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Toxicological evaluation of cultivated *Gynura* species in Taiwan

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Gynura sp. are widely cultivated in Taiwan for many purpose. *G.* bicolor is most commonly applied as a vegetable, and other species are also often cultivated for other medicinal purposes. *Gynura* sp. possess pyrrolizidine alkaloids, which are notorious for hepatotoxicity. Plant foods, however, may contain numerous potential food safety problems. For above reasons, we intend to evaluate the toxicity of cultivated *Gynura* species and to clarify the edible safety.

Four major experiments were applied on the Gynura sp. in Taiwan. 1.Conduct a market survey of the taxon identification. 2.Applied LC-MS-MS to evaluate the composition and content. 3.Applied acute toxicity study (LD 50 study). 4.Applied 28-day feeding toxicity study.

From our market research, *G. bicolor* is the most common species found in Taiwan's traditional market as a vegetable, however individual cultivated species for hypoglycemic purpose was found to be *G. divaricata* subsp. *formosana*. In the meantime, *G. japonica*, which was used as traditional Chinese medicine was not found during this research. Results from the 14-days acute toxicity study shows that there is no difference in all-cause mortality and motility in ICR mice experiments. No visceral enlargement phenomenon was observed during anatomical inspections.

The results of the experiments did not show any significant acute toxicity on *G. bicolo*r or *G. divaricata* subsp. *formosana* till now. The 28-day feeding toxicity study is still under investigation, however. Large quantities and long term consumption of *Gynura* plants should be careful.