Iridoids in Hydrangeaceae

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Iridoids in Hydrangeaceae

Chrysoula Gousiadou, Hong-Qing Li, Charlotte Gotfredsen, Søren Rosendal Jensen

Abstract
The distribution of the iridoid and secoiridoid glucosides as well as the known biosynthetic pathways to these compounds in the family Hydrangeaceae has been reviewed. Loganin and secologanin and derivatives of these are common in the few genera investigated. However, the genus Deutzia is characteristic in containing more simple iridoids in which C-10 has been lost during biosynthesis, such compounds are otherwise only reported from Mentzelia (Loasaceae). In the present work, also Kirengeshoma and Jamesia have been investigated. The former contains loganin and secoiridoids, including the alkaloid demethylalangiside. The latter contains no iridoids, but the known glucosides arbutin, picein and prunasin. The taxonomic relationships between Hydrangeaceae and the closely related Cornaceae and Loasaceae is discussed and found to agree very well with recent DNA sequence results.

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$^1$H NMR (CD$_3$OD, 500 MHz) of 6-OH-sweroside (37)
Figure S2

$^{13}$C NMR (D$_2$O, 50 MHz) of 6-OH-sweroside (37)
Figure S3

$^1$H NMR (CD$_3$OD, 500 MHz) of demethylalangiside (38)
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$^{13}$C NMR ($\text{CD}_3\text{OD}$, 125 MHz) of demethylalangiside (38)
Figure S5

$^1$H NMR (D$_2$O, 500 MHz) of arbutin (40)
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$^{13}$C NMR (D$_2$O, 50 MHz) of arbutin (40)
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$^{13}$C NMR (D$_2$O, 50 MHz) of picein (41)
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$^1$H NMR (D$_2$O, 500 MHz) of prunasin (42)
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$^{13}$C NMR (D$_2$O, 125 MHz) of prunasin (42)