

## Alkaloid and polyphenolic profiles of Brazilian *Uncaria tomentosa* leaves

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### Congress Abstract

The leaf alkaloidal and polyphenolic profiles from four wild *Uncaria tomentosa* (Willd.) DC specimens (cat's claw), harvested in different locations of the Brazilian Amazon rainforest have been analyzed. Methanol leaf extracts were treated with HCl 0.1N followed by partition with ethyl acetate to afford phenol-rich fractions. The aqueous fractions were then alkalized with  $\text{NH}_4\text{OH}$  and extracted with ethyl acetate to afford alkaloid fractions. The alkaloid fractions from three specimens showed similar HPLC-DAD profiles, with the pentacyclic oxindole alkaloids mitraphylline and isomitraphylline predominating [1]. The fourth specimen showed a distinct profile with tetracyclic oxindole alkaloids as major components as revealed by  $[\text{M}+\text{H}]^+$  ions at  $m/z$  385 in UHPLC-MS, corroborated by diagnostic signals in  $^1\text{H-NMR}$ . Apart from the sample with a distinct alkaloidal chemotype no significant differences occurred in the phenol-rich fraction profiles revealed by TLC and HPLC-DAD. They contain mostly phenolic acid derivatives complemented by minor flavonoids. The common signal for chlorogenic acid was quantified in these phenol-rich fractions by comparison with an external standard, enabling evaluation of the linearity, detection limit and recovery. The chlorogenic acid content varied from  $0.15 \pm 0.01$  to  $0.58 \pm 0.02$  mg/g of dry leaves as measured at 280nm, whereas the total phenolic content varied between  $147 \pm 22$  and  $632 \pm 58$   $\mu\text{g GAE/g}$  by Folin-Ciocalteu. This study of the chemistry of the aerial parts of the species complements earlier studies most of which have been performed on commercial alkaloid-based roots and bark materials.

**Keywords:** *Uncaria tomentosa*, leaf total phenols, chlorogenic acid, oxindole alkaloids,

### References:

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