

FOLIA TAXONOMICA 3. PASSIFLORA DAVIDII (PASSIFLORACEAE),
A NEW SPECIES IN SUBGENUS PASSIFLORA AND A KEY TO THE
SECTIONS OF SUPERSECTION STIPULATA

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ABSTRACT

The first key to the sections of supersection *Stipulata* Feuillet & J.M. MacDougal is given. ***Passiflora davidii*** sp. nov. is described from French Guiana. Its foliaceous stipules and bracts and its campanulate hypanthium place it in subgenus *Passiflora* supersection *Stipulata* section *Granadillastrum* Triana & Planch.

RÉSUMÉ

La première clé des sections de la supersection *Stipulata* Feuillet & J.M. MacDougal est fournie. ***Passiflora davidii*** sp. nov. est décrite de Guyane française. En raison de ses stipules et bractées foliacées et de son hypanthium campanulé, elle est placée dans le sous-genre *Passiflora* supersection *Stipulata* section *Granadillastrum* Triana & Planch.

In the new classification of *Passiflora* (Feuillet & MacDougal 2003; MacDougal & Feuillet 2004) replacing the system proposed by Killip (1938), *Passiflora* subg. *Passiflora* supersect. *Stipulata* Feuillet & J.M. MacDougal is a large coherent group which includes more than 95 species sharing foliaceous, usually asymmetric stipules.

KEY TO THE SECTIONS OF SUPERSECTION STIPULATA

1. Flowers in pseudoracemose inflorescences, 25–75 cm long. (*P. racemosa* Brot.) _____ sect. **Calopathanthus** Harms
1. Flowers solitary or in pair in leaf axils.
 2. Bracts setaceous or narrowly ovate, less than 2.5 mm wide, scattered along the pedicel. (4 species)
_____ sect. **Kermesinae** (Cervi) Feuillet & J.M. MacDougal
 2. Bracts foliaceous, usually more than 2.5 mm wide (but often deeply dissected in sect. *Dysosmia*), usually verticillate, sometimes scattered or loosely grouped.
 3. Stipules and bracts lacerate-dentate or lacinate to 1–4-pinnatisect. (20 sp.) _____ sect. **Dysosmia** DC.
 3. Stipules and bracts entire to serrate.
 4. Hypanthium cylindric, as long as the sepals. (4 sp.) _____ sect. **Tacsonioides** DC.
 4. Hypanthium campanulate or rarely short-tubular and then shorter than the sepals. (> 66 sp.)
_____ sect. **Granadillastrum** Triana & Planch.

The members of *Passiflora* sect. *Granadillastrum* are herbaceous or woody climbers, with leaves petiolate and with two or more glands on the petiole; the laminae are unlobed or lobed; the venation palmate or sometimes pinnate with 1–2 pairs of minor submarginal veins at base. Their flowers are solitary or rarely two in the leaf axils. The hypanthium is campanulate or rarely short-tubular. Triana and Planchon (1873) described *Passiflora* section *Granadillastrum* for one species, *P. semiciliosa* Planch. & Linden published in the same paper. In Killip (1938), *Granadillastrum* was raised to the rank of subgenus and some species were added that all belong now in supersect. *Tacsonia*. In addition to *P. semiciliosa*, we place in section *Granadillastrum* species formerly placed in subgenus *Passiflora* (subg. *Granadilla* of Killip) ser. *Kermesinae* Killip ex Cervi (in part), *Imbricatae* Killip ex Cervi, *Simplicifoliae* (Harms) Killip ex Cervi, *Lobatae* Killip ex Cervi, and *Menispermifoliae* Killip ex Cervi. Those series were not described by Killip. His key to the series suggested a strong emphasis placed on leaf shape, separating species with lobed leaves and those with unlobed leaves

into informal series. Since then the series were validated by Cervi (1997), but several species proved to be variable in leaf shape. Although the species in this group should be separated in subcategories, at this point it is premature to propose formal series.

It is in 1987 that I saw the new species, *P. davidii*, for the first time. The young plant had two stems climbing on a rope in the camp at Montagne des Nouragues in French Guiana (Feuillet 4395). Its stipules with an egg-mimic yellow swelling at the apex and the unlobed leaves with several yellow swellings on the margin set it apart from the other species of subgenus *Passiflora*. One stem had young flower buds, the other was sterile. I saw this species again twice, in French Guiana, with David Rignon on Montagnes Tortue and near Cacao, but without flower or fruit. No specimens were collected. After nearly 20 years, David collected it in bloom in February 2006, confirming it was a new species and providing enough information for a formal description.

***Passiflora davidii* Feuillet, sp. nov. (Fig. 1).** TYPE: FRENCH GUIANA: cultivated 1 km from the village of Cacao, along the road to Cayenne, 0–50 m, 52°25'W, 4°33'N, 23 Feb 2006, D. Rignon 16 (HOLOTYPE: US; ISOTYPES: CAY, P).

Passiflora davidii in subg. *Passiflora* supersect. *Stipulata* sect. *Granadillastro* pertinens. *Passiflorae actinae* Hook. affinis; stipulis cum mucronem apice inflatum differt. *Passiflorae lorentensis* Killip affinis; petiolo 6–9-glanduloso differt. Ab ambabus speciebus ovario pubescenti distincta. A speciebus guianensibus stipulis foliaceis et apice rotundato cum mucronem apice inflatum differt.

Vine, size unknown, climbing with tendrils, short-pubescent throughout except where noted; stems terete, in some places striate. Stipules foliaceous, 1.8–2 × 1 cm, half-cordate at base, rounded and short mucronate at apex, the awn or mucro 1.5–2 mm long, blunt, with the apical half to 2/3 swollen and yellow, margin entire, paler abaxially when fresh, midrib slightly to clearly excentric, but straight, other veins reticulate. Leaves: petiole 3.8–4.2 cm long, 6–9-glandular; glands sessile, swollen, orange-yellow, spread along the petiole with 2 in subapical position; blade simple, unlobed, ovate, 10 × 6.5–7 cm, widely rounded, slightly peltate at base, acute to right angled at apex, margin entire, briefly recurved, narrowly glandular with scattered yellow small swellings, glabrous adaxially, paler abaxially when fresh, venation palmate at the very base with 5–7 veins, forming a submarginal wavy vein, apical half pinnate, with 6–7 main lateral veins ascending and toward the margin also included in the formation of a submarginal vein, minor lateral and most secondary veins more or less perpendicular to the midrib, tertiary veins reticulate. Flowers axillary, one per leaf axil, pedicel 2–2.8 cm long below the bracts, stipe 5–6 mm between the bracts and the flower; bracts 3, one larger, verticillate, green, lanceolate, 2–3 × 1–1.3 cm, rounded, slightly convex even around the bud, briefly cuneate at base, acute to narrowly-rounded at apex with a short swollen mucro less than 0.01 × 0.01 cm, paler abaxially when fresh; hypanthium campanulate, about 0.3 × 0.4 cm deep, sepals white and glabrous adaxially, yellow-green abaxially in parts exposed in bud, narrowly oblong, 3 × 1.5 cm, with apical awn 1–2 mm long, petals white, narrowly oblong, 3.5 × 1–1.3 cm, glabrous, corona with micro-trichomes on the outer filaments, outer filaments spreading to cover the perianth, 2–3.5 cm long in the same flower, white in their proximal half, blue violet in their apical half, thin, numerous, in 2–3 not clearly separated rows, inner filaments 0.3–0.4 mm, white, about as thick as the previous ones, in several rows, operculum membranous, limen membranous, androgynophore 1.2 cm long, glabrous, stamens filaments 0.8–1.0 cm long, flat, green speckled with red, glabrous, anthers 0.7–0.8 × 0.25–0.30 cm, yellow, glabrous, gynophore ca. 0.1 cm long, ovary obovoid, 0.4 × 0.25–0.27 cm, styles green speckled with red, glabrous, wider toward apex, stigmas hemispherical, pale yellow, glabrous. Fruit unknown.

The description is based on the holotype that has two nodes, each with a leaf and a flower. Therefore the variation in measurement is the variation between 2 consecutive nodes. The sterile specimen (Feuillet 4395) consists in the apex of a stem actively growing, the stipules 1.5–2.5 × 0.5–1 cm are already fully developed, some are even longer than on the holotype, but the petioles 0.4–1.5 cm, and the leaf blades 4.5–7 × 2.5–4 cm, are not fully grown. The early development of the stipules, displaying the egg-mimic mucros, apparently acts as a deterrent for the females of the solitary egg-laying species of heliconiid butterflies, and protects the apical meristem from grazing by their caterpillars.

In the key by Killip (1938), *Passiflora davidii* would be close to *P. actinia*, a species from southeastern



FIG. 1. *Passiflora davidii* Feuillet. Top: Rignon 16 (photo M.-F. Prévost), Lower left: Feuillet 4395 (photo C. Feuillet).

Brazil. It can be distinguished from *P. actinia* by the short pubescence on all vegetative parts and the stipules only slightly asymmetric with a mucro that is swollen, yellow, and act as an egg-mimic. The specimen looks like *P. lorentensis* in general appearance, but can be recognized by the 6–9 glandular petiole. Contrary to *P. actinia* and *P. lorentensis*, *P. davidii* has a pubescent ovary. The flower is very similar to that of *P. retipetala*, that, in contrast with *P. davidii*, is glabrous and has stipules with a longer awn. In the Guianas, *P. davidii* can be separated from the other members of supersection *Stipulata* with the characters used in the key below.

The epithet of the new species honors David Rignon who collected the type specimen. He lives in French Guiana near the village of Cacao and is interested in passionflowers and butterflies. David and his family were great field companions in 2003, when we saw *P. davidii* without flowers near the type locality.

Other material studied. **FRENCH GUIANA:** Clairière du Camp des Nouragues, à la base de l'inselberg, Réserve Naturelle des Nouragues, 52°42'W, 4°03'N, 100–120 m, 28 Aug 1987, st., Feuillet 4395 (CAY).

KEY TO THE SPECIES OF SUPERSECTION *STIPULATA* IN THE GUIANAS & VENEZUELAN GUAYANA

1. Stipules laciniate, cleft to base, not deciduous. (sect. *Dysosmia*).
 2. Ovary and fruit glabrous.
 3. Stem glabrous; fruit red _____ ***P. foetida* var. *orinocensis*** (Killip) Feuillet
 3. Stem hispid; fruit yellow orange _____ ***P. foetida* var. *hispida*** (DC. ex Triana & Planch.) Killip
 2. Ovary and fruit indumentum scarce to dense.
 4. Stem stiffly hirsute; ovary and fruit hirsute _____ ***P. foetida* L. var. *foetida***
 4. Stem softly pilosulous.
 5. Bracts 2–3-pinnatisect, 2–3 cm long _____ ***P. foetida* var. *gossypifolia*** (Ham.) Mast.
 5. Bracts 1(–2)-pinnatisect, less than 2 cm long _____ ***P. moritziana*** Planch.
1. Stipules entire or serrulate. (sect. *Granadillastrum*).
 6. Stipules acute at apex _____ ***P. exura*** Feuillet
 6. Stipules obtuse to rounded at apex.
 7. Stipules with an apical awn or arista more than 5 mm long.
 8. Stipule awn swollen at tip _____ ***P. retipetala*** Mast.
 8. Stipule arista not swollen at tip _____ ***P. stipulata*** Aubl.
 7. Stipules with an apical arista or mucro less than 5 mm long.
 9. Leaf blade reddish beneath; bracts petiolate _____ ***P. picturata*** Ker
 9. Leaf blade pale green or glaucous beneath; bracts sessile.
 10. Leaves 3-lobed, red-glandular at margin _____ ***P. garckeii*** Mast.
 10. Leaves unlobed, margin glandular with yellow swellings _____ ***P. davidii*** Feuillet

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