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## LITERATURE CITED

1. J.M. Dalziel, "The Useful Plants of West Tropical Africa—An Appendix to the Flora of West Tropical Africa," Ed. by J. Hutchinson and J.M. Dalziel, Crown Agents, London, 1936, pp. 174-175.
2. R.W.J. Keay, C.F.A. Onochie, and D.P. Stanfield, "Nigerian Trees, Federal Department of Forest Research, Ibadan, Nigeria," Nigerian National Press Ltd, Apapa, **II**, 3 (1964).
3. M.A. Ferreira, L.N. Prista, and A.C. Alves, *Garcia de Orta* (Lisboa), **11** (1) 97 (1963).
4. A. Sosa, F. Winternite, R. Wylde, and A.A. Pavia, *Phytochemistry*, **16**, 707 (1977).
5. J. Wu, E.H. Fairchild, J.L. Beal, T. Tomimatsu, and R.W. Doskotch, *J. Nat. Prod.*, **42**, 500 (1979).
6. D. Dwuma-Badu, W.H. Watson, E.M. Gopalakrishna, T.U. Okarter, J.E. Knapp, P.L. Schiff, Jr., and D.J. Slatkin, *Llyodia*, **39**, 385 (1976).

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ALKALOIDS FROM *ROLLINIA EMARGINATA*

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As part of an investigation of the Argentinian species of the genus *Rollinia* (Annonaceae) (1) that grow in Argentina, the major alkaloids of *Rollinia emarginata* Schlecht are reported here.

*R. emarginata* is a shrub widely distributed in the northeast of Argentina. The plant is claimed to be a remedy for tumors in their early stages and for other human diseases. In this communication, we describe the isolation and identification of three alkaloids: (–)-anonaine, (–)-asimilobine, and (+)-reticuline.

## EXPERIMENTAL

**PLANT MATERIAL.**—Aerial parts of *R. emarginata* were collected near Resistencia, Chaco province, Argentina. The plant was authenticated by the "Miguel Lillo" Botanical Institute of San Miguel de Tucumán, Argentina, where a voucher specimen (No. 6193) has been deposited.

**EXTRACTION AND ISOLATION OF ALKALOIDS.**—Air-dried and powdered stem bark of the plant (1.1 kg) was extracted in a Soxhlet apparatus with  $\text{CHCl}_3$ -MeOH (9:1) until the extract gave a negative test for alkaloids with Mayer's reagent. The organic solution was concentrated under reduced pressure to a syrup: a dark green, semisolid residue was obtained, which was fractionated in a silica gel column (MN 60 H, for tlc) using  $\text{CHCl}_3$ -MeOH (94:6) as eluant. Two aporphines were obtained, (–)-anonaine (60 mg) (2) and (–)-asimilobine (43 mg) (3), and one benzyltetrahydroisoquinoline, (+)-reticuline (52 mg) (4). All alkaloids were identified on the basis of their spectral data (ir, ms,  $^1\text{H}$  nmr), which were identical with those reported in the literature (2-4). (+)-Reticuline was also compared with an authentic sample.

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## LITERATURE CITED

1. M. Leboeuf, A. Cavé, P.K. Bhaumik, B. Mukherjee, and R. Mukherjee, *Phytochemistry*, **21**, 2783 (1982).
2. M. Nieto, T. Sévener, M. Leboeuf, A. Cavé, *Planta Med.*, **30**, 48 (1976).
3. M. Tomita and M. Kozuka, *J. Pharm. Soc. Jap.*, **85**, 77 (1965).
4. S.R. Johns, J.A. Lambertson, and A.A. Sioumis, *Aust. J. Chem.*, **21**, 1383 (1968).

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