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# A new species of *Satureja (Lamiaceae)* from Central Cuba

**Abstract**

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*Satureja banaoensis* is described as a species new to science and illustrated, and a key to the species of *Satureja* from the Greater Antilles is provided.

## Introduction

In the course of field work to develop the floristic inventory of the Ecological Reserve "Alturas de Banao" in the Sancti Spíritus mountains of the Guamuhaya massif, a species of *Satureja* L. was collected that differs from all the previously described ones. Having studied these plants in nature and compared them with similar taxa from the Greater Antilles, as treated by Urban (1919), Britton & Wilson (1922) and Alain (1968), we propose them as a new species.

The taxonomy of *Satureja* L. has been heavily debated. Frequently *Satureja* is considered in a wide sense, containing *Acinos* Mill., *Calamintha* Mill., *Diodeilis* Raf., *Gardoquia* Ruiz & Pav., *Micromeria* Benth., *Piloblephis* Raf. and *Clinopodium* L., according to that it would include some 235 species distributed in the entire world. However, molecular studies carried out in the last decade by Wagstaff & al. (1995) and Cantino & Wagstaff (1998) indicate that *Satureja* sensu lato is not monophyletic and they suggested therefore to segregate several genera. In accordance with this concept, *Satureja* L. in the strict sense is not represented in the New World and most of the American species, including the Antillean, are placed into *Clinopodium* L., an approach that has been accepted by Harley & Granda Paucar (2000). Since we feel that the case is not settled yet, we prefer, however, to maintain the traditional concept by Epling & Jativa (1964, 1966) and describe the new species in *Satureja*.


Fig. 1. *Satureja banaoensis* – holotype.

***Satureja banaoensis*** P. P. Herrera, I. E. Méndez & E. Bécquer, **sp. nov.**
Holotype: Cuba, province of Sancti Spíritus, "Sierra de Banao, Tetas de Juana, Pico Banao", 21°51'42.4"N, 79°35'50.7"W, 800 m, in vegetation of mountain thicket over limestone, 15.5. 2004, *Méndez, Bécquer & Abbot 10451* (HIPC; isotypes: B, FLAS, HAC, HAJB) – Fig. 1-2.

Ad *Satureja* sect. *Xenopoma* (Willd.) Briq. pertinet; ab affini *S. bucheri* differt habitu erecto 75(-100) cm circiter alto (nec subscandente bimetrali et ultra) et corolla violacea 17-20 mm longa (nec flava ad 9 mm longa).

Erect to 75(-100) cm tall, usually much branched shrub. *Twigs* quadrangular, densely covered with a pale, tomentose indumentum of radiately ramified or occasionally simple, bulbous-based hairs also found on the petioles, leaf blades and pedicels. *Leaves* evenly spaced along the distal portion of the branches; petiole 1-2 mm long; lamina ovate to elliptic, sometimes ± orbicular, 0.5-2 × 0.3-1.5 cm, obtuse to rounded or sometimes narrowed at both ends, the margins revolute mainly near the base and the apex; upper surface pubescent to glabrous; lower surface tomentose. *Flowers* solitary, axillary, sometimes located in the axils of subterminal leaves. *Pedicel* 1-5 mm long, tomentose, 2-bracteolate. *Bracteoles* concave, linear, 1-2 mm long, glabrous above, tomentose beneath. *Calyx* narrowly campanulate or cylindrical, 2-labiate, 12-13-nerved, 3-7 mm long, tomentose outside; upper lip oblong to spathulate, 3-dentate, with the central tooth longer and acute and the lateral ones acute to rounded; lower lip 2-dentate, with 3-nerved, lanceolate, acute teeth. *Corolla* violet, funnel-shaped, 2-labiate, somewhat humped near the throat, pubescent or ± tomentose; tube 5-9 mm, lobes 2-3 mm long. *Nutlets* unknown.

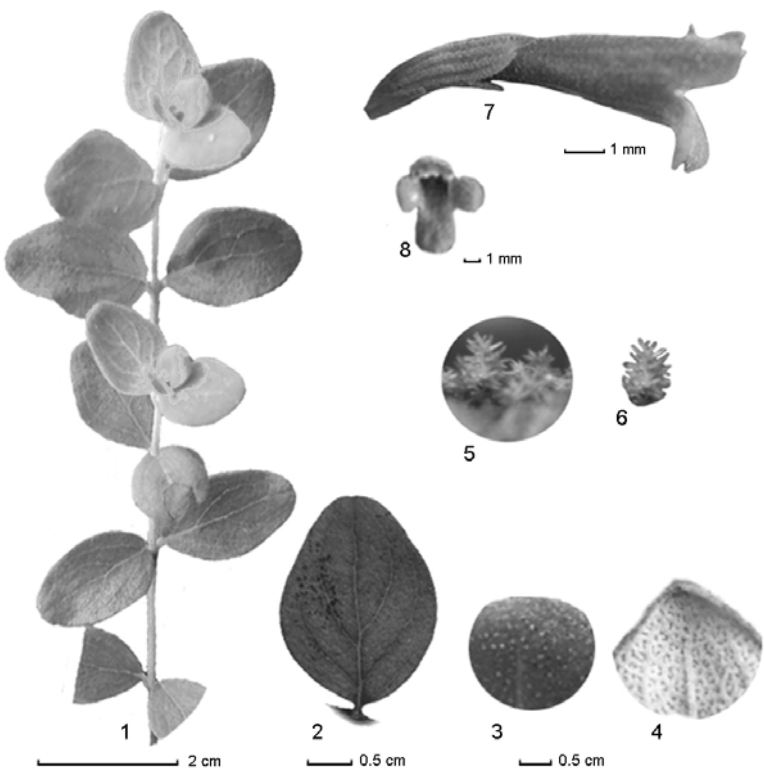


Fig. 2. *Satureja banaoensis* – 1: branch; 2: single leaf; 3: adaxial surface of leaf blade; 4: abaxial surface of leaf blade; 7: flower; 8: corolla limb, face view; 5-6: tuberculate hairs of leaves, pedicels and branches. – All from the type collection.

*Distribution and habitat.* – Endemic to Tetas de Juana (Pico Banao), the highest peak of the Sancti Spíritus mountains, Guamuhaya massif, province of Sancti Spíritus. *Satureja banaoensis* grows at 800 m of altitude in mountain thickets on limestone. Associated species include *Drejerella mirabiloides* Lindau, *Euleria tetramera* Urb., *Pentacalia acunae* Borhidi, *Gyminda latifolia* Urb., *Erythroxylum claraense* Borhidi, *Croton rectangulare* Urb., *Rhytidophyllum earlei* (Urb. & Britton) Morton and *Tetrazygia aurea* Howard & W. R. Briggs.

*Other specimens examined.* – Cuba, Province of Sancti Spíritus, Sierra of Banao, Tetas de Juana (Pico Banao), 15.3.2003, *Pipoly, Panfet & Bécquer 24802* (FTG, HAC, HAJB, HIPC).

## Discussion

The four endemic *Satureja* species found in mountain ecosystems (above 800 m) of Cuba and Hispaniola are very similar, especially in the peculiar indumentum of their branches, leaves and pedicels. They are: *S. bucheri* (P. Wils.) Urb. from Pico Turquino, E Cuba, *S. alpestris* (Urb.) Jiménez, from the Cordillera Central in the Dominican Republic, *S. ekmaniana* Epling & Alain from the Massif de la Selle in Haiti, and our new *S. banaoensis,* from Central Cuba. In spite of their obvious affinity, based on the colour and length of the corolla, the first, according to Epling & Jativa (1966), would belong to *S.* sect. *Gardoquia* (Ruiz. & Pav.) Briq. but the remaining to *S.* sect. *Xenopoma* (Willd.) Briq. The boundaries between these sections need to be reconsidered, because, as already noted by Epling & Jativa (1966), some species of *S.* sect. *Gardoquia* fit *S.* sect. *Xenopoma* except for their flower characters.

## Key to the species of *Satureja* in the Greater Antilles

1 Twigs, leaves and pedicels covered with tubercle-shaped, bulbous-based, stellate and/or branched hairs . . . . . 2
– Twigs, leaves and pedicels glabrous or ± densely covered with simple, filiform hairs . . 5
2 Leaves crowded on short brachyblasts; corolla white (Hispaniola) . . . . . 3
– Leaves evenly spaced along the distal portion of the branches; corolla yellow or violet (Cuba) . . . . . 4
3 Leaves obovate to oblong-lanceolate; margin revolute; twigs, leaves and pedicels covered with short, stellate hairs; calyx glabrous but glandular, 2 mm long; corolla pubescent, 3-4 mm long (Dominican Republic: Cordillera Central) . . *S. ekmaniana* Epling & Alain
– Leaves triangular, margin ± flat; twigs, leaves and pedicels covered with long, branched hairs; calyx pubescent, 3-3.5 mm long; corolla glabrous, 6 mm long (Haiti: Massif de la Selle) . . . . . *S. alpestris* (Urb.) Jiménez
4 Twigs, petioles and pedicels scurfy to dark brown tomentose, densely covered with lengthy, branched hairs; corolla yellow, 17-21 mm long; scrambling, up to 2(-3) m tall shrub (E Cuba: Pico Turquino) . . . . . *S. bucheri* (P. Wilson) Urb.
– Young twigs, petioles, leaf laminas and pedicels densely pale tomentose with radiately ramified or occasionally simple, bulbous-based hairs; corolla violet, 7-12 mm long; erect, up to 75(-100) cm tall shrub (Central Cuba: Pico Banao) . . . . . *S. banaoensis* P. P. Herrera, I. E. Méndez & E. Bécquer
5 Trailing herb; corolla purple with a white spot or violet with dark dots in the throat . . . . . *S. brownei* (Sw.) Briq.
– Erect shrubs; corolla white or red . . . . . 6
6 Leaf margin crenate; upper surface conspicuously bullate-reticulate; twigs covered with filiform hairs . . . . . *S. schusteri* (Urb.) Epling & Játiva
– Leaf margin entire, upper surface not conspicuously bullate-reticulate; twigs subglabrous . 7
7 Leaf blades rhombic to lanceolate; margin revolute; corolla white . . . . *S. viminea* L.
– Leaf blades ovate to rhombic; margin flat; corolla red . . . . . 8

8 Leaves 0.5-1 cm long, crowded, frequently on short brachyblasts with persistent petiole; up to 1 m tall shrubs (Haiti: Massif de la Selle). . . . . *S. domingensis* Urb. & Ekman
– Leaves 1-1.6 cm long, evenly spaced along the distal portion of the branches, never on brachyblasts; 1-2 m tall shrubs (E Cuba: Guantánamo) . . . . . *S. suborbicularis* Alain

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