

IRIDOID GLUCOSIDES FROM ENDEMIC CHILEAN PLANTS

J. A. GARBARINO, V. GAMBARO,

Departamento de Química, Facultad de Ciencia, Universidad Federico Santa María, Valparaíso, Chile

and M. NICOLETTI

Dipartimento di Biologia Vegetale, Università "La Sapienza", L.go Cristina de Svezia 24, 00165 Roma, Italy

The iridoid glucoside composition of three endemic Chilean Bignoniaceae species was examined, together with *Coprosma pyrifolium* (Rubiaceae) endemic on the J. Fernández islands (1). The charcoal method was employed for preliminary separation of the glucosidic fraction (2). Subsequent chromatographic separation (Si-gel columns and hplc on reversed phase) afforded pure compounds that were identified by comparison with authentic samples (^1H -nmr, ^{13}C -nmr, ir spectra superimposable and $[\alpha]_D$ identical). Identified iridoid glucosides are summarized in Table 1.

TABLE 1. Iridoid Glucoside Composition of Examined Plants

Plant	Part Examined (kg)	Compound (mg)	Reference
<i>Argylia radiata</i> (L.) D. Don (Bignoniaceae)	aerial part (3.0)	catapol (250)	3
<i>Campsidium valdivianum</i> (Phil.) Skotts. (Bignoniaceae)	aerial part (1.5)	stansioside (270) plantarenalioside (120)	4
<i>Tecoma fulva</i> (Cav.) G. Don (Bignoniaceae)	leaves (2.0)	plantarenalioside (400) stansioside (50)	4
<i>Coprosma pyrifolium</i> (H. et Arn.) Skotts. (Rubiaceae)	wood (3.0)	asperuloside (180) desacetyl asperuoside (110)	3

Stansioside was recently isolated from *Tecoma stans* (4), and our results confirm its co-occurrence with its 8-epimer, plantarenalioside, as well as the possible biogenetic relationship between these iridoids and the monoterpene alkaloids, tecomanine and actinidine, also found in *Tecoma fulva* (5). Additionally, our findings, together with the general picture of iridoids isolated so far from Bignoniaceae, allow us to draw some chemosystematic considerations. Thus, two main taxonomic markers can be seen in this family: catalpol and related compounds (*Catalpa*, *Amphicone*, *Macfadyena*, *Tecomella*, *Tabebuia*) and the pair plantarenalioside/stansioside (*Tecoma*, *Campsis*, *Campsidium*).

Full details on the isolation and identification of the compounds are available on request to the authors.

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LITERATURE CITED

1. C. Muñoz Pizarro, *Sinopsis de la Flora Chilena*. Ediciones de la Universidad de Chile, Santiago, 1959, p. 180.
2. J.M. Bobbit and K.P. Segebarth, in: *Cyclopentanoid Terpene Derivatives*. Ed. by W.I. Taylor and A.R. Battersby, M. Dekker, New York, 1969, pp. 1-146.
3. L.J. El-Naggar and J.L. Beal, *J. Nat. Prod.*, **43**, 649 (1980).
4. A. Bianco, M. Massa, J.U. Oguakwa, and P. Passacatilli, *Phytochemistry*, **20**, 1871 (1981).
5. W. Hiltz, G. Edelmann, and H.H. Appel, *Rev. Latinoamer. Quim.*, **4**, 28 (1973).

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