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Utilized and potentially utilizable seaweeds on the Namibian coast: biogeography and accessibility

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Abstract

Of the 1500 km coast of Namibia, only 80 km is predominantly rocky, the remaining 1420 km being sandy with only minor rocky outcrops. At present two species are utilized, *Gracilaria verrucosa* for agar and *Laminaria schinzii* for human consumption. Other potentially utilizable seaweeds occurring on the coast are *Ecklonia maxima* for alginates, *Suhria vittata* for agar, *Gigartina radula*, *G. stiriata* and *Aeodes orbitosa* for carrageenans and *Porphyra capensis* for human consumption. *Laminaria schinzii* also can be used for alginate production. Due to the diamond-mining areas around the 80 km rocky area at Luderitz (26° 39′ S), only 20 km are accessible; hence, at present the seaweeds are being exploited almost to their full potential. The species currently not being utilized could be used, however, to support the industry that already exists at Luderitz. To increase production, access to the diamond areas would have to be gained or a cultivation program initiated.

Introduction

The 1500 km coast of Namibia stretches from the Kunene River, 17° 30′ S, which marks the border with Angola, to the Orange River, 28° 20′ S, marking the border with South Africa (Fig. 1). The coast is relatively straight, lacking indentation and is bisected by the Tropic of Capricorn. Historically the coast has been notoriously dangerous to shipping; large swells, high winds, fog and the isolation of the coast contribute to it being called the 'Skeleton Coast'.

To date, the seaweeds of Namibia have, to a large extent, escaped the attention of phycologists. Only the unpublished survey of parts of the coast by Simons *et al.* in 1957, a survey of the marine intertidal fauna of the coast (which included a few seaweed species) by Penrith & Kensley (1970a, 1970b) and Kensley & Penrith (1980) and the single seaweed collection at Swakopmund by Wynne (1986) provide records of seaweeds on the Namibian coast.

Namibia does not have a history or tradition of seaweed utilization. This new and previously untapped resource already is providing employment at an agar factory in Luderitz (Rotmann, 1987). This paper highlights the seaweeds that might be utilized in the future as well as those that already are used and the potential of each species.

Description of the coast

The only predominantly rocky area on the coast occurs from Luderitz (26° 39′ S) to Bogenfels (27° 25′ S), 80 km south of Luderitz (Fig. 1). The rest of the 1500 km coast is sandy with scattered rocky outcrops. In the north, from Swakopmund