

Ergebnis. Aus 18,0 g Flechte 50 mg (0,27%) Atranorin und 10 mg (0,05%) Perlatolinsäure. Atranorin, Perlatolinsäure und Tetrahydroxyfettsäuren fanden Fox und Huneck² auch in Proben von Neuseeland und Jamaica.

Flechte. *Stereocaulon vesuvianum* Pers. var. *nodulosum* (Wallr.) Lamb.

Herkunft. Norwegen, Rogaland, Hangesund.

Aufarbeitung. Extraktion mit Äther

Ergebnis. Aus 110,0 g Flechte 55 mg (0,05%) Stictinsäure in Nadeln vom Schmp. 270–272° (Zers.) und 700 mg (0,63%) Atranorin. Die Varietät synthetisiert also die gleichen Stoffe wie die Stammform.³

Flechte. *Stereocaulon lavicola* Magn.

Herkunft. Hawaii, Volcano Natinal Park, Uwekahuna.

Aufarbeitung. Extraktion mit Aceton.

Ergebnis Laut DC enthält die Flechte hauptsächlich Atranorin neben wenig Norstictinsäure. Mackenzie-Lamb's Befund⁴ (α -Methyläthersalazinsäure, Salazinsäure oder Norstictinsäure) wird dadurch präzisiert.

Vergleichsproben der untersuchten Flechten befinden sich im Farlow-Herbarium der Harvard-Universität sowie im Herbarium follmannianum (Kassel) und Herbarium huneckianum (Halle/Saale).

² C. H. FOX und S. HUNECK, *Phytochem* 9, 2057 (1970).

³ C. F. CULBERSON, *Chemical and Botanical Guide to Lichen Products*, S. 522, The University of North Carolina Press, Chapel Hill (1969).

⁴ I. MACKENZIE-LAMB, *Can. J. Botany* 29, 522 (1951).

Phytochemistry, 1971, Vol 10, pp 1398 to 1399. Pergamon Press Printed in England.

ANGIOSPERMAE DICOTYLEDONAE

AMARANTHACEAE

ECDYSTERONE FROM *CYATHULA PROSTRATA*

VIRBALA C. SHAH and NOËL J. DE SOUZA

Caus Research Institute, St Xavier's College, Bombay 1, India

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Abstract—Ecdysterone has been found to be the major phytoecdysone of *Cyathula prostrata* and is present to an extent of 0.05% of the dry plant.

Plant. *Cyathula prostrata* (L.) Blume.

Source. Ghodbunder Road, Bombay, India during November 1969–January 1970.

Identification. Shah 10482, Blatter Herbarium, Bombay and Kew Herbarium, England.

Previous work. Phytoecdysone constituents of *Cyathula capitata* and *Cyathula* species.^{1, 2}

¹ H. HIKINO, Y. HIKINO, K. NOMOTO and T. TAKEMOTO, *Tetrahedron* 24, 4895 (1968).

² T. TAKEMOTO, N. NISHIMOTO and S. TANIGUCHI, *Yakugaku Zasshi* 88, 1293 (1968).

Compound isolated. Ecdysterone was isolated from the whole plant by methods described previously³ and was identified by direct comparison with authentic material by mixed m.p., co-chromatography (TLC, 2 solvent systems), co-chromatography of acetates (TLC, 1 solvent system), m.s., u.v. and i.r. analysis.

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³ N. J. DE SOUZA, E. L. GHISALBERTI, H. H. REES and T. W. GOODWIN, *Phytochem.* **9**, 1247 (1970).

Phytochemistry, 1971, Vol. 10, pp. 1399 to 1400. Pergamon Press Printed in England.

BIGNONIACEAE

ANTHOCYANINS FROM ARGENTINE *TABEBUIA* SPECIES

A. B. POMILIO and J. F. SPROVIERO*

Departamento de Química Orgánica, Facultad de Ciencias Exactas y Naturales,
Universidad de Buenos Aires, Buenos Aires, Argentina

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FLOWERS of *Tabebuia ipe* and *Tabebuia avellanedae* have been found to contain cyanidin 3-rutinoside, cyanidin 3-glucoside and peonidin 3-rutinoside; the latter in small amounts.

A chemotaxonomic survey of flavonoids in leaves and flowers of Bignoniaceae has already been carried out,¹ but the anthocyanins present in *Tabebuia* species were not identified.

Most of the species of *Tabebuia* are native to tropical and subtropical America and there is a wide range in their flower colours, from yellow to red and purple. *Tabebuia avellanedae* (Lorentz) Griseb. and *Tabebuia ipe* (Mart.) Standley are indigenous to the north-west and north-east of Argentina and are the only Argentine *Tabebuia* plants with red flowers. These species are of interest because they contain the same anthocyanins and their glycosidic pattern, -3-rutinoside-, has already been found in the family Bignoniaceae.

RESULTS AND DISCUSSION

Preliminary separation of the concentrated flower extract gave two bands: I and II (the former in trace amounts). In all the other solvents used, band II split into two bands: II_a and II_b (both dull magenta in u.v. light). The relative amounts increased in the order: II_a > II_b > I.

R_f values and spectral data² are given in Table 1. Total acid hydrolysis³ of I and II_a provided glucose and rhamnose, while II_b gave glucose. The *R_f* and spectral data for

* Research member of the Consejo Nacional de Investigaciones Científicas y Técnicas.

¹ J. B. HARBORNE, *Phytochem.* **6**, 1643 (1967).

² J. B. HARBORNE, *Biochem. J.* **70**, 22 (1958)

³ J. B. HARBORNE, *Phytochem.* **4**, 107 (1965)