

# Lichens of the Maricao State Forest

Joel A. Mercado-Díaz &amp; Robert Lücking

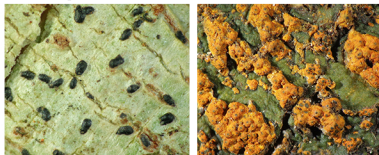
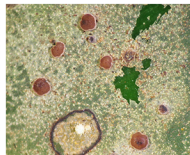
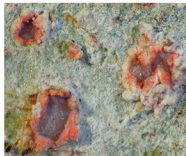
Photos by Robert Lücking, Joel A. Mercado-Díaz, and Omar A. Monsegur Rivera. Produced by Joel A. Mercado-Díaz, R. Lücking, J. Philipp, T. Wachter, and R. Foster, with support from the National Science Foundation, Ford Motor Company's Conservation & Environmental Grant awarded to the first author (2014), the Andrew Mellon Foundation, and Connie Keller. © J.A. Mercado-Díaz [jamercaodiaz@uchicago.edu], University of Chicago; R. Lücking [rluecking@bgbm.org], Botany, The Field Museum.

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Landscape view of the Maricao State Forest, Puerto Rico.

The Maricao State Forest is located on the island of Puerto Rico between the municipalities of Maricao, Sabana Grande and San Germán. It lies at the western end of the Cordillera Central and covers an area of nearly 10,518 acres. Almost 90% of the soils in this forest are derived from serpentine rocks, a greenish-gray metamorphic rock that is often seen in outcrops throughout this forest. Most of the forest types at the Maricao State Forest are classified as Moist, Wet and Lower-Montane-Wet subtropical forests. It is considered the area of highest plant diversity in Puerto Rico. Three salient ecological attributes of the Maricao State Forest make it unique among all forests of the island: its alternating wet/dry climate, the well aerated serpentine derived soils, and its high degree of endemism. Some of its most conspicuous endemic species include the Higüero de Sierra tree (*Crescentia portoricensis*), the Elfín-woods Warbler (*Setophaga angelae*), and the Puerto Rican Sharp-shinned Hawk (*Accipiter striatus venator*). There is also a high diversity of lichens in this forest. Fruticose and foliose macrolichens, such as several species within the genera *Ramalina*, *Usnea*, *Teloschistes*, *Cladonia* and *Parmotrema*, are most commonly found in sun-exposed conditions. The forest understorey is characterized by a high diversity of crustose microlichens such as *Ocellularia praestans*, *Creographa haematites*, *Chapsa thallotrema* and *Malmidea rhodopsis*.

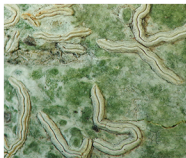
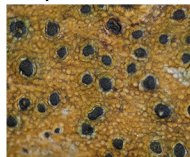
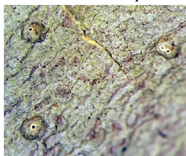
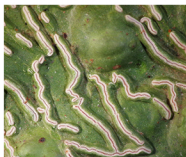
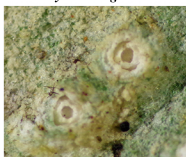
1 *Anisomeridium americanum*2 *Astrothelium cinnamomeum*3 *Brasilicia brasiliensis*4 *Celothelium cinchonarium*5 *Chapsa thallotrema*6 *Chapsa spec. nov.*7 *Cladonia sandstedei*8 *Cladonia fimbriata*9 *Coenogonium spec. nov.*10 *Creographa brasiliensis*11 *Creographa haematites*12 *Crocynia pyxinoidea*

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13 *Dichosporidium nigrocinctum*14 *Graphis anfractuosa*15 *Hemithecium balbisii*16 *Herpothallon rubrocinctum*17 *Lecanora subimmersa*18 *Malmidea vinosa*19 *Malmidea rhodopsis*20 *Mazosia verrucosa*21 *Mazosia melanophthalma*22 *Moelloropsis nebulosa*23 *Ocellularia dolichotata*24 *Ocellularia praestans*25 *Pallidogramme chrysenteron*26 *Phaeographis scalpturata*27 *Platythecium graminis*28 *Pseudochapsa dilatata*29 *Pseudoparmelia uleana*30 *Teloschistes flavicans*31 *Thelotrema porinoides*32 *Usnea erinacea*