

[*J. Nat. Prod.*, 53, 179 (1990)]

An Aristolochic Acid Derivative of *Aristolochia liukiensis*

MIZUO MIZUNO*, MUNEKIYO OKA, MUNEKAZU IINUMA, TOSHIYUKI TANAKA

The genus *Aristolochia* (Aristolochiaceae) is found in wide areas from the tropics to temperate zones and consists of about 300 species. Some of them have been used in the form of crude drugs as anodynes, antiphlogistics, and detoxicants, especially in China. Five species are native to Japan. From a taxonomic standpoint, *A. liukiensis* and *A. kaempferi* have recently separated, but these species are morphologically very similar. To support the classification by chemotaxonomy, the chemical constituents of *A. liukiensis* were investigated. The separation of an acetone extract of the stems resulted in the isolation of aristolochic acids, aristoloactams, dioxoaporphine and isorhamnetin-3-*O*-robinoside including a new aristolochic acid. The structure of new compound was determined to be 3-hydroxy-4-methoxy-10-nitrophenanthrene-1-carboxylic acid methylether.

[*Z. Naturforsch.*, 45c, 143 (1990)]

Kaempferol Glycosides in *Asplenium scolopendrium* Newm.

MIZUO MIZUNO*, YOSUKE KYOTANI, MUNEKAZU IINUMA, TOSHIYUKI TANAKA,
HIROYUKI KOJIMA, KUNIO IWATSUKI

The morphological similarities of the genus *Asplenium* (Aspleniaceae) to the related genera have disturbed the clear classification of *Asplenium* from others. In the present paper, the flavonoids in the fronds of *Asplenium scolopendrium* NEWM. which has been once classified in the genus *Phyllitis* are described. By repeated chromatography on silica gel and Sephadex LH 20 of a methanolic extract, five compounds were isolated. The structures were determined to be kaempferol 3-*O*- β -glucopyranosyl-(1 \rightarrow 3)- β -D-(2-*O*-caffeoyl)glucopyranoside 7-*O*- α -L-rhamnopyranoside, kaempferol 3-*O*- β -D-glucopyranosyl-(1 \rightarrow 3)- β -D-glucopyranoside 7-*O*- α -L-rhamnopyranoside and kaempferol 3-*O*-(2-*O*-caffeoyl)- β -D-glucopyranoside 7-*O*- α -L-rhamnopyranoside by means of spectral data, respectively.

[*J. Nat. Prod.*, 53, 498 (1990)]

A New Pterocarpan from the Heartwood of *Cladrastis platycarpa*

MIZUO MIZUNO*, TOSHIYUKI TANAKA, MASAMI KATSURAGAWA,
HARUMI SAITO, MUNEKAZU IINUMA

The genus *Cladrastis* (Leguminosae, subfamily, Faboideae, tribe Sophoreae) has primitive characters and a close relationship to the genera *Maackia* and *Sophora* on the basis of morphology. As a part of our series of chemotaxonomic studies on the Leguminosae, especially directed to the genus *Sophora*, the constituents of the heartwood of *Cladrastis platycarpa* were investigated. In addition to the known compounds maackiain, medicarpin, medicagol, daizein, genistein, prunetin, orobol and piceatannol, a new pterocarpan was isolated. The structure was characterized as (-)-2,3-dihydroxy-8,9-methylenedioxypterocarpan by means of spectroscopic data.