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GYMNOSPERMAE

PINACEAE

FLAVONOID CONSTITUENTS FROM *LARIX* NEEDLES

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Plant. Larix laricina (Du Roi) K. Koch.

Source. Arboretum University of Wisconsin, Madison, September 1968. Gimborn Arboretum, State University Utrecht, September 1969.

Previous work. Phenolic glucosides.[1]

Previous work on other species L. kaempferi Sargent. Kaempferol-3-glucoside.[2]

Present work. Freeze-dried needles were extracted with EtOH. The extract was dried and separated by $NaHCO_3$–BuOH partition, polyamide and/or silica column chromatography, followed by banding on silica TLC and paper giving kaempferol-3-glucoside, isorhamnetin-3-glucoside, 8-*O*-xylosylvitexin and glucosylxylosylvitexin. Hydrolysis products were identified by co-chromatography (five solvents, paper and TLC) and spectral comparison with the authentic compounds. The position of the sugars was determined from the spectral shifts before and after hydrolysis. In glucosylxylosylvitexin, only the 7–OH was substituted; enzyme hydrolysis (emulsin) gave a compound with free 7–OH and R_f similar to that of 8-*O*-xylosylvitexin. Thus, 7-glucosyl-8-*O*-xylosylvitexin seems indicated.

Acknowledgements—The gift of vitexin from the collection of Dr. M. Seikel and of isorhamnetin by Dr. T. Mabry is appreciated.

[1] G. J. NIEMANN, *Phytochem.* **8**, 2101 (1969).
[2] M. TAKAHASHI, T. ITO, A. MIZUTANI and K. ISOI, *J. Pharm. Soc. Japan* **80**, 1488 (1960).

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ANGIOSPERMAE

APOCYNACEAE

FLAVONOIDS OF *ANODENDRON AFFINE*

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(*Received* 21 *July* 1970)

Plant. Anodendron affine (Hook. et Arn.) Durce.

Uses. Not known.

Previous work. Alkaloid.[1]

Leaves. The methanol extract concentrated, diluted with H_2O and filtrated. The filtrate treated with Pb acetate and basic Pb acetate respectively. Each precipitated part

[1] K. SASAKI and Y. HIRATA, *Tetrahedron Letters* 4065 (1969).