

Genera and species of the subtribe *Spiranthinae* (Orchidaceae). 3. Contribution to the revision of *Buchtienia*

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ABSTRACT: *Buchtienia* Schlecht. is characterized by broadly opened flowers, 3-lobed lip with thickened margins at base, erect gynostemium, reduced column foot, short rostellum with apical viscidium, small membranaceous, finger-like rostellum remnant and ovate anther protruding above the rostellum apex. Two species, *B. ecuadorensis* Garay and *B. rosea* Garay, are reduced to the variety rank within the only species of the genus *B. boliviensis* Schlecht. as *B. boliviensis* var. *ecuadorensis* (Garay) Szlach., *stat. et comb. nov.* and *B. boliviensis* var. *rosea* (Garay) Szlach., *stat. et comb. nov.*, respectively.

KEY WORDS: Angiospermae, Orchidaceae, *Spiranthinae*, *Buchtienia*, taxonomy, South America

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INTRODUCTION

The monotypic genus *Buchtienia* was established by Schlechter in 1929 to accommodate *B. boliviensis* Schlecht. which was described on the basis of specimens collected in Bolivia by Otto Buchtien. Almost 30 years later its further localities were noted from Peru (Schweinfurth 1958) and in the 1970s – from Ecuador (Garay 1978). Basing on these collections, taken after the death of Schlechter, Garay described two new species – *Buchtienia ecuadorensis* Garay and *B. rosea* Garay – from Ecuador and from Peru, respectively. In my opinion, the differences between these species are not justify them being given so high taxonomic rank (cf. Figs 2–4).

The lip form of *Buchtienia* is similar to that in certain species of the genus *Skeptrostachys* Garay, whereas both the flower and gynostemium structure distinguish the genus substantially from other representatives of the *Spiranthinae*. The flowers are widely opened, the segments of the perianth are arcuately bent outwards, and the lip is decidedly shorter than the sepals. The gynostemium morphology in *Buchtienia* is especially interesting. At first sight it appears similar to certain European species of *Epipactis* Zinn. (Fig. 1). The column foot is greatly reduced and adheres to the ovary. Near the stigma area the column is dorsiventrally expanded and flattened. The staminodes are wing-form

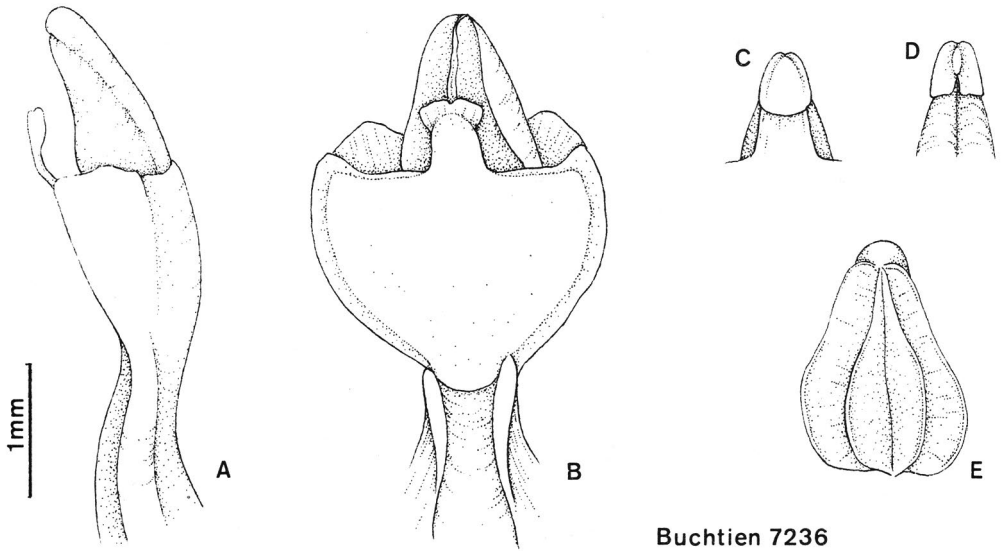


Fig. 1. Gynostemium of *Buchtienia* Schlecht.: a: side view; b: bottom view, rostellum with viscidium removed; c: rostellum with viscidium, bottom view; d: viscidium and basal part of pollinarium, dorsal view; e: anther (drawn from isotype of *B. boliviensis* Schlecht. – US).

and rather short, whereas the rostellum is small and digitate. The oval viscidium hangs from the lower surface of the rostellum. The rostellum remnant is very thin, membranous and truncated. The whole differs distinctly from other genera of the Spiranthinae. The *Buchtienia* seems to be an isolated genus in the subtribe and it is difficult to indicate the taxon most closely related.

***Buchtienia* Schlecht.**, *Repert. Spec. Nov. Reg. Veg.* **27**: 33. 1929. Type: *Buchtienia boliviensis* Schlecht.

Leaves basal, long-petiolate. Cauline and floral bracts herbaceous. Inflorescence very long, multi-flowered, lax. Flowers medium, resupinate, erect, opened. Lip sessile, with thickened edges in basal part, 3-lobed. Gynostemium erect, column foot reduced (Fig. 1). Clinandrium wing-shaped. Rostellum small, finger-like. Viscidium apical, oval. Rostellum remnant finger-like, membraneous in apical part. Anther ovate.

***Buchtienia boliviensis* Schlecht.**

(Figs 1–4)

Repert. Spec. Nov. Reg. Veg. **27**: 34. 1929. – Type: Bolivia. Tipuani Valley, Hacienda Casana, 26 Sep 1922, *Buchtien 7236* (Holotype: B†, isotypes: US!, G! – Fig. 2).

Roots about 150 mm long, 5 mm in diameter, clustered, fleshy. Stem 960–1180 mm tall, 10 mm in diameter at base, 5 mm in diameter under inflorescence, stout, erect, glabrous or in upper part glandular. Cauline bracts 10–11, shorter or longer than internodes, herbaceous. Leaves 2–5, basal, petiolate; petiole – about 120–260 mm long, winged; blade – 150–250 mm long, 65–100 mm wide, broad oblanceolate to lanceolate, ovate to elliptic, acute. Inflorescence 380–500 mm long, multiflowered, lax. Flowers medium-sized, erect, opened, green to rose. Floral bracts 11–29 mm long, lanceolate, acute, 1-nerved, herbaceous, sparsely glandular in basal part. Pedicel 1–2 mm long, twisted, glabrous. Ovary

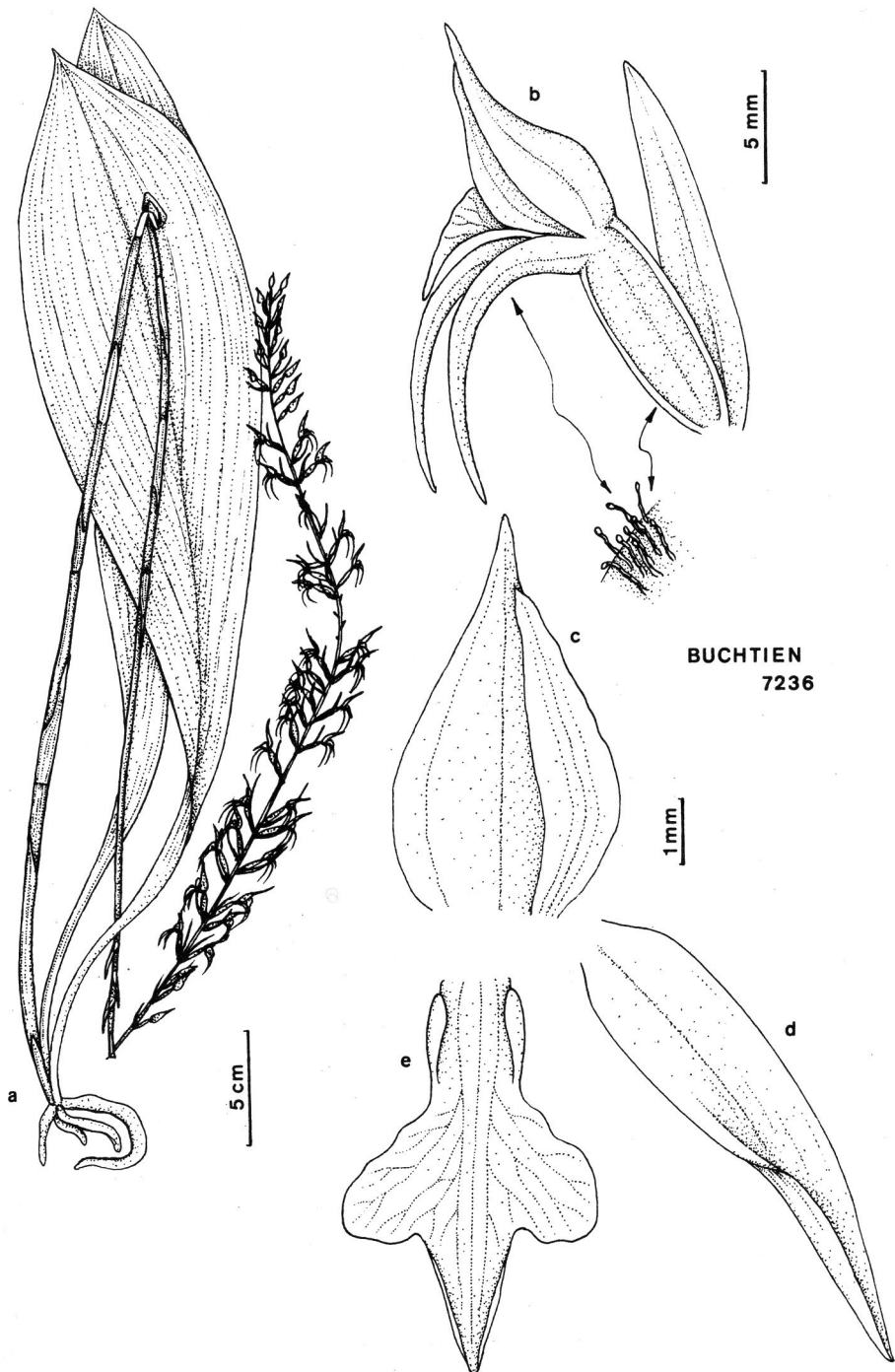


Fig. 2. *Buchtienia boliviensis* Schlecht.: a: habit; b: flower; c: galea; d: lateral sepal; e: lip (drawn from isotype – US).

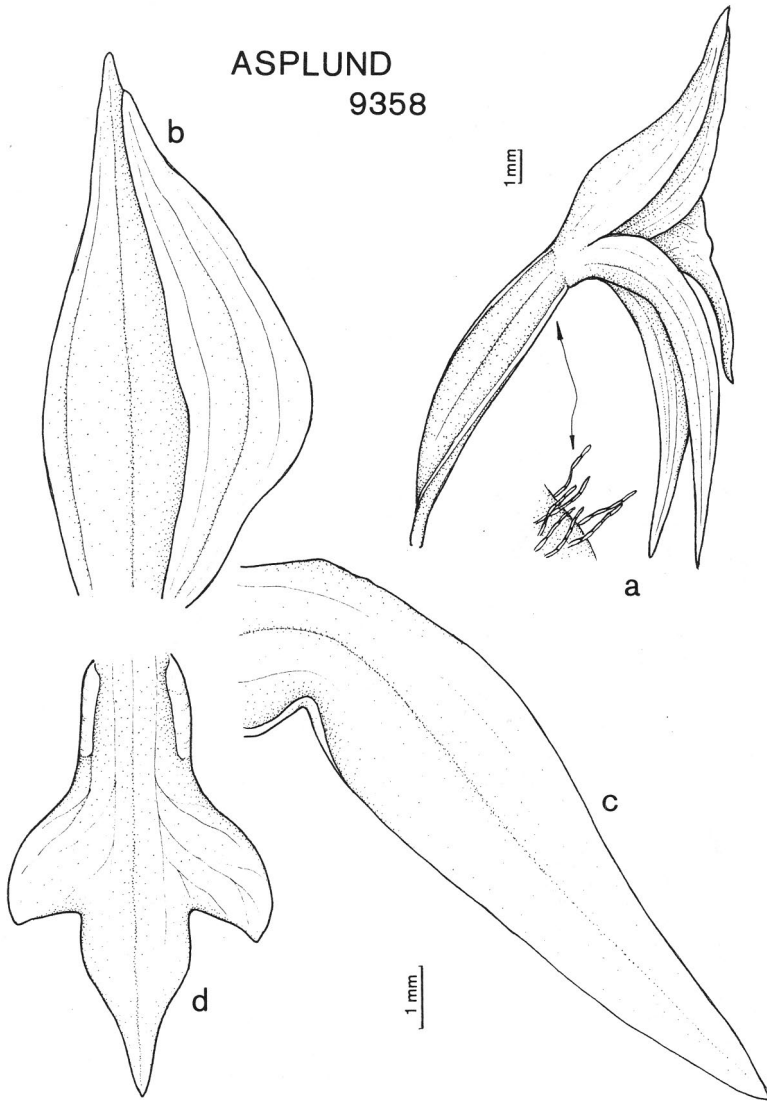


Fig. 3. *Buchtienia boliviensis* var. *ecuadorensis* (Garay) Szlach.: a: flower; b: galea; c: lateral sepal; d: lip (drawn from holotype – S).

6–10 mm long, cylindrical, erect, glandular. Lip nearly sessile, 4.8–7.7 mm long, 3.3–5 mm wide, 3-lobed, in basal part with thickened margins, side lobes 1.1–1.5 mm long, oval, rounded, middle lobe 1.8–2.1 mm long, triangular, acute. Dorsal sepal 7–10 mm long, 2.5 mm wide, ovate-lanceolate, acute, 3-nerved, densely glandular in basal part and glabrous. Lateral sepals 9.5–12.0 mm long, 2.0–2.5 mm wide, lanceolate-falcate, acute, 1-nerved, glandular in basal part. Petals 6.0–9.5 mm long, 1.4–2.5 mm wide, falcate-lanceolate, acute, 3-nerved. Gynostemium 4.0–4.5 mm long. Rostellum 1 mm long, rostellum remnant 0.5 mm long. Viscidium about 1 mm long. Anther 1.6 mm long.

Variability – The species contains three varieties of minor taxonomic value.

var. *boliviensis*

(Fig. 2)

Flowers green. Upper part of stem glandular. Side lobes of lip rounded, distinctly shorter than acute, middle one.

var. *ecuadorensis* (Garay) Szlach., *stat. et comb. nov.*

(Fig. 3)

Basionym: *Buchtienia ecuadorensis* Garay, Fl. Ecuador **9**. 225(1): 234–236. 1978. – Type: Ecuador, Prov. Napo–Pastaza, between Tena and Napo, 16 Oct 1939, *Asplund 9358* (Holotype: S!).

Flowers green. Whole stem glabrous. Lip side lobes ovate-triangular, assymetric, acute, distinctly shorter than acute, middle one.

var. *rosea* (Garay) Szlach., *stat. et comb. nov.*

(Fig. 4)

Basionym: *Buchtienia rosea* Garay, Bot. Mus. Leafl. Harv. Univ. **26**(1): 23. 1978. – Type: Peru, Dept. Cuzco, Prov. Paucartambo, between Mistiana and Keros, 27 Jul 1948, *C. Vargas C. 7381* (Holotype: AMES!).

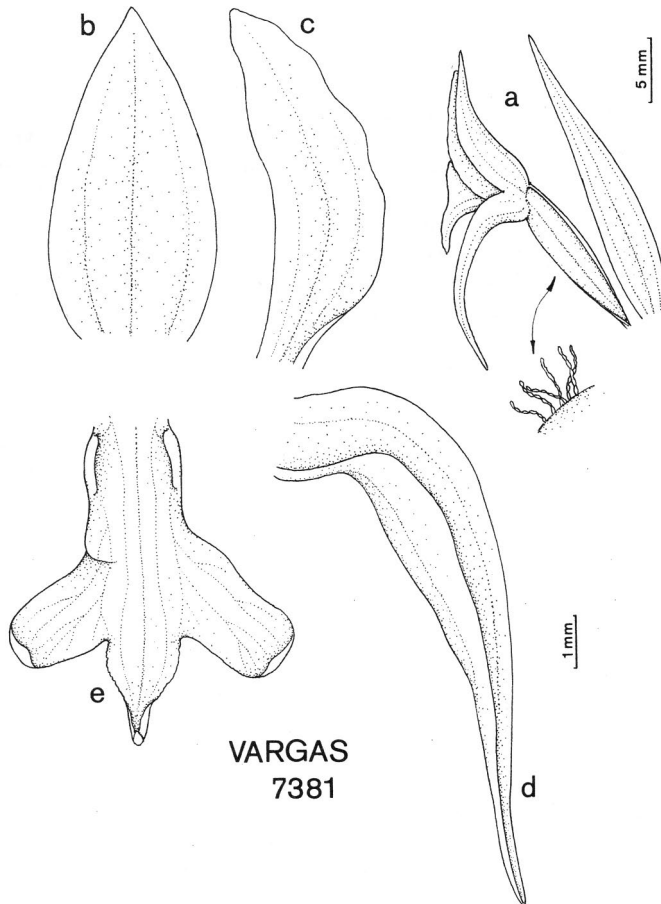


Fig. 4. *Buchtienia boliviensis* var. *rosea* (Garay) Szlach.: a: flower; b: dorsal sepal; c: petal; d: lateral sepal; e: lip (drawn from holotype – AMES).

Flowers rose. Upper part of stem glandular. Side lobes oblong-elliptic, obtuse, shorter than acute, middle lobe. All lobes hooded at apices.

Ecology – Terrestrial, in dense shady forest. Flowering time VII–X.

Distribution – Bolivia, Peru and Ecuador. Altitude 700 m.

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STRESZCZENIE

Rodzaj *Buchtienia* został opisany przez Schlechtera w 1929 roku jako monotypowy takson z jednym tylko gatunkiem *B. boliviensis* Schlecht. Charakteryzuje się szeroko otwartymi kwiatami, co w podplemieniu *Spiranthinae* jest rzeczą wyjątkową, wyraźnie 3-łatkową warzką o silnie zgrubiałych krawędziach oraz specyficzną budową prętosłupa. Przypomina on raczej gatunki rodzaju *Epipactis* niż innych przedstawicieli *Spiranthinae*: stopa kolumny jest krótka, silnie zredukowana, rostellum niewielkie, palczaste ze szczytowym uczepekciem, rostellum po jego usunięciu jest cienkie, błoniaste. Badania okazów typowych *B. rosea* Garay i *B. ecuadorensis* Garay wykazały, iż brak jest morfologicznych przesłanek do nadawania im statusu gatunków, wobec czego obniżono ich rangę do odmian w obrębie *B. boliviensis* Schlecht.