

# Cytotoxic Benzophenanthridine and Benzyloquinoline Alkaloids from *Argemone mexicana*

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Z. Naturforsch. **58c**, 521–526 (2003); received January 13/February 17, 2003

Fractionation of the chloroform extract from the aerial part of *Argemone mexicana* led to the isolation of two benzophenanthridine-type alkaloids, *N*-demethyloxysanguinarine and pancorine; three benzyloquinoline-type alkaloids, (+)-1,2,3,4-tetrahydro-1-(2-hydroxymethyl-3,4-dimethoxyphenylmethyl)-6,7-methylenedioxyisoquinoline, (+)-higenamine and (+)-reticuline. Among them, *N*-demethyloxysanguinarine is a new compound, and (+)-1,2,3,4-tetrahydro-1-(2-hydroxymethyl-3,4-dimethoxyphenylmethyl)-6,7-methylenedioxy-isoquinoline was isolated from a natural source for the first time, to which was assigned a trivial name, (+)-argenaxine. In addition, six known non-alkaloidal compounds were also isolated and identified. All compounds were characterized on the basis of their spectral data and chemical evidences. Some isolated alkaloids from this species were evaluated for their cytotoxicity to human nasopharyngeal carcinoma (HONE-1) and human gastric cancer (NUGC) cell lines. Chelerythrine was found to exhibit significant activity against NUGC cell line, while angoline inhibited both types. (+)-Argenaxine showed moderate activity against the NUGC cell line.

*Key words:* *Argemone mexicana*, *N*-Demethyloxysanguinarine, Cytotoxicity