

## New records of mosses from Dominican amber

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**Abstract:** The widespread neotropical moss *Calyptothecium duplicatum* (Schwägr.) Broth. is reported for a fourth time from Dominican amber. *Acroporiites longirostris* J.-P. Frahm spec. nov. is described as new.

By courtesy of Mr Jürgen Velten (Idstein), the author received numerous fossils of mosses amber from his private collection for study. Whereas most specimens were from Baltic amber and will be treated in a separate publication, two are from Dominican amber, which are described here.

Mosses from Dominican amber from Eocene and Oligocene (20-40 mio years b.p.) have been treated before by Frahm (1993, 1996, 2001) and Frahm & Reese (1998). These studies resulted in the knowledge of 14 species (Frahm 2001). All the identified species are extant species, which demonstrates the slow evolution of mosses, which is not surprising since representatives of extant genera and families were already present in the Mesozoic and representative of present orders in the Palaeozoic (Oostendorp 1987). The fossil mosses belong to a common stock of neotropical species, which were apparently present more than 20 mio years ago, and on the island of Hispaniola, too.

*Calyptothecium duplicatum* (Schwägr.) Broth. (Velten 3). Fig. 1.

A tip of a plant, 15 mm long, with two paired branches.

This species has been previously recorded from Dominican amber as *Neckera* spec. (Frahm 1993, 1996) until the identity was clarified by Frahm (2001). It is one of the most common moss fossils in Dominican amber.

The species has a typical *Neckera*-appearance with regard to leaf shape, leaf size, flattened leaves and ramification, but is easily recognized by folded, carinate (conduplicate) leaves.

This is a widespread neotropical species ranging from Mexico to Bolivia and Brazil including the Caribbean islands and also still present on Hispaniola (Haiti and Dominican Republic). It grows on tree trunks and limestone rocks in humid forests (Buck 1998).

*Acroporiites longirostris* J.-P. Frahm gen. et spec. nov. (Velten 2). Fig. 2

The piece of amber includes several slender interwoven plants of a pleurocarpous moss. The plants have a conspicuous branching with a creeping stem and pinnate distant branches, which were either ascending or pendant. The leaves along some stems and branches are not well preserved but rudimentary, however well preserved along some branches. They are narrowly lanceolate and ending in a long fine acumen and conspicuously homomallous, apparently without costa and with prosenchymatous laminal cells. The specimen includes also a plant of a Lejeuneaceae.

Such plants with creeping stems, ascending branches, linear lanceolate homomallous ecostate leaves and long laminal cells are found in the Hypnales. In the moss flora of the West Indies (Buck 1998), this specimen fits the description of *Acroporium longirostre* in the Sematophyllaceae. It is, however, extremely difficult to attribute such plants to a certain genus or even species within this family, since generic differences often concern the structure of the peristome, the alar region of the leaves, the length of the forked costa or similar characters, (which are all not visible here). Species of *Hypnum* can be excluded because this genus has usually pinnate prostrate branches and less linear leaves. It would, however, too risky to attribute this fossil to this genus or even species. On the other hand, it seems to be necessary to describe these species under a certain name to give these specimens an identity that it can be cited. This can be done in a form genus. Amongst form genera, the name *Hypnites* would have preference, because it would indicate a hypnaceous moss. Unfortunately, the genus *Hypnites* was introduced for a moss (*H. haeringianus* Ettingsh. 1852), which was later identified by Brotherus as a species of *Drepanocladus*. Thus *Hypnites* is a synonym of *Drepanocladus*. Therefore the form genus *Acroporiites* is introduced here, with the species *A. longirostris*. The same epithet as *Acroporium longirostris* is chosen to express the similarity between the fossil and the extant moss.

*Acroporiites longirostris* J.-P. Frahm gen. et spec. nov.

Plantae caulis procumbentibus, distante ramosae, ramis erectis vel pendulinis, foliis ecostatis, anguste lanceolatis, homomallis, in apicem longum excurrentibus, cellulis laminalibus anguste linearibus.

Holotype : Velten no. 2 (coll. Velten).

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Fig. 1: *Calyptothecium duplicatum* (Velten 3)

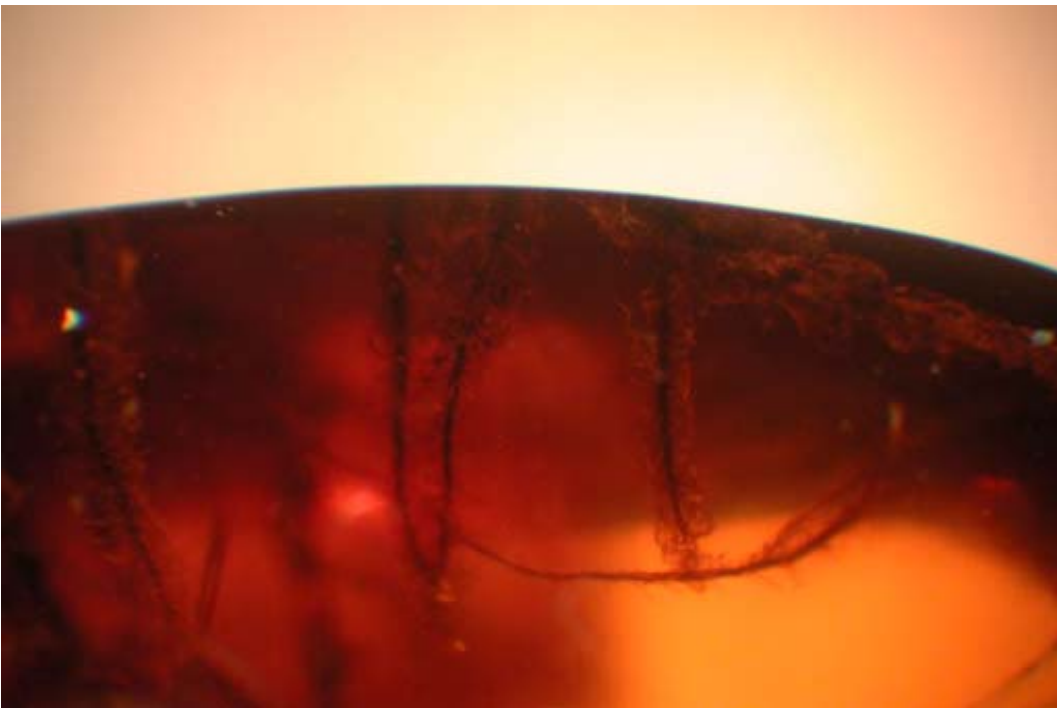


Fig. 2: *Acropiites longirostris* (holotype, Velten 2)

