in* Vahl) C. Agardh
RS, HZ. (ALCB 34813).

**Udoteaceae**

*Halimeda discoidea* Decaisne
RS, HZ, MH, SHP. (ALCB 22271, 48268).

PHAEOPHYTA

ECTOCARPALES

**Ectocarpaceae**

*Asteronema breviarticulatum* (J. Agardh) Ouriques & Bouzon
PO; RS, HZ. (ALCB 22244).

*Bachelotia antillarum* (Grunov) Gerloff
IO; RS, MH, SHP. (ALCB 32244).

SCYTOSIPHONALES

**Chnoosporaceae**

*Chnoospora minima* (K. Hering) Papenfuss
PO; RS, HZ, MH. (ALCB 22276).

DICTYOTALES

**Dictyotaceae**

*Dictyopteris delicatula* J. V. Lamouroux
SPO; E, HZ, MH, SHP. (ALCB 22253). Epiphyting *Amansia multifida*, *Bryothamnion seaforthi* and *B. triquetrum*.

*Dictyota menstrualis* (Hoyt) Schnnetter, Hornig & Weber-Peukert
SPO, FEM; RS, MH. (ALCB 22273).

*D. mertensii* (Martius) Kützing
SPO, MH, FEM; RS, E, MH, SHP (ALCB 49412).

*Padina* aff. *gymnospora* (Kützing) Sonder
SPO, FEM; RS, HZ, MH, SHP. (ALCB 22264)

*Spatoglossum schroederi* (C. Agardh) Kützing
SPO, MH; RS, MH. (ALCB 22264)

FUCALES

**Sargassaceae**

*Sargassum cymosum* var. *cymosum* C. Agardh
FEM, MH; RS, HZ. (ALCB 34623).

*S. cymosum* C. Agardh var. *nanum* E. de Paula & E. C. Oliveira
MH; RS HZ. (ALCB 49413).

*S. rigidulum* Kützing
MONO; RS, HZ. (ALCB 34809).

*S. stenophyllum* (Martens) Martius
FEM; RS; HZ. (ALCB 22269).

*S. vulgare* var. *vulgare* C. Agardh
MONO; RS, HZ, MH, SHP. (ALCB 22248).

RHODOPHYTA

PORPHYRIDIALES

**Porphyridiaceae**

*Stylonema alsidii* (Zanardini) K. M. Drew
E, HZ, MH. ALCB (22491). Epiphyting *Padina* aff. *gymnospora*.

ERYTHROPELTIDALES

**Erythrotrichiaceae**

*Erythrotrichia carnea* (Dillwyn) J. Agardh
E, HZ, MH. (ALCB 22493). Epiphyting *Padina* aff. *gymnospora* and *Digenea simplex*.

BANGIALES

**Bangiaceae**

*Porphyra acanthophora* E. C. Oliveira & Coll
MH; RS, HZ. (ALCB 22251).

CORALLINALES

**Corallinaceae**

*Amphiroa anastomosans* Weber Bosse
T; RS, HZ, MH. (ALCB 49414).

*A. beauvoisii* J. V. Lamouroux
T; RS, HZ. (ALCB 22256).

*Corallina panizzoi* Schnetter & U. Richter
T; RS, HZ, MH. (ALCB 22263).

*Haliptilon subulatum* (J. Ellis & Solander) H. W. Johansen
T, C; E, RS, HZ, MH, SHP. (ALCB 48267). Epiphyting *Cryptonemia seminervis*.

*Jania adhaerens* J. V. Lamouroux
T; RS, HZ, MH. (ALCB 22266).

GELIDIALES

**Gelidiellaceae**

*Gelidiella acerosa* (Forsskål) J. Feldmann & Hamel
T; RS, HZ, MH, SHP. (ALCB 22254).

NEMALIALES

**Galaxauraceae**

*Galaxaura marginata* (J. Ellis & Solander) J. V. Lamouroux
C, RS, HZ, MH, SHP. (ALCB 22244).

BONNEMAISONIALES

**Bonnemaisoniaceae**

*Asparagopsis taxiformis* (Delile) Trevisan
E, HZ. (ALCB 49266). There plants are present only in the *Falkenbergia* estage. Epiphyting *Corallina panizzoi*, *Osmundaria obtusiloba* and *Bryothamnion seaforthi*.

GIGARTINALES

**Gigartinaceae**

*Chondracanthus acicularis* (Roth) Fredericq
T, RS, HZ. (ALCB 34718).

**Hypneaceae**

*Hypnea cervicornis* J. Agardh
T, C; RS, HZ. (ALCB 22249).

*H. musciformis* (Wulfen *in* Jacquin) J. V. Lamouroux
T, C; E, HZ, MH, SHP. (ALCB 22245). Epiphyting *Amansia multifida*, *Botryocladia occidentalis* and *Gelidiella acerosa*.

HALYMENIALES

**Halymeniaceae**

*Cryptonemia crenulata* (J. Agardh) J. Agardh
RS, HZ. (ALCB 49415).

*C. seminervis* (C. Agardh) J. Agardh
T; RS, HZ, MH, SHP. (ALCB 22258).

*Grateloupia filicina* (J. V. Lamouroux) C. Agardh
T; RS, HZ. (ALCB 22270).

GRACILARIALES

**Gracilariaceae**

*Gracilaria caudata* J. Agardh
T, C; RS, HZ, SHP. (ALCB 34810).

*G. cervicornis* (Turner) J. Agardh
T; RS, HZ, MH, SHP. (ALCB 34815).

*G. domingensis* (Kützing) Sonder *ex* Dickie
T, C, MH; RS, HZ, MH. (ALCB 22250).

*Hydropuntia cornea* (J. Agardh) M. J. Wynne
T, C; RS, HZ, MH. (ALCB 22252).

RHODYMENIALES

**Champiaceae**

*Champia minuscula* A. B. Joly & Ugadim
T; RS, E, HZ. (ALCB 49167). Epiphyting *Osmundaria obtusiloba*.

**Rhodymeniaceae**

*Botryocladia occidentalis* (Børgesen) Kylin
RS, HZ, MH, SHP. (ALCB 34817).

CERAMIALES

**Ceramiaceae**

*Aglaothamnion felliponei* (M. Howe) Aponte, D. L. Ballantine & J. N. Norris
T; E, HZ. (ALCB 34785).

*Centroceras clavulatum* (C. Agardh *in* Kunth) Montagne *in* Durieu de Maisonneuve
T; RS, E, HZ, MH, SHP. (ALCB 22262).

*Gymnothamnion elegans* (Schousboe *ex* C. Agardh) J. Agardh
T; E, HZ. (ALCB 49264). Epiphyting *Chondracanthus acicularis*.

*Haloplegma duperreyi* Montagne
T; RS, MH (ALCB 22255).

*Spyridia filamentosa* (Wulfen) Harvey *in* Hooker
T; RS, MH. (ALCB 49416).

*S. hypnoides* (Bory *in* Belanger) Papenfuss
T; E, RS, HZ, MH. (ALCB 22246). Epiphyting *Gelidiella acerosa* and *Gracilaria caudata*.

**Dasyaceae**

*Heterosiphonia. crispella* (C. Agardh) M. J. Wynne
T; E, HZ. (ALCB 49273). Epiphyting *Corallina panizzoi* and *Bryothamnion seafortii*.

*H. gibbesii* (Harvey) Falkenberg
T; RS, HZ, MH. (ALCB 22278).

**Rhodomelaceae**

*Amansia multifida* J. V. Lamouroux
T, C; RS, HZ, MH (ALCB 49417).

*Bostrychia tenella* (J. V. Lamouroux) J. Agardh
T; RS, HZ, MH. (ALCB 22281).

*Bryothamnion seaforthii* (Turner) Kützing
T, C; RS, HZ, MH. (ALCB 22260).

*B. triquetrum* (S. G. Gmelin) Howe
T; RS, HZ, MH. (ALCB 22259).

*Digenia simplex* (Wulfen) C. Agardh
T, C; RS, HZ, SHP. (ALCB 49418).

*Laurencia flagellifera* J. Agardh
T; RS, HZ. (ALCB 34816).

*L. papillosa* (C. Agardh) Greville
T; RS, HZ, MH. (ALCB 22268).

*L. translucida* Fujii & Cordeiro-Marino
T, C, MH; RS, HZ. (ALCB 32294).

*Osmundaria obtusiloba* (C. Agardh) R. E. Norris
T, C; RS, HZ, SHP. (ALCB 22247).

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