

The genus *Stenotyla*,

FRANCO PUPULIN outlines this epiphytic genus, and also describes and

THE GENUS *STENOTYLA* was proposed by Dressler in 2005 for a small group of species with pseudobulbs concealed in the leafy sheaths (Whitten *et al.* 2005), and it is typified with *Chondrorhyncha lendyana*. The generic name, derived from the Greek words *stenos*, narrow, and *tylo*, callus, alludes to the very narrow, 2–4-toothed callus in most species of the group (although the callus of *S. picta* is partly ridged and somewhat atypical). The five named species referable to *Stenotyla* were previously assigned to *Chondrorhyncha* and *Warczewiczella*, but do not fit either group well. Vegetatively, *Stenotyla*

Stenotyla lendyana. This was a confiscated plant, originally collected in Guatemala and growing at Lankester Botanic Garden (Pupulin 6417)

Photograph by Franco Pupulin



and a new species

illustrates a new species from Panama, *Stenotyla panamensis*

resembles *Chondrorhyncha*, but with small, hidden pseudobulbs, and differs from other *Zygopetalinae* in the *Huntleya* clade by the narrow basal callus and the chin at the base of the lip.

Stenotyla species are epiphytes of shady places in premontane to submontane, evergreen, wet forests and cloud forest at elevations of 1,100–2,100m, ranging from southern Mexico to western Panama. Flowering mostly occurs from May to October, roughly corresponding to the rainy season in the Mesoamerican region, but once the new shoot matures, flowers may be produced at any time of year.

The pollinators of *Stenotyla* are unknown, but the shape of the pollinarium, with its stipe and viscidium that curl immediately after removal (pers. observ.) suggest that the species of this group are pollinated by euglossine bees in a way similar to *Kefersteinia*. For a full genus description see *The Orchid Review* website xxxxxx xxx xxx xxxxxxxxxxxxxx. Here, I will provide descriptions of the species only.

1 *Stenotyla helleri* (Fowlie)

P.A. Harding *Huntleyas & related orchids*: 232 (2008). Basionym: *Chondrorhyncha helleri* Fowlie, *Orch. Dig.* 35: 170 (1971). Type: Nicaragua, Jinotega, Mt. Kilambe, hill East Santa Maria de Ostuma, 4,600ft, April 1966, *A.H. Heller 10097* (holotype, UCLA, not seen).

Description

Plant to c.30cm tall. **Pseudobulbs** rudimentary, 1.2 x 7mm, apically provided with a vestigial leaflet and

enclosed by 5–7 conduplicate sheaths with hyaline margins, the upper ones foliaceous. **Leaves** oblanceolate, acuminate, to 30 x 4cm, narrowing at the base into a conduplicate petiole to 7cm long. **Inflorescences** 1–4, each with a slender, erect, solitary flower; peduncle terete, slender, to 15cm long, with 1–2 lanceolate, sheathing, acute bracts to 10mm long. **Floral bracts** in pairs, membranaceous, the outer one ovate, cucullate, acute, 10 x 7mm, the inner one linear, acuminate, 8 x 3mm. **Ovary** cylindric-subclavate, 2.5 cm long including the pedicel, strongly winged. **Flowers** large, with sepals and petals creamy-yellow, the lip cream, pale brown in the throat, with 9–11 reddish-brown radiating lines and red-brown dots, the callus yellow-brown finely dotted and flushed red-brown, the column striped dark violet. **Dorsal sepal** lanceolate, acute to subacuminate, concave at the base, slightly reclinate over the column, 20 x 7mm. **Lateral sepals** narrowly elliptic-lanceolate, acute to subacuminate, concave, deflexed-recurved, appearing falcate in natural position, the inner basal margin inrolled, 25 x 7mm. **Petals** obliquely narrowly elliptic-oblanceolate, obtuse-retuse, distal margins slightly undulate, 22 x 11mm. **Lip** with a very short cuneate claw, broadly elliptic-obovate, distally obscurely 3-lobed, obtuse-rounded, 23 x 19mm, basal margins clasping the column, apex spreading, gently reflexed, with undulate margins; callus sub-basal, a flat, short, laminar plate, 2-toothed at apex, shallowly sulcate between teeth. **Column**



The flower of *Stenotyla helleri*, from the plant that served as the holotype

semi-terete from a narrow base, slightly arched, 10mm long, 4mm wide above the middle, with a foot c.5mm long, the rostellum with 3 teeth, the central one longer. **Anther cap** cucullate, ovate, compressed, obtuse at apex, 2-celled. **Pollinia** 4, oblong, in 2 unequal pairs, on a shield-shaped viscidium, stipe indistinct.

Etymology: Named in honour of Alfonso H Heller (1894–1973), prominent student of the orchid flora of Nicaragua, who discovered the species.

Distribution: Known only from Nicaragua.

Habitat and ecology: Epiphytic in premontane and lower montane wet forests and cloud forest, growing in the under-canopy of large mossy trees at (200–) 1,100–1,400m altitude.

Flowering: occurs at least from February to May.

Observations on *S. helleri*

In 2001, I reduced the Nicaraguan *Chondrorhyncha helleri* to synonymy with the Costa Rican *C. estrellensis*, which had nomenclatural priority



From Pupulin 2005, reproduced with permission of the Director, Costa Rica University Press

Stenotyla lankesteriana, flowers of a plant originally collected near Orosi, in central Costa Rica (Pupulin 3105)

(Pupulin 2001). But at that stage I had seen only a digital image of the holotype of *C. estrellensis*, kindly sent to me by Romero (AMES) and I was mistaken. Now that I have seen more material, I believe that the name *Chondrorhyncha estrellensis* should be reduced to synonymy under *Stenotyla picta* (see [5](#)).

Plants of *C. belleri* are generally larger than any other *Stenotyla*, and the broad, chestnut brown stripes on the lip are distinct in the group. Harding (2008) transferred it to *Stenotyla*, distinguishing it by the four apical teeth of equal length on the callus, and the colour of the lip.

2 *Stenotyla lankesteriana* (Pupulin) Dressler *Lankesteriana* 5: 96 (2005). Basionym: *Chondrorhyncha lankesteriana* Pupulin, *Lindleyana* 15: 21 (2000). Type: Costa Rica. Without definite locality, a confiscated plant flowered in cultivation at Lankester Botanic Garden at Paraíso de Cartago, 1,400m, 19 May 1999, *F. Pupulin 1467* (holotype USJ!; isotype SEL-spirit!).

Description

Plant to 20cm tall. **Pseudobulb** ovoid, complanate, completely hidden by the leaf sheaths, apically provided with a rudimentary leaf and enclosed by 5-9 distichous sheaths, the upper ones foliaceous. **Leaves** subcoriaceous, oblanceolate to linear-lanceolate, acute, with slightly undulate margins, 7–20 × 1–1.3 cm, contracting at the base into a conduplicate petiole to 2.8 cm long. **Inflorescences** 1-2 per shoot, erect, single-flowered, lateral, produced from the base of the stem and arising from the axil of basal cataphylls; peduncle terete, stout, 3.2–4.2cm long, provided with a funnel-shaped, broadly ovate, acute bract 7mm long. **Floral bract** conspicuous, funnel-shaped, acute to acuminate, 7mm long. **Ovary** clavate, arcuate, with low, undulate wings, 1.2cm long including the pedicel. **Flowers** spreading, white, the lip blotched adaxially with dark purple at the base, this slightly visible without. **Dorsal sepal** narrowly elliptic to lanceolate, acute, concave, dorsally carinate, 24 × 8mm. **Lateral sepals** linear-elliptic,

subfalcate, acute, connate with the base of the column foot, strongly concave, subgeniculate at the middle, the basal margins convolute, apically strongly divergent, 26 × 8mm. **Petals** elliptic-lanceolate, acute to obscurely apiculate, with revolute apex, 22 × 9mm. **Lip** entire, tubular, elliptic when spread, truncate, with a short apicule, obscurely cordate at the base, the apical margins slightly undulate-creased, the basal lobes erect, clasping the column, 27 × 18mm; the base of the disc with a low, deltoid, truncate, laminar callus 4-toothed at apex.

Column straight, semiterete, widening toward the stigma, with a short foot, 12mm long. **Anther cap** cucullate, obovate-complanate, 4-celled. **Pollinia** 4, narrowly obovate, in two pairs of different size, on a short, obdeltoid stipe scarcely distinct from the hyaline, shield-shaped viscidium.

Etymology: named for Lankester Botanic Garden at the University of Costa Rica, where the species is maintained in cultivation.

Distribution: Costa Rica and Panama.

Habitat and ecology: Epiphytic in



A comparison between the flowers of *Stenotyla lendyana* (3) and *S. panamensis* (4).
3 = Pupulin 6417 (JBL-Spirit),
4 = Pupulin 5868 (JBL-Spirit)

premontane wet to cloud forest, often near water courses, at 1,100–1,400m. **Flowering:** occurs at the end of the dry season, from March to May.

Observations on *S. lankesteriana*

The species is apparently restricted to the Caribbean watershed of the Talamanca mountain range, from central Costa Rica to the region of Bocas del Toro in Panama (RL Dressler, pers. comm.). *Stenotyla lankesteriana* is closely related to *S. helleri* and *S. lendyana*, with which it shares a similar low, laminar callus. However in *S. lankesteriana* the tubular lip is not spreading apically,

it has a large, red-purple blotch at the base and a 4-toothed callus. **3 *Stenotyla lendyana* (Lindl.) Dressler** *Lankesteriana* 5: 96 (2005). Basionym: *Chondrorhyncha lendyana* Rchb.f., *Gard. Chron.*, n.s. 26: 103 (1886). Type: Without locality, cultivated by AC Lendy s.n. (holotype, W-R!).

Description
Plant to 20cm tall. **Pseudobulb** ovoid, complanate, completely hidden by the leaf sheaths, 8 x 5mm, apically provided with a rudimentary leaf and enclosed by 5-7 distichous

sheaths, the margins sometimes hyaline-scarious, the upper ones foliaceous. **Leaves** oblanceolate, abruptly acute to subacuminate, 8–20 x 1.5–3.2cm, contracting at the base into a conduplicate petiole to 3cm long. **Inflorescences** 1-3 per shoot, suberect to gently arching, single-flowered, lateral, produced from the base of the stem and arising from the axil of basal cataphylls; peduncle terete, stout, 6–15cm long, provided with 2-3 infundibuliform, clasping to loose, narrowly lanceolate to ovate, acute bracts, to 14mm long. **Floral bract** double, the external one conspicuous, ovate-infundibuliform,

KEY TO THE SPECIES OF <i>STENOTYLA</i>		
1a	Lip with chestnut-brown or purple radiating lines	2
1b	Lip without stripes	3
2a	Callus of the lip raised over the disc, fleshy, obscurely grooved, apically 4-toothed (sometimes with other short lateral teeth)	<i>S. picta</i>
2b	Callus of the lip flat, laminar, 2-toothed	<i>S. helleri</i>
3a	Base of the lip with a red-purple blotch; callus 4-toothed	<i>S. lankesteriana</i>
3b	Base of the lip with a yellow blotch; callus 2-toothed	4
4a	Lip broadly obovate, entire, emarginate; petals subrhombic, retuse-bilobed; basal callus yellow; column spotted with purple at the base	<i>S. lendyana</i>
4b	Lip narrowly ovate, obscurely 3-lobed, obtuse-to subacute; petals oblanceolate, subacute; basal callus suffused and striped with red; column unspotted	<i>S. panamensis</i>

acute, 13 x 8mm, the internal bractlet smaller, narrowly lanceolate, acuminate, 10 x 2mm. **Ovary** clavate, arcuate-geniculate, provided with conspicuous, undulate wings, 15–18mm long including the pedicel. **Flowers** not completely spreading, white to cream, the lip with a large yellow blotch at the base. **Dorsal sepal** narrowly elliptic, obtuse to acute, minutely apiculate, concave, dorsally keeled, reclined over the column 19–26 x 9–11mm. **Lateral sepals** narrowly lanceolate-elliptic, acute, minutely apiculate, 20–28 x 5–8mm, connate with the base of the column foot, concave, deflexed, subgeniculate at the middle appearing subfalcate in natural position, the inner basal margin convolute-inrolled. **Petals** elliptic-oblongate, rounded to truncate or slightly emarginate, with revolute apex, 20–25 x 11–15mm. **Lip** entire, tubular, suborbicular-obovate when spread, retuse, the apical margins undulate-cripsed, the basal lobes erect, clasping the column, 24–27 x 23–27mm; the disc provided with a laminar, flat, triangular callus, 2-toothed at apex. **Column** gently arcuate, semiterete, slightly widening around the stigma, with a short foot, 12–13mm long. **Anther cap** cucullate, ovate, complanate-flattened, 2-celled. **Pollinia** 4, narrowly obovate, in two pairs of different size, on a short, rectangular stipe scarcely distinct from the hyaline, shield-shaped viscidium.

Etymology: named in honour of AC Lendy, who grew the species and provided the material for the original description.

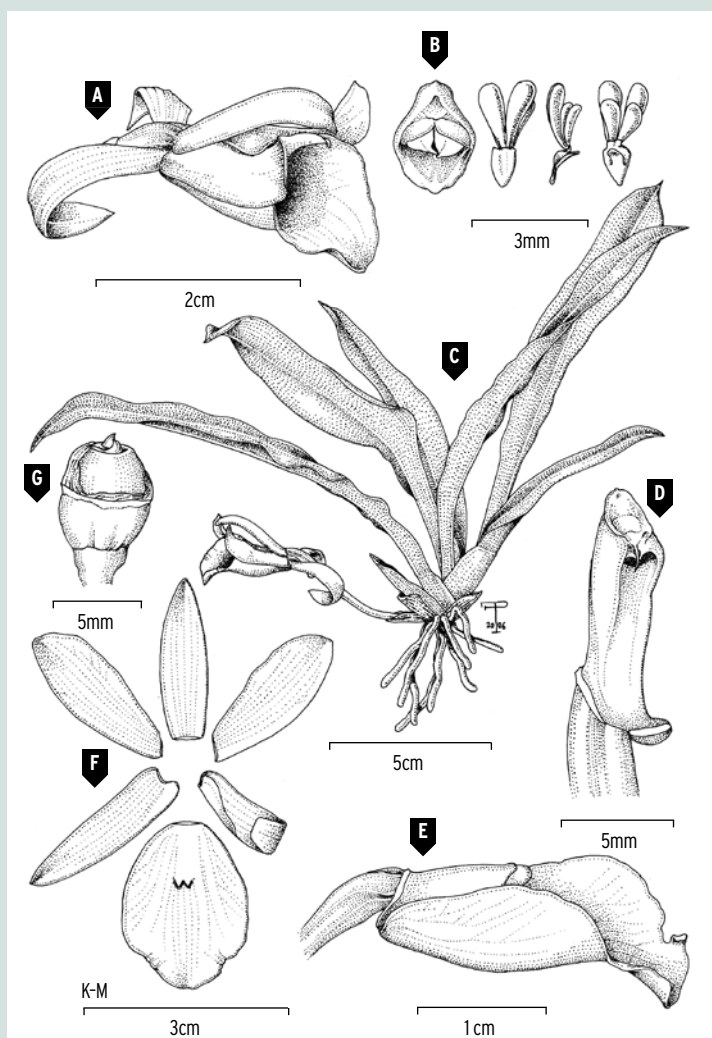
Distribution: Mexico, Guatemala, El Salvador.

Habitat: unknown

Observations on *S. lendyana*

Stenotyla lendyana is easily distinguished from other members of the genus by the white flowers with yellow throats,

STENOTYLA PANAMENSIS PUPULIN



A Flower **B** Anther cap, pollinarium (three views) **C** Habit **D** Column **E** Column and lip, lateral view
F Dissected perianth **G** Pseudobulb and apical leaf Drawn from the holotype by Franco Pupulin

borne on suberect inflorescences, the geniculate ovary, and the suborbicular, retuse lip. The only record of *S. lendyana* from Nicaragua (Hamer 1982) was based on Neill 1850, but examination of this specimen at HNPN proved it must be assigned to *S. helleri*.

4 *Stenotyla panamensis*

Pupulin, sp. nov. Species *Stenotylae lendyanae* (Lindl.) Dressler similis,

sepalis petalisque distincte angustioribus (ratio longitudo : magnitudo <1:3 vs. >1:2.5), labello obscure trilobato (vs. integerrimo) obtuso-subacuto (vs. emarginato) angustiore, callo basali scarlatino notato (vs. flavo concolori) recedit. Type: Panama. Without exact provenance, cultivated in San Vito de Java, Costa Rica, by W. Chacón at Happy Garden

The frontal view of the flower of *Stenotyla panamensis* (Pupulin 5867) showing the red markings in the throat



Franco Pupulin

greenhouses, flowered on October 27, 2005, *F. Pupulin 5867* (holotype PMA; isotype Lankester Botanic Garden, spirit).

Description

Plant to 20cm tall. **Pseudobulb** ovoid, complanate, completely hidden by the leaf sheaths, 9 x 6mm, apically provided with a rudimentary leaf and enclosed by 4-6 distichous sheaths, the margins sometimes hyaline, the upper ones foliaceous. **Leaves** elliptic-ob lanceolate, abruptly subacuminate, 7-17 x 2.5-3cm, contracting at the base into a conduplicate petiole to 1cm long. **Inflorescences** 1-2 per shoot, lateral, suberect to arching, single-flowered, produced from the base of the stem and arising from the axil of lower cataphylls; peduncle terete, stout, 5-7.5cm long, with 2 basal, triangular bracts and an infundibuliform, clasping, lanceolate, acute bract to 7mm long in the basal half. **Floral bract** double, the external one conspicuous, ovate-infundibuliform, acute, 8 x 6mm, the internal bractlet smaller, narrowly lanceolate, acuminate, 7 x 2mm. **Ovary** clavate, arcuate-geniculate, with

conspicuous, undulate wings, c.10mm long including pedicel. **Flowers** not completely spreading, white to cream, the lip with a large, lemon yellow blotch at the base, the callus flushed and striped with red. **Dorsal sepal** narrowly elliptic, acute, concave, reclined over the column, 21-23 x 5-6mm. **Lateral sepals** narrowly lanceolate-elliptic to ligulate, acute, 29-35 x 5-6mm, connate with the base of the column foot, concave, deflexed, arched at the middle appearing sub-falcate in natural position, the inner basal margin convolute-inrolled.

Petals narrowly elliptic-ob lanceolate, subacute, 20-24 x 8-9mm. **Lip** obscurely 3-lobed, tubular, obovate when spread, obtuse to subacute, the apical margins slightly undulate, the basal lobes erect, clasping the column, 25 x 18-20mm, with a laminar, flat, triangular, 2-toothed callus toward the middle of the lamina. **Column** straight, semiterete, with a short foot, 11mm long. **Anther cap** cucullate, obovate, complanate-flattened, 2-celled. **Pollinia** 4, narrowly obovate, in two pairs of different size, on a short, transversely rectangular stipe

scarcely distinct from the hyaline, shield-shaped viscidium.

Etymology: Named for the country of origin.

Distribution: Known only from Panama.

Flowering: In cultivation, flowers in September and October.

Paratypes: Panama. Without exact provenance, cultivated in San Vito de Java, Costa Rica, by W. Chacón at Happy Garden greenhouses, flowered in cultivation at Lankester Botanic Garden, *F. Pupulin 5868* (JBL-spirit); same source, flowered in cultivation at Lankester Botanic Garden, *F. Pupulin 5869* (JBL-spirit).

Observations on *S. panamensis*

Stenotyla panamensis is closely related to the northern *S. lendyana*. However, *S. panamensis* has flowers distinctly smaller than those of *S. lendyana* (see above left), with narrower tepals (ratio length : width of sepals and petals <1:3 vs. >1:2.5), an obscurely 3-lobed, obtuse to subacute lip (vs. entire, emarginate), and the basal callus flushed and striped with red

(vs. concolorous yellow). This is probably the species treated and depicted by Senghas & Gerlach (1993: 1628–1629) as *Chondrorhyncha caloglossa* from Costa Rica and Panama.

5 *Stenotyla picta* (Rchb.f.)

Dressler *Lankesteriana* 5: 96 (2005).
 Basionym: *Warczewiczella picta* Rchb.f.,
Gard. Chron., n.s., 20: 8 (1883).
 Synonyms: *Zygopetalum pictum* Rchb.f.;
Chondrorhyncha picta (Rchb.f.) Senghas;
Chondrorhyncha estrellensis Ames;
Stenotyla estrellensis (Ames) PA Harding;
Warczewiczella caloglossa Schltr.;
Chondrorhyncha caloglossa (Schltr.)
 P.H. Allen.

Description

Plant to 30cm tall. **Pseudobulb** ovoid, complanate, hidden by the leaf sheaths, provided at apex with a rudimentary leaf and enclosed by 5–9 distichous sheaths, the upper ones foliaceous.

Leaves oblanceolate to linear-lanceolate, attenuate, obscurely ribbed abaxially, 15–30 × 1–2.5cm, contracting at the base into a conduplicate petiole c.2cm long. **Inflorescences** 1–2, each

erect, single-flowered, lateral, produced from the base of the stem and arising from the axil of basal cataphylls; peduncle terete, stout, 7–10cm long, with an ovate, acute, infundibuliform bract, 6–8mm long. **Floral bract** double, the external one lanceolate, acute, 8–10 × 5–6mm, the internal bractlet narrowly lanceolate, acuminate, 13–16 × 3–4mm. **Ovary** clavate, arcuate, provided with high wings, 2cm long including the pedicel. **Flowers** not completely spreading, cream to pale yellow, the lip pale yellow, finely striped with dark purple up to the apex, the stripes sometimes reticulate, the callus yellow. **Dorsal sepal** lanceolate, acute, concave, dorsally subcarinate, 2.3–2.6 × 0.7–0.9cm. **Lateral sepals** lanceolate, subfalcate, acute-attenuate, connate with the base of the column foot, strongly concave, the margins

convolute at the inflexed base, 2.6–2.8 × 0.8–0.9cm. **Petals** obliquely elliptic, acute, with revolute apex, 2.7–2.8 × 1–1.3cm. **Lip** 3-lobed (sometimes obscurely), broadly ovate when spread, obtuse-truncate, obscurely cordate at the base, 2.5–3 × 2.8–3.1cm; the basal lobes erect to flank the column, the margins of the mid-lobe undulate; the disc provided at the base with a slightly raised, deltoid, minutely sulcate callus, 4–6-toothed at apex, sometimes with smaller lateral teeth. **Column** straight, semi-terete, widening toward the stigma, with a short foot, 1.4cm long. **Anther cap** cucullate, obovate-complanate, 2-celled. **Pollinia** 4, obovate, in two pairs of different size, on a short, obdeltoid, stipe scarcely distinct from the shield-shaped, hyaline viscidium. .

Etymology: From the Latin *picta*, painted, in allusion to the remarkable purple striping of the lip.

Distribution: Costa Rica and western Panama.

Habitat and ecology: Epiphytic in premontane and lower montane wet and cloud forests at 1,400–2,100m elevation, mostly on shaded trunks and large branches covered with mosses. In Costa Rica, it has been recorded from the Caribbean drainage of the northern volcanic and central mountain ranges, and from both watersheds along the slopes of the Cordillera de Talamanca.

Flowering: Mostly occurs during the dry season, from December through April, but the species also flowers sporadically throughout the year.



Stenotyla picta. A plant originally collected on the northern slopes of Poas volcano in Costa Rica (Pupulin 3027)

REFERENCES

Allen, PH (1949) *Chondrorhyncha*. In *Flora of Panama*, Part 3, Fasc. 4. *Ann. Missouri Bot. Gard.* 36: 83–90

Ames, O (1923) Central American orchids. *Sched. Orch.* 4: 54–6

Dodson, CH & Dodson, PM (1989) *Chondrorhyncha bicolor* Rolfe. *Icon. Pl. Trop.* s. 2: sub pl. 414

Dressler, RL (1980) Checklist of the orchids of Panama. In Williams LO and Allen PH (eds) *Orchids of Panama* (a facsimile reprint of the *Orchidaceae, Flora of Panama. Monogr. Syst. Bot., Missouri Bot. Gard.* 4

Dressler, RL (1983) Die Gattung *Chondrorhyncha* in Panama mit zwei neuen Arten: *Chondrorhyncha crassa* und *Chondrorhyncha eburnea*. *Die Orchidee*: 34: 220–228

Fowlie, JA (1966) A revision of the Central American species of *Chondrorhyncha* and *Kefersteinia*, including the description of a new species from Costa Rica. Part I. Introduction and the genus *Chondrorhyncha*. *Orch. Digest* 30 (3): 79–82

Fowlie, JA (1969) An annotated checklist of the genus *Warszewiczella*. *Orch. Digest* 33 (9): 224–231

Fowlie, JA (1971) A new *Chondrorhyncha* species from an isolated district of

Nicaragua: *Chondrorhyncha belleri* Fowl., sp. nov. *Orch. Dig.* 35: 170–172

Hamer, F (1982) *Chondrorhyncha lendyana* Rchb.f. *Icon. Pl. Trop.* 8: sub pl. 704

Pupulin, F (2000) New species of Costa Rican *Orchidaceae*. *Lindleyana* 15: 21–32

Pupulin, F (2001) Contributions to a reassessment of Costa Rican *Zygopetalinae* (*Orchidaceae*). A reconsideration of *Chondrorhyncha estrellensis* Ames. *Brenesia* 55–56: 135–140

Pupulin, F (2005) *Chondrorhyncha* Lindl. In F. Pupulin et al., *Vanishing Beauty. Native Costa Rican orchids I: Acianthera–Kegeliella*. Editorial de la Universidad de Costa Rica, San José

Schlechter, R (1913) *Warszewiczella caloglossa* Schltr. nov. spec. *Fedde Rep. Sp. Nov.* 12: 216

Senghas, K & Gerlach, G (1993) *Tribus: Maxillarieae*. 59. Subtribus: *Humtleyinae*, in Schlechter, *Die Orchideen*, 3. Aufl., Bd. 1: 1617–1674

Whitten, WM, Williams, NH, Dressler, RL, Gerlach, G, & Pupulin, F (2005) Generic relationships of *Zygopetalinae* (*Orchidaceae: Cymbidieae*): combined molecular evidence. *Lankesteriana* 5 (2): 87–107.

ACKNOWLEDGEMENTS

The author would like to thank the staff and curators of CR, HNMM, K, USJ, and W for their assistance during his visits. Thanks to Gustavo Romero at AMES for help in providing critical materials. Robert L Dressler for the informative discussions on Central American *Zygopetalinae*. Sylvia Strigari for the outstanding watercolours she painted from plants growing at Lankester Botanic Garden (see Note below). The officers of the Ministry of Environment and Energy of Costa Rica (MINAE), and its National System of Conservation Areas (SINAC), for extending the Scientific Passport No.1281 to collect and manage orchid specimens in the collections of Lankester Botanic Garden. This paper is a partial result of the project, Inventory and Taxonomy of Neotropical *Orchidaceae*, sponsored by the Vice-Presidency of Research at the University of Costa Rica.

NOTE

A full list of specimens examined, a complete genus description, line drawings of all the species, and paintings can be accessed online at: www.rhs.org.uk/orchidreview/xxxxxxxxxxxxxx xxxxx

Observations on *S. picta*

Useful features to distinguish *S. picta* from other species in the genus are the erect inflorescences, cream flowers with the lip finely striped with purple, and the raised, slightly sulcate callus.

Chondrorhyncha estrellensis was described on the basis of a single collection from the basin of the Río Estrella, along the Atlantic watershed of the northern Talamanca mountain range in Costa Rica (Ames 1923). In his revision of the Central American species of *Chondrorhyncha*, Fowlie (1966) reduced *C. estrellensis* to synonymy under *C. bicolor*, an interpretation followed by Dressler (1983) and Dodson & Dodson (1989). However, the shape of the lip and the basal 2-dentate callus, as well as the notes provided by Ames (1923) about

the colour of the flowers leave no doubt that these two taxa are distinct. Allen (1949) placed *C. estrellensis* in synonymy under *Warszewiczella caloglossa*, creating the new combination of *Chondrorhyncha caloglossa*, but both Fowlie (1969) and Dressler (1980) consider *W. caloglossa* conspecific with *Warszewiczella picta*. Harding (2008) transferred *Chondrorhyncha estrellensis* to *Stenotyla*, distinguishing it from *Stenotyla picta* by the callus with two short lateral teeth flanking the central ones (vs. the 2-toothed callus of *S. picta*), but the shape of the callus is quite variable both in Costa Rican and Panamanian populations of *Stenotyla picta*.

Warszewiczella caloglossa is based

on two Panamanian collections by H Pittier and WR Maxon from Cerro de la Horqueta (Schlechter 1913), but no syntypes or isosyntypes are conserved. However, a copy of the sketch of a syntype prepared by Schlechter is conserved at the Oakes Ames Orchid Herbarium to support the interpretation of Schlechter's protologue. Both sketch and protologue are consistent with the diagnostic characters of *W. picta*. ■

FRANCO PUPULIN is a Senior Professor at the University of Costa Rica, and associate with the Harvard University Herbaria and the Andean Orchid Research Center, University Alfredo Pérez Guerrero, in Ecuador. He is based at Lankester Botanic Garden. Email: fpupulin@cariari.ucr.ac.cr