

Lichen records from Mt Roraima

André Aptroot^{1,2} & Kok van Herk³

¹ Laboratório de Botânica / Liquenologia, Instituto de Biociências, Universidade Federal de Mato Grosso do Sul, Avenida Costa e Silva s/n, Bairro Universitário, CEP 79070-900, Campo Grande, Mato Grosso do Sul, Brazil.

² Corresponding author's e-mail: andreaptroot@gmail.com

³ Lichenologisch Onderzoeksbureau Nederland, Wielewaal 42, 3766 VC Soest, The Netherlands

Abstract: The lichen flora of Mt Roraima is illustrated. It contains numerous new records, mostly for Venezuela, but also some to Brazil and Guyana.

Introduction

In February 2025, the second author made a guided hiking trip to Mt Roraima. Many lichens were observed and photographed, but in the absence of a permit, no collections were made. Still, many are recognizable from the pictures which do represent a fair representation of the lichen biodiversity. As very few lichen records are thus far published, and that it is unlikely that permits to collect will be obtained by any lichenologist in the near future, the results are published here, mostly with some uncertainty, because no chemistry could be checked. A full account of all lichen images made, together with images of their habitat and other botanical aspects, can be viewed at <https://kok-van-herk.smugmug.com/South-America/Venezuela-Mount-Roraima/i-m5Pg6S5>.

Mt Roraima is with 2800 m one of the highest table mountains in the Amazon region (McPherson, 2008). It lies on the border of Venezuela, Guyana and Brazil, but is only accessible from the Venezuelan side. It is famous by books like Doyle (1912) and McInnes (1974). Some lichens of the foothills on the Guyana side were published by Sipman & Aptroot (1992). So far, from the summit, only a few dozen species have been reported from Mt Roraima, all from Venezuela, as follows, by Ahti (2000) and Sipman et al. (2009) and Brewer-Carías (2024).

Material and methods

Specimens were photographed with Olympus Tough TG-6, usually with the automatic stacking option enabled.

Results

We report here mostly species from the Venezuelan part of the summit area of Mt Roraima. A few species are (also) reported from Guyana and Brazil, and some

from the slope of the mountain (La Rampa) or areas in the foothills (Santa Elena and Jasper Creek).

Discussion

This paper illustrates a representative part of the lichen species present on the summit of Mt Roraima. In addition, unidentified species were seen of the genera *Buellia*, *Bulbothrix*, *Hypotrachyna*, *Oropogon*, *Parmotrema* and *Usnea*, as well as several sterile crusts that cannot be reliably identified even at genus level, although they are likely partly *Malmidea* and *Myriotrema*. The lichen flora of the summit of Mt Roraima is dominated by *Parmeliaceae*. As far as known, there are no clear strict endemics. On the slopes and in the lower areas, many more species were seen, mostly *Graphidaceae*, pyrenocarps and *Arthoniales*, as is to be expected in tropical forests.



Chrysothrix xanthina (Vain.) Kalb: Venezuela, Santa Elena, c. 1000 m alt.



Cladia aggregata (Sw.) Nyl.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia argentea (Ahti) Ahti & DePriest: Guyana, summit of Mt Roraima, c. 2300 m alt.



Cladonia confusa R. Sant.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia confusa R. Sant.: Guyana, summit of Mt Roraima, c. 2300 m alt.



Cladonia corallifera (Kunze) Nyl.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia densissima (Ahti) Ahti & DePriest: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia lopezii S. Stenroos: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia macilenta Hoffm.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia salmonea S. Stenroos: Brazil, summit of Mt Roraima, c. 2300 m alt.



Cladonia sprucei Ahti: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia vareschii Ahti: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Cladonia vareschii Ahti: Guyana, summit of Mt Roraima, c. 2300 m alt.



Coccocarpia erythroxyli (Spreng.) Swinscow & Krog: Venezuela, Santa Elena, c. 1000 m alt.



Cora cf. *paraciferrii* Lücking, B. Moncada & J.E. Hern.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Corella cf *melvinii* (Chaves, Lücking & L. Umaña) Lücking, Dal-Forno & Lawrey: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Dictyonema sericeum (Sw.) Berk.: Venezuela, slope of Mt Roraima, c. 2000 m alt.



Diploschistes actinostomus (Ach.) Zahlbr.: Venezuela, Gran Sabana, c. 1700 m alt.



Dirinaria applanata (Fée) D.D. Awasthi: Venezuela, Santa Elena, c. 1000 m alt.



Haematomma solediatum R.W. Rogers: Venezuela, Santa Elena, c. 1000 m alt.



Herpothallon rubrocinctum (Ehrenb.) Aptroot, Lücking & G. Thor: Venezuela, slope of Mt Roraima, c. 2000 m alt.



Heterodermia albicans (Pers.) Swinscow & Krog: Venezuela, Santa Elena, c. 1000 m alt.



Heterodermia cf *antillarum* (Vain.) Swinscow & Krog: Venezuela, Jasper Creek, 920 m alt.



Heterodermia cf *barbifera* (Nyl.) Kr.P. Sigh: Venezuela, Santa Elena, c. 1000 m alt.



Heterodermia circinalis (Zahlbr.) W.A. Weber: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Heterodermia flabellata (Fée) D.D. Awasthi: Venezuela, Santa Elena, c. 1000 m alt.



Heterodermia galactophylla (Tuck.) W.L. Culb.: Venezuela, Santa Elena, c. 1000 m alt.



Heterodermia spielmannii M.F. Souza & Aptroot: Venezuela, Santa Elena, c. 1000 m alt.



Hypotrachyna cf bahiana (Nyl.) Hale: Guyana, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf bahiana (Nyl.) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf bahiana (Nyl.) Hale: Brazil, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf *densirhizinata* (Kurok.) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf *flavida* (Zahlbr.) Hale: Brazil, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf *flavida* (Zahlbr.) Hale: Guyana, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf *imbricatula* (Zahlbr.) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf *microblasta* (Vain.) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf microblasta (Vain.) Hale: Guyana, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf. *obscurella* (Vain.) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna rockii (Zahlbr.) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf *subpustulifera* Elix: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Hypotrachyna cf. velloziae (Vain.) Hale: Venezuela, Gran Sabana, c. 1700 m alt.



Icmadophila aversa (Nyl.) Rambold & Hertel: Venezuela, slope of Mt Roraima, c. 2000 m alt.



Lecanactis cf. *epileuca* (Nyl.) Tehler: Venezuela, Jasper Creek, 920 m alt.



Lecanora cf. sulfurescens Fée: Venezuela, slope of Mt Roraima, c. 2000 m alt.



Lecanora tropica Zahlbr.: Venezuela, Santa Elena, c. 1000 m alt.



Lepra subventosa (Malme) I. Schmitt & Lumbsch: Venezuela, Santa Elena, c. 1000 m alt.



Leptogium cf *phyllocarpum* (Pers.) Mont.: Venezuela, Santa Elena, c. 1000 m alt.



Malmidea cf. *granifera* (Ach.) Kalb, Rivas Plata & Lumbsch: Venezuela, Jasper Creek, 920 m alt.



Parmotrema cf. clavuliferum (Räsänen) Streimann: Venezuela, Santa Elena, c. 1000 m alt.



Parmotrema mellissii (C.W. Dodge) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Parmotrema tinctorum (Dèspr. ex Nyl.) Hale: Venezuela, Santa Elena, c. 1000 m alt.



Peltigera dolichorhiza (Nyl.) Nyl.: Venezuela, slope of Mt Roraima, c. 2000 m alt.



Pertusaria acroscyphoides Sipman: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Pertusaria acroscyphoides Sipman: Guyana, summit of Mt Roraima, c. 2300 m alt.



Pertusaria flavens Nyl.: Venezuela, Santa Elena, c. 1000 m alt.



Phaeographis cf. brasiliensis (A. Massal.) Kalb & Matthes-Leicht: Venezuela, Santa Elena, c. 1000 m alt.



Phyllobaeis cf *rubescens* (Vain.) Kalb: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Phyllopsora pyxinoides (Nyl.) Kistenich, Timdal, Bendiksbj & S. Ekman:
Venezuela, Santa Elena, c. 1000 m alt.



Phycia cf. *solediosa* (Vain.) Lynge: Venezuela, Santa Elena, c. 1000 m alt.



Physcia cf. *squamulosa* Tuck.: Venezuela, Jasper Creek, 920 m alt.



Ramboldia haematites (Fée) Kalb, Lumbsch & Elix: Venezuela, Santa Elena, c. 1000 m alt.



Relicina abstrusa (Vain.) Hale: Venezuela, Santa Elena, c. 1000 m alt.



Remototrachyna costaricensis (Nyl.) Divakar & A. Crespo: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Rinodina lepida (Nyl.) Müll. Arg.: Venezuela, Santa Elena, c. 1000 m alt.



Sagenediopsis isidiata G. Thor, Elix, Lücking & Sipman: Venezuela, Jasper Creek, 920 m alt.



Sagenediopsis undulata (Fée) Egea, Tehler, Torrente & Sipman: Venezuela, Jasper Creek, 920 m alt.



Cf *Schizopelte parishii* (Hasse) Ertz & Tehler: Guyana, summit of Mt Roraima, c. 2300 m alt.



Cf *Schizopelte parishii* (Hasse) Ertz & Tehler: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Scytinium cf. *californicum* (Tuck.) Otálora, P.M. Jørg. & Wedin: Venezuela, Santa Elena, c. 1000 m alt.



Septotrapelia usnica (Sipman) Kalb & Bungartz: Venezuela, summit of Mt Roraima, in cave, c. 2300 m alt.



Siphula carassana Müll. Arg.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Siphula carassana Müll. Arg.: Guyana, summit of Mt Roraima, c. 2300 m alt.



Siphula subsimplex V. Marciano: Guyana, summit of Mt Roraima, c. 2300 m alt.



Sprucidea granulosa M. Cáceres, Aptroot & Lücking: Venezuela, Jasper Creek, 920 m alt.



Stereocaulon ramulosum Raeusch.: Venezuela, slope of Mt Roraima, c. 2000 m alt.



Sticta cf. scabrosa B. Moncada, Merc.-Díaz & Bungartz: Venezuela, Santa Elena, c. 1000 m alt.



Tephromela cf. *xanthonica* Guzmán-Guillermo: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Thamnolia vermicularis (Sw.) Schaer.: Guyana, summit of Mt Roraima, c. 2300 m alt.



Usnea laevis (Eschw.) Nyl.: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Usnea laevis (Eschw.) Nyl.: Brazil, summit of Mt Roraima, c. 2300 m alt.



Xanthoparmelia cf *congensis* (Stein) Hale: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Xanthoparmelia cf *masonii* Elix: Venezuela, summit of Mt Roraima, c. 2300 m alt.



Xanthoparmelia cf *masonii* Elix: Guyana, summit of Mt Roraima, c. 2300 m alt.



Yoshimuriella cf. *dissecta* (Sw.) B. Moncada & Lücking: Venezuela, slope of Mt Roraima, c. 2000 m alt.

Acknowledgements

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001 who provided a visiting professorship to the first author.

Literature

- AHTI, T. 2009. Cladoniaceae. Flora Neotropica 78: 1-362.
- BREWER-CARÍAS, C. 2024. Plants of the Lost World. Redfern Natural History Productions, Poole, UK. 463 pp.
- DOYLE, A.C. 1912. the Lost World. London.
- MCINNES, H. 1974. Climb to the lost world. Letchworth: the Garden City Press. 224 pp.
- MCPHERSON, S. 2008. Lost Worlds of the Guiana Highlands. Redfern Natural History Productions, Poole, UK. 386 pp.
- SIPMAN, H. J. M. & A. APTROOT. 1992. Results of a botanical expedition to Mount Roraima, Guyana. II. Lichens. Tropical Bryology 5: 79-107.
- SIPMAN, H. J. M., J.A. ELIX & T. H. NASH. 2009. *Hypotrachyna* (Parmeliaceae, lichenized fungi). Flora Neotropica 104: 1-176.