

Previous Work. Isolation of quercetin-3-rhamnosylglycoside.¹

Present Work. The phenolic extract obtained from fresh leaves and purified by usual methods gave two biflavones by preparative TLC. They were characterized as amentoflavone and podocarpus-flavone A (4'''-O-methyl amentoflavone), by m.p.s. m.m.p.s. and comparison of NMR spectra of their methyl and acetyl derivatives with those of authentic samples.

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¹ SUBRAMANIAN, S. S. and NAGARAJAN, S. (1971) *Phytochemistry*, **10**, 2548.

Phytochemistry, 1974, Vol. 13, p. 2620. Pergamon Press. Printed in England.

ALKALOIDS FROM *CORYDALIS INCISA**

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Key Word Index—*Corydalis incisa*; Papaveraceae; phenolic protoberberine alkaloids; (–)-cheilanthifoline; (–)-scoulerine; coreximine; (+)-reticuline.

Plant. *Corydalis incisa* Pers. in the vegetative stage. *Source.* Fukuoka Prefecture, Japan. *Previous work.* Non-phenolic tertiary¹⁻³ and quaternary² alkaloids.

Present work. The MeOH extract of the whole plant was worked up as described earlier.³ The tertiary phenolic base fraction (0.035% of dried material) was subjected to chromatography over silica gel. The CHCl₃ eluate gave a mixture which was re-chromatographed over silica gel with hexane-AcOEt (2:1) to afford (–)-*cheilanthifoline*, m.p. 176–177°, [α]_D²⁰ –321° (MeOH) (0.007%, m.p., [α]_D²⁰, IR. Methylation with diazomethan gave (–)-*sinactine* and (–)-*scoulerine*, m.p. 194–196°, [α]_D²⁰ –304° (EtOH) (0.005%, m.p., [α]_D²⁰, IR). The CHCl₃-MeOH (99:1) eluate gave *coreximine*, m.p. 252–254°, [α]_D²⁰ –280° (CHCl₃) (0.006%, m.p., IR). The CHCl₃-MeOH (19:1) eluate was purified by preparative TLC followed by recrystallization as perchlorate, yielding (+)-*reticuline* perchlorate, m.p. 203–204° (0.005%, IR, free base: [α]_D²⁰ +96° (EtOH), [α]_D²⁰, IR).

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* Part IV in the series "Alkaloids of *Corydalis incisa* Pers.". For Part III see NONAKA, G. and NISHIOKA, I. (1973) *Chem. Pharm. Bull.* **21**, 1410.

¹ MANSKE, R. H. F. (1950) *J. Am. Chem. Soc.* **72**, 3207.

² TANI, C. and TAKAO, N. (1962) *Yakugaku Zasshi* **82**, 594, 598.

³ NONAKA, G., OKABE, H., NISHIOKA, I. and TAKAO, N. (1973) *Yakugaku Zasshi* **93**, 87.