The major indole alkaloid $N,\beta$-D-glucopyranosyl vincosamide (GPV) from leaves of *Psychotria leiocarpa* Cham. & Schltdl. is not an antifeedant and shows broad antioxidant activity

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**Key words**: herbivory; UV-B; antioxidant.

**Introduction**: $N,\beta$-D-glucopyranosyl vincosamide (GPV), a major alkaloid of *Psychotria leiocarpa*, constitutes up to 2.5 % of the dry weight in leaves; alkaloids are often reported as toxic compounds playing direct herbivore protection. Here we evaluate the dynamics of accumulation and possible function to this alkaloid for *P. leiocarpa*.

**Experimental**: Field-grown *P. leiocarpa* leaves were submitted to UV-B, wounding or jasmonate stresses and GPV content analyzed by HPLC after 48h/ 96h of exposure; relevant parameters related to each stress condition or to evaluate plant physiological status were also taken. Isolated GPV was tested for deterrent activity in three different models and antioxidant assays were performed to measure quenching of reactive oxygen species (ROS). All assays were performed in biological quadruplicates and repeated at least twice independently. The results were analyzed by ANOVA followed by Tukey ($P \leq 0.05$).

**Results/Discussion**: Alkaloid content was not elicited by wounding or jasmonate. GPV did not inhibit herbivory in two unrelated generalist models (*Helix aspersa* and *Spodoptera frugiperda*) or in a specific interaction model (*Heliconius erato* fed with *Passiflora suberosa*). In situ staining assay showed quenching activity of hydrogen peroxide by GPV. Exposure of *P. leiocarpa* to acute UV-B stress did not change GPV or chlorophyll content, indicating high tolerance to this stress by the species. *In vitro* antioxidant tests against singlet oxygen, superoxide anions and hydroxyl radicals showed efficient quenching activity of the alkaloid.

**Conclusion**: GPV was not effective as antifeedant in tested models, and, due to its broad antioxidant activity, it may act indirectly in *P. leiocarpa* protection against oxidative stress generated upon herbivory, wounding, UV exposure, and perhaps other environmental stresses.

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