



## Ten new species of *Cladonia* (Cladoniaceae, Lichenized Fungi) from the Guianas and Venezuela, South America

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### Abstract

The diversity of the lichen family Cladoniaceae in the Neotropics is apparently underestimated. A revision of the family for the Flora of the Guianas resulted in the description of 10 species new to science from Northern South America: *Cladonia cayennensis*; *Cladonia flavocrispata*; *Cladonia isidiifera*; *Cladonia maasii*; *Cladonia mollis*; *Cladonia persphacelata*; *Cladonia recta*; *Cladonia rupununii*; *Cladonia subsphacelata*; *Cladonia termitarum*.

**Key words:** new species, endemic species, Guyana, Suriname, French Guiana, Guyana Highland

### Introduction

The lichen family Cladoniaceae is studied by us for the Flora of the Guianas (Ahti & Sipman 2013, in press). The area covered by our treatment includes Guyana, Suriname and French Guiana and, because this area shares most of the species, also the Venezuelan Guayana with its tepuis. In this way we got a good coverage for the whole Guiana Shield, well-known as one of the biodiversity hotspots in the world. Both of us were able to study most species ourselves in situ, during field work in Guyana and Venezuela, HS also in French Guiana, on several expeditions.

The treatment is based on the recent monograph of Cladoniaceae of the whole Neotropics (Ahti 2000). However, we were astonished to encounter no less than ten undescribed species in the area. Indeed, a few of them were recognized earlier but due to sparse or poor material they were not published. The new species recognized during our study are described separately here.

### Material and methods

About 900 specimens from the study area were examined, collected by us during several expeditions or obtained on loan mainly from the herbaria B, H, NY and US. For morphological character analysis air-dried specimens were observed under the stereomicroscope. Anatomical details were studied by compound microscope. The chemistry was analysed by standard TLC (Orange, James & White 2001).