Phylogeny and biogeography of Spathelioideae (Rutaceae)

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STELLINGEN

Behorende bij het proefschrift

"Phylogeny and biogeography of Spathelioideae (Rutaceae)"

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1. The *Spathelia* / *Ptaeroxylon* clade is the sister clade to Rutaceae s.s., and the presence of secretory cavities and a tracheidal tegmen as well as phytochemical similarities justify a placement of the clade as subfamily Spathelioideae in an enlarged Rutaceae s.l. (this thesis).
2. The former families Ptaeroxylaceae and Cneoraceae are monophyletic groups within the Rutaceae subfamily Spathelioideae (this thesis).
3. The ancestor of Spathelioideae probably had haplostemonous flowers, secretory cavities, oil idioblasts in its leaves, and chromones. Oil idioblasts and chromones are potential synapomorphies for the clade (this thesis).
4. The occurrence of *Cneorum* in Cuba is not natural, and the genus has most likely been introduced by man (this thesis).
5. *Cneorum* is not a relict from the Early Tertiary (in disagreement to Borhidi, 1991; Riera *et al*., 2002).
6. Rutaceae and Spathelioideae probably originated in the Late Cretaceous and the geographical origin of Spathelioideae might be Northern and/or Western Africa (this thesis).
7. *Spathelia* trees die after producing fruit and they are monocarpic by morphology (Simmonds, 1980).
8. The subfamily classification of Rutaceae according to different fruit types is highly artificial (Chase et al., 1999; Groppo et al., 2008).
9. The high number of monotypic genera (43 out of a total of 154) seems to point to the imperfect understanding of the systematics of the family Rutaceae (Kubitzki et al., 2011).
10. Differences in phytochemical compounds are most valuable for the delimitation of Meliaceae, Rutaceae and Simaroubaceae.
11. In addition to changing the source of our energy, we need to learn how to consume less energy.
12. The current world population cannot be sustained on meat-based diets; especially if we want to preserve our last tropical forests.