

# Tropical Lichen Guides

## Lichens of the Costa Rican Premontane Wet Forest

Bibiana Moncada, James Lawrey, José Luis Chaves, Manuela Dal-Forno & Robert Lücking

Photos by Bibiana Moncada, Manuela Dal-Forno, Matthew Nelsen & Robert Lücking. Production by B. Moncada, R. Lücking, T. Wachter, R. Foster, J. Philipp. Support from the National Science Foundation, Andrew Mellon Foundation, Ellen Hyndman Fund & Connie Keller.

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Premontane wet forests in Costa Rica are areas nowadays represented by fragments of primary and secondary forest, the structure and composition of which are defined by a combination of tropical and mountain elements that present a heterogeneous spatial distribution and different successional stages. Factors such as altitude, latitude, temperature and relative humidity create a special configuration that allows easy establishment and growth of large communities of epiphytes, which generally cover almost all the tree. These epiphytes, mostly mosses, liverworts, ferns, bromeliads and orchids, along with lichens, define a special look unique to premontane forests, and also contribute to the water economy of the ecosystem. The canopy layer is dominated by species of the families Moraceae, Fabaceae, Lauraceae and Sapotaceae, while in the subcanopy and understory tree ferns, vines, lianas, heliconias are better represented, along with a large diversity of palms. These forests are also the habitat of a diverse array of small mammals, birds and amphibians, making these areas highly diverse habitats. Lichen communities are primarily epiphytic and dominated by species in the crustose family Graphidaceae, the foliose families Parmeliaceae, Lobariaceae and Collemataceae, and fruticose species in the genera *Usnea* and *Teloschistes*.



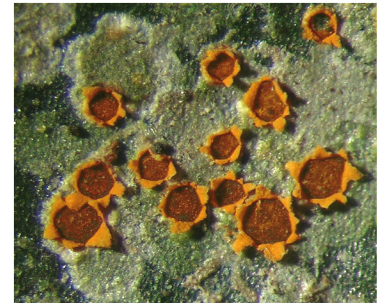
1 *Herpothallon rubrocinctum*



2 *Dichosporidium nigrocinctum*



3 *Astrothelium galbineum*



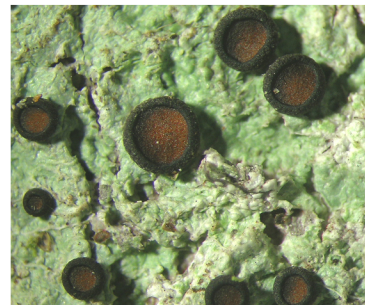
4 *Chroodiscus coccineus*



5 *Glyphis cicatricosa*



6 *Trypethelium eluteriae*



7 *Megalospora tuberculosa*



8 *Aderkomyces albostrigosus*



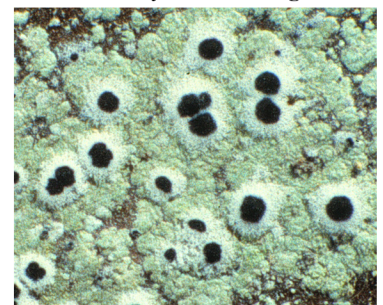
9 *Diorygma antillarum*



10 *Graphis chrysocarpa*



11 *Pyrenula papilligera*



12 *Byssoloma subdiscordans*

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1 *Sticta weigelii*



2 *Parmotrema latissimum*



3 *Heterodermia barbifera*



4 *Hypotrachyna microblasta*



5 *Coccocarpia prostrata*



6 *Cora glabrata*



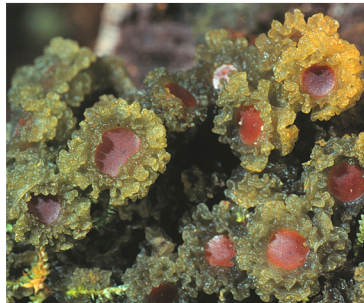
7 *Sticta isidioplomentosa*



8 *Pseudocyphellaria aurata*



9 *Lobaria fendleri*



10 *Leptogium phyllocarpum*



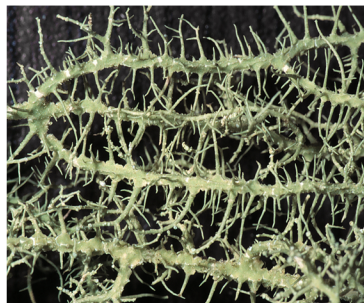
11 *Heterodermia flabellata*



12 *Teloschistes flavicans*



13 *Usnea rubicunda*



14 *Usnea angulata*



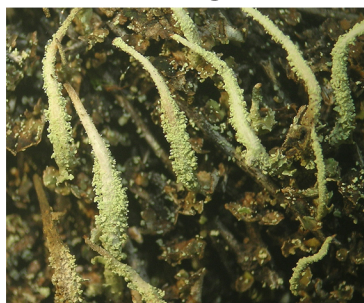
15 *Dictyonema schenkianum*



16 *Coenogonium linkii*



17 *Cladonia ceratophylla*



18 *Cladonia didyma*



19 *Semiomphalina leptoglossoides*



20 *Multiclavula mucida*