Iridoid glucosides in the genus Sutera (Scrophulariaceae) as chemotaxonomic markers in tribe Limoselleae - DTU Orbit (23/09/2019)

**Iridoid glucosides in the genus Sutera (Scrophulariaceae) as chemotaxonomic markers in tribe Limoselleae**

From two species of Sutera (S. foetida and S. cordata) (Scrophulariaceae tribe Limoselleae) were isolated three known secoiridoid glucosides (12–14) as well as four iridoid congeners (8–11), all biosynthetically derived from iridodial glucoside (and/or deoxyloganic acid). In addition, two previously unknown compounds were found, namely a terpenoid glucoside lactone (suterolide, 21) and the phenylethanoid glycoside 2′′′-O-acetyl-angoroside A (19) as well as verbascoside, echinacoside and tubuloside A (15–17, respectively). Two other species, Jamesbrittenia dissecta and Lyperia antirhinioides, previously considered to belong to the same genus (Sutera) were shown to be members of two different genera, respectively. Significantly, these two species contained iridoids derived from 8-epi-iridodial (and 8-epideoxyloganic acid), namely aucubin (2), melittoside (3) and acetylharpagide (4). In addition we investigated Melanospermum transvaalense, Lyperia tristis and Microdon dubius likewise from Limoselleae and all of these contained iridoid glucosides from the 8-epi-pathway. Thus, secoiridoid distribution confirms the DNA-based circumscription of Sutera and its sister-group relationship with Manulea. In addition, the results show that the clade including these two genera has a biosynthetic pathway to iridoids fundamentally different from the rest of the tribe and from the whole family Scrophulariaceae.

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