

C-GLYCOSYLFLAVONOIDS FROM *PASSIFLORA PITTIERI*, *P. ALATA*, *P. AMBIGUA* AND *ADENIA MANNII*

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In our continuing study of the genus *Passiflora* (Passifloraceae) ((1-6—, we here report flavonoids from *Passiflora pittieri* Mast. (subgenus *Astrophea*), *P. alata* Dryland (subgenus *Granadilla*, series *Quadrangulares*), and *P. ambigua* Hemsl. (subgenus *Granadilla*, series *Laurifolia*). Leaves (130 g) of *P. pittieri* yielded the C-glycosides isovitexin (3 mg), 2"-xylosylvitexin (5 mg), and a mixture of vicenin-2, schaftoside and isoschaftoside (25 mg). In addition, this species contained luteolin 7-O-glucoside (12 mg) and chlorogenic acid (10 mg). *P. alata* (250 g) afforded mainly 2"-xylosylvitexin (250 mg) and smaller amounts of vitexin (5 mg), isovitexin (5 mg) and orientin (3 mg). Only one flavonoid, saponarin, was obtained from 90 g of *P. ambigua*. *Adenia mannii* Engl. (115 g), a West African member of the Passifloraceae, yielded 2"-xylosylvitexin (5 mg), vitexin (2 mg), and a mixture of violanthin, vicenin-2, and schaftoside (35 mg). All four species also contained glucose, galactose and saccharose.

EXPERIMENTAL

PLANT MATERIAL.—The leaf material was collected from plants grown in Dr. L. E. Gilbert's greenhouse collection, Department of Zoology, University of Texas at Austin. The collection data for the rootstocks are: *Passiflora pittieri* and *P. alata* were collected during December, 1976, in Corcovado, Costa Rica; *P. ambigua* was collected at the La Selva Field Station, Puerto Viejo, Costa Rica, in March, 1979; *Adenia mannii* was from Lombe Fieldsite, Cameroon, West Africa.

EXTRACTION AND ISOLATION OF FLAVONOIDS.—Dried leaves of all species were extracted and chromatographed by standard procedures (7). Mixtures were separated by hplc on a Lichrosorb RP 18 (Merck) column (length=30 cm, diameter 0.5 cm) with an isocratic solvent mixture of methanol-water-acetic acid (either 25:70:5 or 30:65:5). The flow rate was 1.5 ml/min. All compounds, before and after acid hydrolysis and as PM derivatives, were identified by ms, uv, and ¹H nmr (1-5), color reactions (7), and authentic sample comparisons. The ms of PM violanthin showed a 6-C-hexosyl-8-C-deoxyhexosyl apigenin structure M, 718; M-15, M-31 (100%); M-45, M-63; M-103; M-145; M-163; (M-175>>M-145). Co-chromatography of the PM derivative of violanthin with the PM standard in Si gel plates showed its identity to be 6-C-β-D-glucopyranosyl-8-C-α-L-rhamnopyranosyl apigenin.

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