Vitexin derivatives as chemical markers in the differentiation of the closely related species *Passiflora alata* Curtis. and *Passiflora quadrangularis* Linn.

G.M. COSTA¹, A.C. GAZOLA¹, S.M. ZUCOLOTTO², F.H. REGINATTO¹, L. CASTELLANOS³, F.A. RAMOS³, E.P. SCHENKEL¹

¹Programa de Pós-graduação em Farmácia, Universidade Federal de Santa Catarina, ²Departamento de Farmácia, Universidade Federal do Rio Grande do Norte, ³Departamento de Química, Universidad Nacional de Colombia.

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**Introduction:** *Passiflora alata* and *Passiflora quadrangularis* are distributed throughout South America, with widespread occurrence in Brazil and Colombia. Due to the difficult botanical distinction between these species, the use of chemical markers for these plants offers an alternative method of identification. The aims of this work were to evaluate the flavonoid fingerprints of these species by HPLC-DAD and to isolate, identify and quantify compounds that can be used as chemical markers in their differentiation.

**Experimental:** Leaves of *P. alata* were collected in Nova Santa Rita, Rio Grande do Sul State, Brazil and leaves of *P. quadrangularis* were purchased from a Garden Centre at Gigante, Colombia. The dry leaves of both species were powdered and extracted by infusion (plant: water, 1:10, w/v, 95 °C) for 10 min, filtered and then lyophilized. Aqueous crude extract of *P. quadrangularis* was fractionated by high-speed counter-current chromatography (HSCCC) in a four-step gradient elution, using EtOAc:BuOH:H₂O system (solvent systems A – D). The aqueous phase of system A was used as the stationary phase, while the organic phases of systems A - D were used as mobile phase. For HPLC analysis, a C18 column (250 x 4.6 mm i.d.; 5 µm) was used, with a gradient system of acetonitrile and formic acid 0.5%, with detection at 340 nm. Analytical procedures were performed according to ICH guidelines.

**Results:** HPLC co-injection with standard led to the identification of vitexin-2''-O-rhamnoside as the major flavonoid from *P. alata*, while the major flavonoid from *P. quadrangularis* was isolated by HSCCC and identified as vitexin-2''-O-xyloside. The content of vitexin-2''-O-rhamnoside in *P. alata* was found to be 31.23 ± 0.04 mg/g of aqueous extract, while the content of vitexin-2''-O-xyloside in *P. quadrangularis* was 29.16 ± 0.11 mg/g of aqueous extract.

**Conclusion:** Following the identification of the major compounds from the aqueous extract of the leaves of *P. alata* and *P. quadrangularis*, it was proposed the use of these vitexin derivatives as chemical markers in the differentiation of these two species and also in the detection of adulterations in raw plant material.

**Support:** CAPES, CNPq, DIB-UNAL.

**Figure 1:** HPLC-DAD fingerprint of crude aqueous extracts of *P. alata* (A) and *P. quadrangularis* (B) leaves at 340 nm. 1: vitexin-2''-O-rhamnoside; 2: vitexin-2''-O-xyloside.