

TURKISH SPECIES OF *FUMARIA* AND THEIR ALKALOIDS,
V. ALKALOIDS FROM *FUMARIA CAPREOLATA* AND *FUMARIA ASEPALA*

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Our investigations on the alkaloid composition of representatives of the genus *Fumaria* (Papaveraceae, subfamily Fumarioideae) growing in Turkey, *F. gaillardotii* Boiss. (1), *F. judaica* Boiss. (2), and *F. macrocarpa* Parlatores (3), have been recently published. In our continuing alkaloid analysis of the Turkish *Fumaria* species, the alkaloids found in *F. capreolata* L. and *F. asepala* Boiss., both previously uninvestigated, are reported in this study.

EXPERIMENTAL

PLANT MATERIALS.—*F. capreolata*, collected in rocky places near Saint-Pierre Church and Harbiye in Hatay, and *F. asepala*, collected from fields and slopes in Sivrihisar (Ankara) and Tatvan (Bitlis), Turkey (4), were used for these investigations. Voucher specimens are deposited in the herbarium of the Faculty of Pharmacy, Ankara University (AEF).

EXTRACTION AND ISOLATION OF ALKALOIDS.—Air-dried, finely ground plant material (1 kg) was extracted with EtOH in a Soxhlet apparatus. The extracts obtained were treated for alkaloids by standard procedures (5). Their identities and amounts in the plants are shown in the table below:

	<i>F. capreolata</i> (%)	<i>F. asepala</i> (%)
Protopine	0.1	0.16
Cryptopine	0.07	0.08
β-Allocryptopine	0.07	—
Fumaritine	0.07	—
(-)-Stylopine	0.06	0.15
(-)-Scoulerine	0.03	0.05
(+)-Bicuculline	—	0.12
(-)-Capnoidine	0.11	—
Sanguinarine	0.03	0.04
Coptisine	0.03	—

All alkaloids were identified by mp, $[\alpha]_D$, uv, ir, ^1H nmr, and ms. Protopine, cryptopine and sanguinarine were further characterized by tlc comparison with reference samples and mp of derivatives.

Full details of the isolation and identification of the compounds are available on request to the author.

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