

**ODONTONEMA GUAYAQUILENSE (ACANTHACEAE),  
A NEW SPECIES FROM THE DECIDUOUS  
DRY FOREST OF COASTAL ECUADOR**

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**Abstract.** *Odontonema guayaquilense*, a new species of subshrub of Acanthaceae from the remnant deciduous dry forests of Guayaquil, in coastal Ecuador, is here described and illustrated. The new species is assessed as Endangered EN B1ab(iii).

**Resumen.** Se describe e ilustra *Odontonema guayaquilense*, una nueva especie de subarbusto de Acanthaceae de los bosques secos deciduos remanentes del área de Guayaquil, en la costa de Ecuador. A esta nueva especie se asigna el estatus En Peligro, EN B1ab(iii).

**Keywords:** Acanthaceae, Ecuador, dry forest, endemic, Guayaquil, *Odontonema guayaquilense*.

During fieldwork for the forthcoming Flora of Guayaquil (X. Cornejo, in prep.), the author explored the city's vegetation remnants and found a new species of *Odontonema* Nees (Acanthaceae, a family recently monographed for Ecuador; Wasshausen, 2013). It was surprising to find such a taxonomic novelty, never before gathered, in a coastal city that has been largely visited and collected by naturalists and botanists since the XVIII century (Humboldt et al., 1821; Tafalla, 1989; Valverde et al., 1991; C. Dodson and A.H. Gentry, unpubl. manuscript). *Odontonema* is a Neotropical genus currently comprising 30 species, only two of which have been recorded for Ecuador: *Odontonema cuspidatum* (Nees) Kuntze is a native of Mexico but frequently cultivated as an ornamental in tropical gardens where, in coastal Ecuador, it is occasionally visited by hummingbirds such as *Amazilia amazilia* Lesson (1827), and *O. laxum* V. M. Baum, endemic to the southern Andes of Ecuador, is known only from the type collection gathered in Azuay (Wasshausen, 2013). In this contribution, a third species of *Odontonema*, also of ornamental potential, is formally described and illustrated.

***Odontonema guayaquilense*** X. Cornejo, *sp. nov.* TYPE: ECUADOR. Guayas: Guayaquil, ESPOL, Campus Prosperina en las faldas de Cerro Azul, secondary deciduous dry forest, 2°09'S, 79°58'W, ca. 300 m, 11 August 2016 (fl), X. Cornejo & J. F. Cornejo 8832 (Holotype: GUAY; Isotypes: NY, QCA, US). Fig. 1.

*Species nova affinis* *Odontonema coccineum* Leonard, *a qua folia elliptica* (vs. *oblongo-elliptica*), *cum base atenuata* (vs. *angusta et rotundata*), *costa pilosa* (vs. *glabra*), *corolla subactinomorpha* (vs. *2-labelada*), *et antherae glabrae* (vs. *puberulae*) *differt*.

*Subshrub* to 1.5 m tall. Stem subcylindric, somewhat flattened at apex, smooth, glabrous. *Leaves* subsessile, the blades elliptic, 15–22.5 × 5–9 cm, abundantly pilose when young, glabrescent with age, primary and secondary veins sulcate above, the blade with punctate cystoliths and pilose

on main veins beneath; 10–13 pairs of lateral veins; the base attenuate, the apex acuminate. *Inflorescence* terminal, a narrow panicle, the lateral racemes bearing 2–4 flowers, the rachis 9–23 cm long, scattered short-pilose, the hairs uniseriate, pluricellular; bracts linear-lanceolate, ca. 2.5–3 mm long, appressed-pilose, the margin entire and ciliate. *Flowers* pedicellate, the pedicels 3–4 mm long, shortly-pilose. Sepals 5, the lobes lineal-lanceolate, ca. 3 mm long, equal in length, free to base. Corolla infundibuliform, 5-lobed, red, shortly-pilose outside, the tube distantly expanded, 15–20 mm long, the limb subactinomorphic, the lobes ovate to shortly-lanceolate, the larger ones 4 × 2.5–3 mm, the margins ciliolate, papillose without. Ovary oblongoid, ca. 2 × 0.8 mm, glabrous, on a fleshy nectary. Style, ca. 20 mm long, barely exceeding the corolla. Stamens 2, adnate to corolla, the free part ca. 5 mm long, the anthers oblong, ca. 2 mm long. *Fruit* capsule, ca. 18 mm long, narrow at base, swollen at distal third, the apex acuminate.

**Etymology:** The epithet of this taxonomic novelty refers to the city of Guayaquil, from where the new species is known to occur as an endemic.

**Habitat and distribution:** *Odontonema guayaquilense* is known only from the type collection. The habitat is a secondary deciduous dry forest located at the campus Prosperina, a private property owned by the Escuela Superior Politécnica del Litoral (ESPOL), that is located on the slopes of Cerro Azul at the outskirts of Guayaquil. Cerro Azul is part of the southern tip of the cordillera Chongón-Colonche, an isolated coastal mountain range west from the Andes (Bonifaz & Cornejo, 2004).

**Conservation status:** At present, the native vegetation of the area where *Odontonema guayaquilense* occurs is apparently conserved. However, as fires of anthropogenic origin and urban pressure on the small forest remnants in Guayaquil are the main threats, the preliminary status of Endangered EN B1ab(iii) (IUCN, 2012), is assigned to this species.

The author is grateful to Dieter C. Wasshausen for his useful comments on *Odontonema* and to an anonymous reviewer for his constructive suggestions.

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FIGURE 1. *Odontonema guayaquilense*. **A**, terminal branch bearing leaves and inflorescence (fresh); **B**, terminal branch bearing leaves and inflorescence (dry); **C**, raceme bearing flowers (fresh); **D**, raceme bearing flowers and a mature open fruit (dry); **E**, detached and longitudinally sectioned corolla displaying two stamens, flower buds, calyx with a superior ovary, an elongate style, and a fruit; **F**, terminal branch with decussate leaf blades of attenuate bases. Based on the holotype.

Based on leaf size, the structure and size of inflorescences, and floral size, *Odontonema guayaquilense* resembles *O. coccineum* Leonard from Colombia, in the departments of Antioquia and Santander, but the new species mainly differs from the later by the elliptic (vs. oblong-elliptic) leaf shape, the bases strictly attenuate (versus narrowed to rounded), main leaf vein pilose (vs. glabrous) beneath, corolla subactinomorphic (vs. 2-lipped), and lateral surface of anthers glabrous (vs. puberulous). *Odontonema guayaquilense* also may resemble *O. auriculatum* (Rose) T.

F. Daniel from western Mexico, in the states of Guerrero, Michoacan, Colima and Nayarit, but the former species mainly differs from the later by the terminal branches subcylindric and somewhat flattened at apex (vs. sharply quadrangular), larger leaf shape 15–22.5 cm long (vs. 8–15 cm long), the leaf base strictly attenuate (vs. attenuate and often somewhat auriculate), the main veins pilose (vs. glabrous) beneath, and the corolla subactinomorphic (vs. 2-lipped). Table 1 presents the differences between these three species.

TABLE 1. Comparison of *Odontomema guayaquilense* Cornejo with similar species.

	<i>O. GUAYAQUILENSE</i>	<i>O. COCCINEUM</i>	<i>O. AURICULATUM</i>
Branches	subcylindric, somewhat flattened at apex	subquadrangular	sharply quadrangular
Leaf shape and length	elliptic, 15–22.5 cm long	oblong-elliptic, to 24 cm long	ovate-elliptic to obovate-elliptic, 8–15 cm long
Leaf base	strictly attenuate	narrowed to rounded	attenuate and often somewhat auriculate
Leaf blades beneath	pilose on main veins	glabrous	glabrous
Corolla	subactinomorphic	2-lipped	2-lipped
Stamens insertion	at base of the corolla tube		at top of the corolla tube
Anthers, lateral surface	glabrous	puberulous	unknown
Fruit	ca. 18 mm long	ca. 25 mm long	ca. 25 mm long
Distribution	deciduous dry forests of coastal Ecuador (Guayas)	Colombia (Antioquia, Santander)	Mexico (Guerrero, Michoacan, Colima and Nayarit)

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