THE FLAVONOIDS OF *PASSIFLORA SEXFLORA*

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As part of a biochemical systematic investigation of members of *Passiflora* subgenus *Plectostemma* (Passifloraceae) (1,2), we report the flavonoid chemistry of *Passiflora sexflora* Juss., a Mexican species placed by Killip (3) into section *Decaloba* series *Sexfloraeae*.

The leaves of *P. sexflora* yielded 6 di-C-glycosylflavones: lucenin-2, carlinoside, isoviolanthin, schaftoside, vicenin-1, and isoschaftoside and 6 mono-C-glycosylflavones: orientin, isoorientin, isoswertiajaponin, vitexin, swertiajaponin, and isoswertisin. In addition, luteolin 7-O-glucoside, luteolin, and an aurone, sulphuretin, were obtained.

EXPERIMENTAL

PLANT MATERIAL.—Leaves of *P. sexflora* were collected January 13, 1980, two miles above Santa Maria de Jesus on Highway 95, Department Quezaltenango, Guatemala, by John MacDougal. Voucher specimen (No. 587) is deposited in Duke University Herbarium.

EXTRACTION AND SEPARATION.—Air-dried leaf material (274.5 g) was extracted with 85% aq. methanol (4 × 2 liters) and with 50% aq. methanol (2 × 2 liters). The combined extracts were concentrated under reduced pressure. The aqueous concentrate was extracted with hexane, dichloromethane and ethyl acetate, successively. Only the ethyl acetate fraction and the remaining water solution contained flavonoids. The ethyl acetate fraction was chromatographed over a Polyclar column (46 × 5.5 cm) with a modified Egger's solvent (methylene chloride-methanol-methyl ethyl hetone-acetone, 20:10:5:1) with the polarity of the eluting solvent gradually increased to 100% methanol. Six flavonoids were isolated from the ethyl acetate fraction: isoswertisin, isoswertiajaponin, isovitexin, vitexin, luteolin and sulphuretin. The water fraction was chromatographed over 2 Polyclar columns in 50% aq. methanol. Fractions from these columns were further separated on micro-crystalline cellulose columns (15% HOAc) or on 1-D PC (15% HOAc of BAW 4:1:5, upper phase). Fractions were then separated on Polyclar columns with 100% methanol as the eluting solvent. The water fractions contained swertiajaponin, orientin, isoorientin, isovitexin, lucenin-2, carlinoside, isoviolanthin, isoschaftoside, schaftoside, vicenin-1 and luteolin 7-*O*-glucoside. All compounds were cleaned over Sephadex LH-20 columns in 100% MeOH prior to spectral analysis.

IDENTIFICATION OF THE FLAVONOIDS.—All flavonoids were identified by comparison of uv, ^{1}H nmr, and ms of their PM ethers with published values (4.) Sulphuretin was identified by comparison with a sample isolated from *Cotinus americanus* (Anacardiaceae). This aurone is common in the Anacardiaceae (5).

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