

MeOH solution was concentrated *in vacuo* to a syrup. This material was shaken with Et₂O and H₂O, and the aqueous solution was concentrated *in vacuo*. The extract was then divided into two parts. One was chromatographed on silica gel. The solvent was C₆H₆-EtOAc-PrOH (4:2:1) with the polarity gradually increased by adding MeOH and EtNH₂, and gave a mixture of epiberberine, berberastine, thalifendine, and oxyberberine. The other solution was chromatographed on Al₂O₃ (neutral) with a solvent of CHCl₃-MeOH (containing 0.5% NH₃) (6:1) with the polarity of the eluting solvent gradually increased to MeOH and yielding groenlandicine. These compounds were separated finally on preparative tlc plates with C₆H₆-EtOAc-PrOH-MeOH-EtNH₂ (8:4:2:1:1) as solvent system for epiberberine, berberastine, and thalifendine, CHCl₃-MeOH-NH₃ (75:30:5) for groenlandicine and C₆H₆-EtOAc (1:1) for oxyberberine, respectively. The isolated alkaloids were identified by their nmr, ms, ir, and uv spectral data and were further clarified by physical data of tetrahydro-derivatives. In addition, the minor compounds thalifendine and oxyberberine were identified by comparison with authentic samples on si gel tlc plates.

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

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DITERPENIC ALKALOIDS OF *ACONITUM NApELLUS* ROOTS FROM SWITZERLAND¹

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As part of our chemical study on *Aconitum* roots (1,2), we performed the characterization of the diterpenic alkaloids of *Aconitum napellus* L. from Switzerland. Five of the alkaloids (14-acetylneoline, aconosine, hokbusine A, senbusine A, and senbusine C) have been isolated for the first time from this plant.

EXPERIMENTAL

EXTRACTION AND ISOLATION OF THE DITERPENIC ALKALOIDS.—The dried roots of *A. napellus* (10 kg) collected in Switzerland and purchased from Siegfried Zofingen, Switzerland, were extracted with MeOH to give the extract (950 g) which was fractionated in the customary manner (1) to obtain the alkaloid portion (11 g). Chromatography over alumina and silica gel afforded aconitine (10 mg), mesaconitine (15 mg), 14-acetylneoline (30 mg) (3), aconosine (30 mg) (4), hokbusine A (45 mg) (2), neoline (506 mg) (5), senbusine A (140 mg) (1), and senbusine C (32 mg) (1).

Six of the diterpenic alkaloids were identified by spectral methods and comparison with authentic samples. Aconosine was identified by physicochemical data comparison. 14-Acetylneoline was identified by spectral data comparison and alkaline hydrolysis.

The LD₅₀ value of hokbusine A was greater than 1 mg/kg (std: ddY mice, ip).

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

¹Pharmaceutical studies on *Aconitum* roots, Part 17.

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TERPENOÏDE ET ALCALOÏDES D'ANACAMPTA ANGULATA

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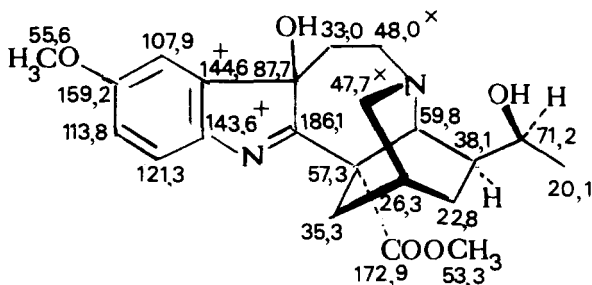
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Anacampta angulata (Mart.) MGF appartient à la famille des Apocynacées, et à la tribu des Tabernaemontanées. Cette tribu est actuellement sujette à remaniements (1) et l'entité du genre *Anacampta* est controversée.

L'étude de la composition chimique de plantes de cette tribu est une contribution à l'élaboration d'une classification chimiotaxonomique; ceci permettra, peut-être, d'établir une classification définitive de ce groupe.

Un précédent mémoire (2) a relaté l'isolement de quatre alcaloïdes à partir des écorces de tronc.

La présente analyse a permis d'isoler et d'identifier l'hydroxyindolénine de la voacristine. La structure a été déterminée par comparaison des spectres uv et masse avec les données de la littérature (3). Il a été possible de déterminer la stéréochimie du C₁₉ (OH, 19S) grâce à l'analyse du spectre de ¹H-nmr (4). De plus, l'étude du spectre de ¹³C-nmr est en accord avec la structure:



Spectre enregistré sur appareil Varian CFT 20. Les valeurs + et × sont interchangeable.

A partir de fraction neutre, un terpénoïde a été isolé en quantité importante: l'acétate d' α amyryne (5-6). Son identification a été possible par comparaison des données physiques (F, masse, ¹³C-nmr). Il apparaît que ce soit le seul terpénoïde présent dans les écorces de tiges.

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