

## **Pollen grains of Picrodendraceae, Phyllanthaceae, Euphorbiaceae (former Euphorbiaceae ) from Palaeogene strata of Central Europe and South China.**

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Fossil pollen grains assigned to Picrodendraceae, Phyllanthaceae and Euphorbiaceae have been encountered from sedimentary rocks of Palaeocene and Eocene ages. Fossil stephanoporate, echinate pollen of the *Aristogeiton*-type (Picrodendraceae), that have been formerly described as *Malvacipollis* or *Longetia* are present in hyperthermal microfloras of Germany (mid-Eocene Stolzenbach) and Austria (lower Eocene Krappfeld, Carinthia) and from the Palaeocene/Eocene boundary rocks of Austria (Salzburg). Mostly all modern similar looking taxa of the Picrodendraceae do occur in the palaeotropics and only very few in the new world. Two fossil stephanoporate, reticulate pollen types that have been formerly described as *Retimultiporopollenites* spp. occur frequently in mid-Eocene sedimentary rocks of the Changchang Formation (Hainan, South China). They can be affiliated with the extant pantropical genus *Phyllanthus* (Phyllanthaceae, tribe Phyllanthaeae), in particular with the taxa *P. ruber*, *P. hainanensis*, and *P. leptocladus*, and might evidence a palaeotropical origin of the Phyllanthaceae. Fossil wood associated with *Phyllanthus* (*Paraphyllanthoxylon hainanensis*) from the Changchang basin corroborate the pollen data. A presumable Phyllanthaceae pollen from rocks of Palaeocene/Eocene age is compared with the genus *Richeriella*, which today has two species growing in Asia (China and Malaysia). Three fossil tricolporate, microreticulate pollen affiliated to the Euphorbiaceae, particularly to *Euphorbia*, *Stillingia* and *Leucroton* are present in the sedimentary rocks at the Palaeocene/Eocene boundary (Salzburg) and the Lower Eocene (Krappfeld, Carinthia) of Austria. Whereas *Euphorbia* today is a cosmopolitan genus *Leucroton* today occurs in the Caribbean region and extant *Stillingia*, a tropical genus, is distributed in the Americas, Madagascar and Malaysia.

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