

ANTHRAQUINONES AND KAEMPFEROL FROM CASSIA SPECIES SECTION FISTULA

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Cassia, a large genus of the Leguminosae, contains four sections. The section *Fistula* possesses 28 tropical trees, and six of these are represented in the Indian flora. Phytochemical investigations reveal that all six of these species contain kaempferol and a mixture of anthraquinones (chrysophanol, rhein, and physcion). Rhein is absent from many other *Cassia* species.

EXPERIMENTAL

PLANT MATERIALS AND ISOLATION.—Leaves were collected from the Horticultural Research Institute, Saharanpur (India), shade-dried, and extracted with EtOH. Extracts after concentration at reduced pressure (temperature below 40°) were saponified, chromatographed, and analyzed for anthraquinones and flavonoids by standard procedures (1-4). Authentic samples were obtained from Dr. R.S. Kapil, Assistant Director, Central Drug Research Institute, Lucknow. Details of the experimental procedures are available from the senior author. The six species of the section found in India are: *C. grandis* L., *C. fistula* L., *C. nodosa* Hamilt., *C. renigera* Wall., *C. javanica* L., and *C. marginata* Roxb.

COMPOUND IDENTIFICATION.—Studies on the species of the section *Fistula* revealed the presence of chrysophanol (5), rhein (7), physcion (6), and kaempferol (8) in all species. The identities of the compounds were confirmed by spectrometry (nmr, ms, ir) and direct comparison (co-tlc, mmp) with authentic samples.

This indicates that all the species of the section *Fistula* are chemotaxonomically similar and sympatric in distribution.

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