SILVER MOSS - ORNAMENTAL LICHENS FROM BRAZIL

The economic and practical uses of lichens are manifold (Richardson 1975, 1988, Coppins & Watling 1995). Well known is their use as dyes (Henderson 1984, 1985, Brough 1988), litmus (Moxham 1982a), fixatives/vectors for perfume (Moxham 1980, Richardson 1991, Holmes 1992), for decoration (Kauppi 1979) and as fodder (Richardson 1975). Today, their economic importance is concentrated on the last three purposes (Kauppi 1979, Coppins & Watling 1995). The use of Cladonia stellaris as an ornament is well known (Kauppi 1979, Sochting 1984). In Scandinavia, a sustainable exploitation of C. stellaris by local landowners, in the boreal forests south of the reindeer husbandry area, has been practised for decades (Kauppi 1979).

During a visit in March 1996 to a market, Bauhaus, Roskildevæj in Copenhagen, attention was caught by some greyish lichens for sale in small plastic bags. The bags contained mainly large grey foliose specimens of Parmotrema. Two bags with seemingly the highest number of species were bought. The shop assistant explained that the lichens were meant for decoration and were obtained through the wholesale dealer, GASA. A spokesman of this company informed that the lichens, called 'Silver moss', were collected from rock in Brazil by use of scrapers, presumably of a similar construction as that illustrated by Moxham (1982b).

The bags contained the following taxa:

Cladonia aggregata (Sw.) Nyl.
Cladonia furfuracea Vain.
Cladonia pyxidata (L.) Hoffm.
Heterodermia lutescens (Kurok.) Föllm. & Redon
Hypotrachyna protenta Hale
Hypotrachyna sp.
Parmotrema dilatatum (Vain.) Hale
Parmotrema flavescens (Kremp.) Hale
Parmotrema maclayanum (Müll. Arg.) Hale
Parmotrema wainioi (A. L. Sm.) Hale
Rimelia cetrata (Ach.) Hale & Fletcher

Rimelia cetrata makes up the bulk of the material. The included lichens belong predominantly to common, or at least locally common, species. In particular Cladia aggregata, Cladonia pyxidata, Heterodermia lutescens and Rimelia cetrata are very widespread and are often found in secondary habitats. Cladia aggregata occurs throughout most of the Southern Hemisphere, Cladonia pyxidata is more or less cosmopolitan, and Heterodermia lutescens and Rimelia cetrata are widespread.
throughout the Tropics. *Cladonia furfuracea*, *Hypotrachyna protenta*, *Parmotrema dilatatum*, *P. flavescens*, *P. maclayanum* and *P. wainioi* seem widespread in south-east Brazil, also nowadays after most primary vegetation has disappeared.

This suggests that only common and conspicuous species are collected commercially. Further, that it is unlikely that species will be eradicated, because small and damaged specimens will remain after collecting. However, the easy availability of these lichens in Europe suggests that large quantities are taken away from their habitats in Brazil, and that these habitats may be severely damaged.

In general, collecting of larger quantities, as for commercial purposes, can be a serious threat to lichen populations. A well-known case is the drastic decline in the populations of *Roccella* on the Canary Islands in the beginning of the 19th century, caused by over-exploitation for dye production (Sánchez-Pinto 1995). Also Brightman (1983) and Brightman & Laundon (1985) drew attention to the risk of endangering lichen populations by over-collecting, not only in heavily populated areas like Europe but also in less populated areas, and suggested the substitution of lichens wherever possible; in particular in the case of dyes, where substitutes can be found in vascular plants that can be grown as crops. This is certainly the best solution in cases where human demands exceed the production of natural lichen stands. However, though we as biologists and lovers of nature would rather like to see pure nature, untouched by man, sustainable use may be preferable as it seems to be the only practicable way to preserve nature outside national parks and other protected areas. Commercial use of lichens in a sustainable way by local populations, as with *Cladonia stellaris* in Fennoscandia, may impel local people to protect lichen stands. It seems, however, that collecting in Brazil is more anarchistic, resulting in over-exploitation of the lichen stands. During the IAL Vainio meeting in Brazil, its organiser, Dr Marcelo Marcelli from the Botanical Garden of São Paulo, mentioned the collecting of lichens for commercial purposes in Brazil, and that in certain areas large lichens seem to have declined strongly due to this. Local lichenologists and friends of nature are, therefore, encouraged to examine the extent of the destruction of the lichen stands and if possible encourage local authorities to deal with the matter.

**References**


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