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Phylogeny, biogeography and species delimitation in the *Compositae-Anthemideae*

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The chamomile tribe of the sunflower family (*Compositae, Anthemideae*) provides a plethora of examples for Biology's Second Law, which complements Biology's First Law ('In the absence of selection and constraint, complexity – in the sense of differentiation among parts – will tend to increase.') by adding that 'Complexity does not increase through differentiation but also through (re)combination, reticulation, and exchange'. Especially hybridisation and homo- and polyploid hybrid speciation are very common phenomena in the tribe that support the importance of reticulations in plant evolution and the growth of biodiversity. The present contribution will summarise studies of the last years dealing with reticulate evolution in *Anthemis*, *Leptinella*, *Leucanthemopsis*, and *Leucanthemum*. It will also present novel methodological approaches towards hybrid detection, species tree reconstruction in hybridising species complexes, and species network reconstruction in polyploid genera. Methodological progress in species delimitation based on next-generation-sequencing (NGS) will be exemplified in the heavily hybridising, diploid genus *Rhodanthemum* from NW Africa and the polyploid complex of the S European genus *Leucanthemum*.

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