tention times and by co-injection with authentic compounds. A Perkin-Elmer LCI-100 Computing Integrator was used to determine peak areas and retention times.

The glc-ms determinations were carried out with a Shimadzu GC6-AMP gas chromatograph equipped with a FFAP coated SCOT column (85 m×0.5 mm i.d.) using He as carrier gas. The gas chromatograph was programmed from 70 to 230° at 3°/min; and the mass spectrometer, AE1 MS12, was operated at 70 eV with the ion source at 200°. Spectra were aquired and processed by a VG Digispec Display data system.

FRACTIONATION OF VOLATILE OILS.—Micro-distillation of a sample of volatile oils (0.73 g) obtained from *D. nidulum* var. *nidulum* gave fraction 1, bp 160°-220° (0.53 g) and a 'still-pot' residue, fraction 2 (0.20 g). Plc (hexane) of fraction 2 (80 mg) gave rimuene (50 mg), mp 45°-50° (identical ir, ^{1}H nmr, ^{13}C nmr, ms to rimuene) (2,5).

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FLAVONOIDS FROM *BRICKELLIA SCOPARIA*

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In a continuation of our chemotaxonomic studies of the genus *Brickella* (Compositae, tribe Eupatorieae, subtribe Alomiinae) (1-10), eight 6-methoxyflavonoids were isolated from *Brickella scoparia* (DC) Gray, a member of the previously uninvestigated Section Bulbostylis subsection Clavigera. These compounds, previously reported from our other studies, are characteristic of the main evolutionary line in *Brickellia*, and include 3-*O*-glucosides of kaempferol 6-methyl ether, quercetin 6-methyl ether, and kaempferol 6,7-dimethyl ether as well as five aglycones: 5-hydroxy-3,4′,6,7-tetramethoxyflavone, 5,7-dihydroxy-3,6,4′-trimethoxyflavone, 5,7,3′-trihydroxy-3,6,4′-trimethoxyflavone, 5,7,4′-trihydroxy-3,6-dimethoxyflavone, and 5,7,3′,4′-tetrahydroxy-3,6-dimethoxyflavone.

EXPERIMENTAL

PLANT MATERIAL.—Several populations of *B. scoparia* were collected in the state of Oaxaca on the road between Oaxaca City and Huajuapan de Leon, Mexico, on January 10, 1984. Voucher material (Gage and Norris #1222) is deposited in the Plant Resources Center at The University of Texas at Austin, Austin, Texas.

EXTRACTION AND ISOLATION OF FLAVONOIDS.—Dried leaf material (600 g) was extracted three times with 85% and 50% aqueous MeOH, respectively. The combined extracts were concentrated to an aqueous layer under reduced pressure and the concentrate was partitioned against CH_2Cl_2 and EtOAc. The concentrate from the CH_2Cl_2 extract (16 g) yielded the five aglycones when chromatographed over a Polyclar AT(GAF Corp.) column initially packed in toluene-EtOAc (9:1) and then eluted with this solvent system which was then gradually altered during the chromatographic run in 10% increments to 100% MeOH; the column finally was washed with Me_2CO-H_2O (1:1). The concentrate of the EtOAc extract (8

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g) was chromatographed over a Polyclar column using Egger solvent ($CHCl_3$-MeOH-MeCOEt-Me_2CO, 20:10:5:1) to give the three glucosides. For both columns, fractions were collected on the basis of monitoring the bands with uv light. All bands were further separated by paper chromatography (Whatman 3MM) using 15% HOAc and *t*-BuOH-HOAc-H_2O (3:1:1). After purification over Sephadex LH-20 (MeOH) all compounds were identified by uv, ^{1}H nmr, ms, and color reactions (11).

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ALKALOIDS OF *TABERNAEMONTANA VENTRICOSA*[1]

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Tabernaemontana ventricosa Hochst. ex A.DC. is a small tree occurring in montane forests in tropical Africa (2). In a current taxonomic revision of the genus *Tabernaemontana* by Leeuwenberg (3), this species was shown to possess several synonyms such as *Conopharyngia usambarensis*, *Conopharyngia ventricosa*, and *Tabernaemontana usambarensis*. No phytochemical investigations prior to the one presented here have been reported, although it has been mentioned that the plant was suitable for extraction of conopharyngine (4). In traditional medicine, the latex has been used for healing wounds (5,6).

The stem bark was extracted with EtOH. The extract was separated by l c. Some of the first fractions yielded a large quantity of triterpenes. The later fractions, after an acid-base extraction and preparative tlc, gave the alkaloids. Table 1 lists the identified alkaloids, together with an indication of their relative abundance in the stem bark. No conopharyngine could be detected in the plant material investigated. Because of the co-occurrence of ibogan, aspidospermatan, and corynanthean alkaloids, *T. ventricosa* clearly is a member of the genus *Tabernaemontana* (3). Remarkable in this species is the relatively large amount of strychnan alkaloids, a type which is otherwise rather rare in this genus (3).

[1]Part 18 in the series "Pharmacognostical Studies of *Tabernaemontana* Species." For part 17, see van der Heijden *et al.* (1).