

Ethnobotany of *Solieria robusta* (Gigartinales, Rhodophyta) in Zamboanga, Philippines

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ABSTRACT

A market survey was made at the Zamboanga City public market to determine the diversity of economic macrobenthic algae sold by the local population. Interviews were conducted to obtain information on local names, uses, stock distribution, method of harvest, seasonality, and some aspects of marketing practices.

Keywords: ethnobotany, *Solieria robusta*, seaweed utilization

INTRODUCTION

Ethnobotanical data on the economic macrobenthic seaweeds in the Philippines are few. Among the coastal regions of the country, northwestern Luzon or the Ilocos region has a long history of seaweed utilization. The scarcity of agricultural crops brought about by the lack of arable lands has necessitated the tapping of diverse marine food sources. Moreland (1980) listed over a dozen species of marine algae used as food, either fresh or cooked. These include the edible species of the red algal genus *Porphyra*, a centuries-old favorite among the Chinese and Japanese. Other folk uses of seaweeds in northern Luzon include medicinal, agricultural (fertilizer and pesticide), and animal feed applications. In other parts of the Philippines, the use of seaweeds is restricted to a very few species and mainly for industrial purposes. In central Visayas and southwestern Mindanao, the red algal genera *Kappaphycus* and *Eucheuma* are cultivated extensively for the international carrageenan industry and partly for the local fresh seafood market. Likewise, two species of the green algal genus *Caulerpa*, *C. lentillifera* J. Agardh and *C. racemosa* (Forsskaal) J. Agardh, are

harvested for both domestic and foreign seaweed markets although on a rather limited scale.

The Zamboanga area in western Mindanao is known for its variety of marine products such as fishes, sea cucumbers, molluscs, and crustaceans. Recently, the *Kappaphycus* and *Eucheuma* seaweed farms have contributed significantly to the economic progress of the region. While the economics and technical aspects of the seaweed industry in the region have been documented by Trono (1974, 1992), nothing is known on the ethnobotanical aspect of seaweed utilization in the area. An ethnobotanical study is made more interesting because the region is the home of a number of ethnic groups with different sociocultural and religious backgrounds and dietary practices. The following study was done to document the ethnobotanical aspect of seaweed utilization in the Zamboanga area.

MATERIALS AND METHODS

Interviews with seaweed vendors in the Zamboanga City public market were conducted to obtain information on the kinds of seaweeds harvested, sold, and consumed

by the local population. Information on their folk uses, local names, distribution seasonality, marketing practices and other ethnobotanical information were obtained. Photographs were taken of the species sold in the market.

RESULTS AND DISCUSSION

Interviews revealed that the seaweed vendors in Zamboanga City public market were predominantly members of the Samal ethnolinguistic group who dwell in coastal areas. Many of them have been in the fresh seaweed retail business for some years.

Three species of seaweeds were sold in the market: (1) *Caulerpa racemosa*, which is represented by at least two varieties, *C. racemosa* var. *laetevirens* (Montagne) Weber-van Bosse and *C. racemosa* var. *turbinata* (J. Agardh) Eubank; (2) *Kappaphycus alvarezii* (Doty) Doty ex Silva, represented by a highly proliferous green color mutant; and (3) *Solieria robusta* (Greville) Kylin, with soft, gel-filled branches distinctly constricted at the bases.

While the occurrence of *Caulerpa* and *Kappaphycus* have been documented in many parts of the country (Trono and Ganzon-Fortes 1988), this is the first report on the genus *Solieria*.

Solieria robusta occurs in tropical and subtropical waters, in the Indo-Pacific region from Japan, Fiji (South 1993), and Australia (Gabrielson and Kraft 1984) to Mauritius, Madagascar, and South Africa (Norris 1988). In Southeast Asia, it has been reported from Thailand (Lewmanomont and Ogawa, 1995), Indonesia, Singapore (Teo and Wee 1983), and Southern China (Tseng 1983). This is the first report of the species in the Philippines. It has been found in the southern parts of the Philippines, notably Zamboanga and Davao del Sur (R. Lucero, pers. comm.). It was only in Zamboanga, Sulu, and Tawi-Tawi where *S. robusta* was harvested and marketed in significant amounts.

Among the species marketed is *Solieria robusta* (Greville) Kylin, a rhodophyten species never before reported from the Philippines. The species has a long

history of utilization among the Samal and Tausug ethnic groups who call it “tajak bau’no.” This is harvested almost year-round, with variable seasonal supply which the natives attribute to rainfall variations. They are sold to retail vendors by volume, rather than by weight, in rectangular rattan baskets of approximately 15 kg per basket at Php120 (US\$1=Php38). Seaweeds are prepared as salads; these are washed in tap water and garnished with sliced tomatoes, onions, vinegar, and green mango slivers. The harvesting of *S. robusta* from wild populations in the waters around Zamboanga is mainly carried out by Tausug and Samal fisherfolk who are mostly marginal earners with practically no resource conservation knowledge. Fisheries authorities lack statistical data for the harvested *S. robusta* for these are mixed with the predominant carrageenophytes and gracilarioids which are similar in appearance. Many of the natural seaweed beds containing *S. robusta* face the threat of habitat degradation owing to intensive *Kappaphycus* seaweed cultivation and pollution discharges from coastal villages. Unless conservation measures are implemented, the combined effects of these ecological and anthropogenic factors on *S. robusta* may result in its local extinction even before it can formally be documented, a scenario that is prevalent in other critical ecosystems such as tropical rain forests and coral reefs.

Further studies on the species are recommended to include:

- 1) at least more than a year-round study on its seasonality, phenology, and biomass yield;
- 2) study on its reproductive biology, recruitment, and growth rate;
- 3) determination of its optimal requirements for growth and development;
- 4) characterization of its phycocolloid content including seasonality of yield and quality;
- 5) development of management scheme for its natural stocks
- 6) the development of a suitable, economically feasible cultivation technology.

Data from these studies will aid in the development and formulation of an effective resource management scheme for the species and eventual development of its mariculture technology.

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