

Part 3: The genus *Euryblema*

Genera *Zygopetalinarum*

FRANCO PUPULIN describes *Euryblema anatonum* and *E. andreae*



Lateral view of a flower of *Euryblema anatonum* from the Caribbean slopes of Bocas del Toro province (Pupulin 5726)

CONSIDERING THEIR LARGE and showy flowers, which in my opinion are among the most attractive in the subtribe *Zygopetalinae*, it is hard to believe that species of *Euryblema* escaped attention from botanists and horticulturists until 1983, when Robert L Dressler first described *Cochleanthes anatona* from Panama (Dressler 1983). Then 11 years elapsed before Father Pedro Ortiz added the second species of the genus, describing Colombian *Chondrorhyncha andreae* in 1994 (Ortiz 1994). Both were later moved to *Euryblema*, the genus discussed here.

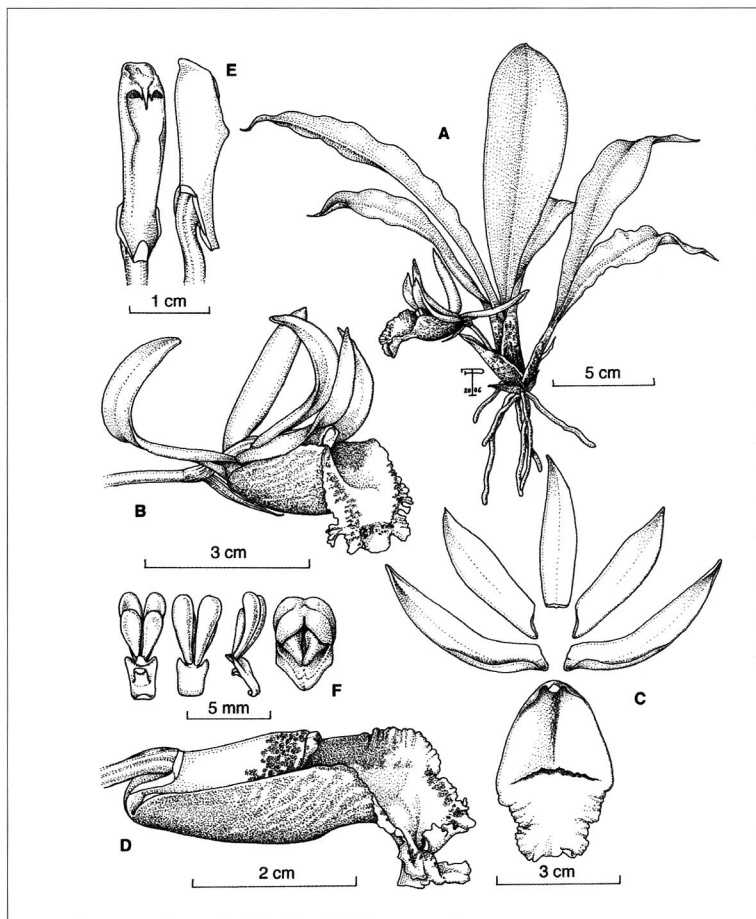
Vegetatively, both species are relatively large plants, with the base of the leaf sheaths strongly spotted and blotched with purple to solid red-purple, a character unique among the species of the *Huntleya* grade.

In western Panama, indigenous people from the Caribbean province of Bocas del Toro collect wild specimens of *Cochleanthes anatona* for the horticultural market, and call this plant 'patiroja' (red-foot) in allusion to the purple pigmentation that covers the lowest portion of the leaf sheaths.

Floral characteristics

The flowers of *Cochleanthes anatona* and *Chondrorhyncha andreae* are large when compared to those of other genera of the *Chondrorhyncha* complex, with the lateral sepals falcate and reflexed, sometimes becoming erect apically. They resemble *Cochleanthes* and *Warczewiczella* in the short and rounded mentum (chin) of the lip when observed from the side and in the shield-like viscidium, while the central position of the callus is reminiscent of *Chondrorhyncha*.

The callus is laminar and broad, covering all the base of the lip up to the middle of the lamina, a character somewhat reminiscent of some species of *Benzingia*, but a low and



Euryblema anatona A - habit, B - flower, C - dissected perianth, D - column and lip (lateral view), E - column, ventral and lateral views, F - pollinarium (ventral, dorsal and lateral views) and anther cap

distinct longitudinal keel runs from the lip base to the apex of the callus, a feature unrecorded in other species of *Chondrorhyncha* and *Cochleanthes*.

In his precursor to a revision of the *Chondrorhyncha* complex, Dressler (2000) identified an *anatona* group, characterised by a short chin and shield-like stipe; provided with a broad, laminar callus near the middle of the lip; the sepals and petals with a tendency to curve upwards; and the sheaths spotted with red.

DNA sequences

According to the phylogenetic findings of Mark Whitten and his

collaborators at the Florida Natural History Museum, based on combined molecular data relative to the relationships of *Zygopetalinae*, these two species do not fit well into either *Cochleanthes* or *Chondrorhyncha*. DNA sequences unequivocally assign *Cochleanthes anatona* and *Chondrorhyncha andreae* to a narrow clade with high bootstrap support, consecutive sister to the widespread *Kefersteimia* and basal to the mostly South American genera *Benzingia* and *Stenia* (Whitten *et al* 2005). In order to reflect the molecular evidence, pointing toward a generic recognition of the 'red-footed' *Zygopetalinae*, ➤

Dressler created the genus *Euryblema* with two named species and a third putative taxon (Whitten *et al* 2005). The generic name was derived from the Greek words *eurys* – broad, and *blema* – blanket or cover, in allusion to the shape of the callus on the lip.

Distribution

The genus *Euryblema* ranges from western Panama to northern Colombia, where the species occur as epiphytes of shady places in premontane to cloud, evergreen, wet to very wet forests at elevations of 700–1,200m. Flowering is usually from July to December, roughly corresponding to the rainy season, with a flowering peak in October and November, but plants were collected in flower in February. Each shoot produces two to three flowers in succession.

The actual pollinator of *Euryblema* is unknown, but Dressler (1993) suggests that *E. anatumum* is pollinated the same way as *Cochleanthes*, with the pollinia placed behind the head rather than on the back of the pollinator.

Although genetic material of *Cochleanthes thienii* was unavailable at the time of the phylogenetic analysis of the *Zygopetalinae* carried out by

Whitten and co-workers, they suggested that this species originally described from western Ecuador (Dodson & Dodson 1980) could be considered congeneric with *E. anatumum* and *E. andreae*. However, I recently had the opportunity to study fresh material of this species in the living collection of Lankester Botanical Garden, and both the vegetative and floral characters do not agree with those of the genus *Euryblema*, which actually only includes two species.

Taxonomy

Euryblema Dressler,

Lankesteriana 5(2): 94. 2005

Type: *Euryblema anatumum* (Dressler)

Dressler, basionym *Cochleanthes anatona* Dressler

Euryblema anatumum (Dressler)

Dressler, *Lankesteriana* 5(2): 94.

2005

Syn: *Cochleanthes anatona* Dressler, *Die Orchidee* (Hamb.) 34(4): 160. 1983.

Type: Panama. Coclé: near Aserradero El Copé, ca. 8 km NO of El Copé, 750–850m, very wet cloud forest, 1 Sept. 1977, R.L. Dressler 5690 (holotype US, isotype PMA).

Epiphytic, caespitose herbs without pseudobulbs. **Roots** terete, thick, about 1.5mm in diameter, produced from the short rhizome. **Stem** abbreviated, enclosed by 4–6 imbricating sheaths, heavily spotted with red-purple or solid purple, the upper ones foliaceous. **Leaf** conduplicate, articulate, membranaceous, oblanceolate to narrowly obovate, acute to acuminate, abaxially carinate, narrowed at the base into a indistinct, conduplicate petiole, grass green to dark green on the upper surface, paler and sometimes sparsely spotted with purple abaxially, 12–20 x 3–4cm.

Inflorescence lateral, stout, 1–2 per shoot, single-flowered, to 4cm long, produced from the axil of the lower sheaths; the peduncle terete, suberect to gently curved, provided with a narrow, conduplicate-tubuliform bract; floral bract double, conduplicate, shorter than pedicellate ovary, the external one narrowly deltoid, 1.2 x 0.8cm, the subopposite internal bractlet ligulate, c2cm long. **Flowers** resupinate, large, scented, variable in colour, the sepals greenish cream to yellowish green or lemon yellow; the petals greenish cream to lemon yellow, sometimes faintly flushed with pink toward the apex; the lip whitish cream to yellow, immaculate or flushed with purple-red at the base, rarely spotted rose-purple toward the apex, the callus yellow or red-purple.

Dorsal sepal free, narrowly lanceolate-elliptic, acute, basally reclinate over the column, apically revolute, 3.4–4.2 x 0.8–1cm. **Lateral sepals** narrowly elliptic to oblong, acute, falcate, reflexed, apically erect, strongly inrolled-folded toward the base, 4.9–5.2 x 1cm. **Petals** narrowly oblong-elliptic, acute, apically arcuate-revolute 4 x 1cm. **Lip** articulate with the column foot, rhombic-obovate to elliptic, obscurely three-lobed, the base rounded-subcordiform, the apex

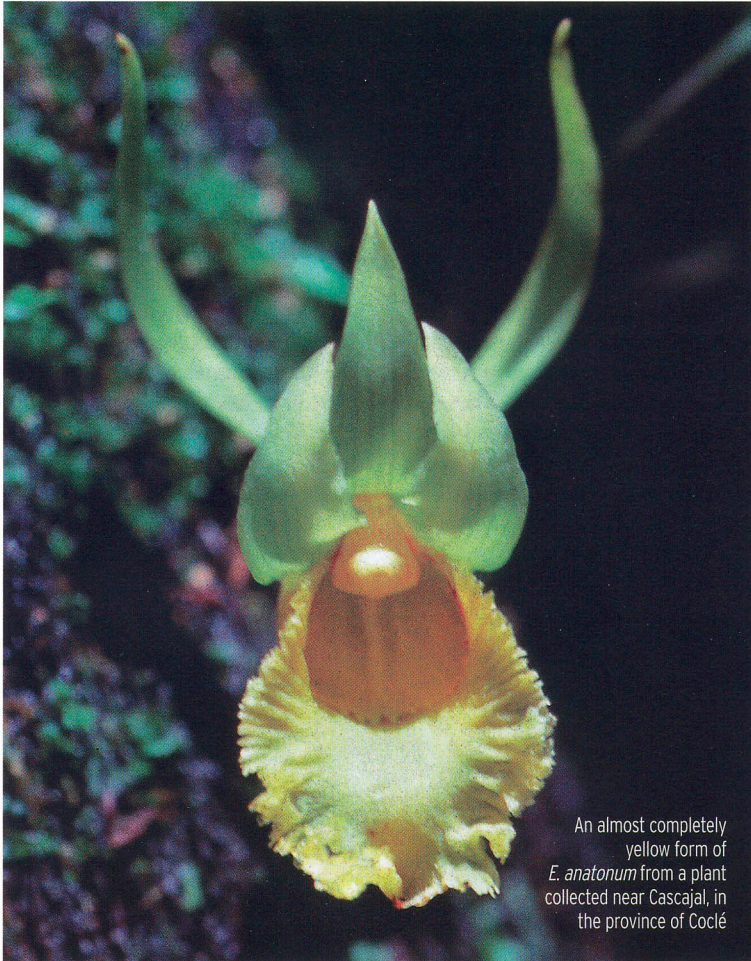
KEY TO THE SPECIES OF *EURYBLEMA*



1a Sepals and petals greenish cream to yellow green; callus hairy at the base and or along median keel
 1b Sepals and petals cream, apically blotched with red-purple; callus glabrous basally

E. anatumum A

E. andreae B



An almost completely yellow form of *E. anatonom* from a plant collected near Cascajal, in the province of Coclé

Credit: Kerry Dressler

rounded-truncate, 4.3–5 x 3 cm, apically deflexed, the distal margins undulate to strongly crisped, the proximal margins erect, flanking the column; disc with a low, longitudinal, pilose keel from the base to about the middle of the lip and a transverse, laminar, sometimes pilose callus extending over the middle of the blade, apically erose to irregularly toothed. **Column** straight, with a distinct foot, slightly dilated at apex into inconspicuous stigmatic wings, creamy white, irregularly spotted purple at the apex, adaxially pilose-hirsute toward the base, the stigma transverse, narrow. **Anther cap**

incumbent, cucullate, widely ovate, flattened, 2-celled. **Pollinia** 4, in two subequal pairs, on a wide, shield-like stipe scarcely distinct from the narrowly ligulate, apically truncate-recurved, hyaline viscidium.

Distribution and ecology

Euryblema anatonom is known only from Panama, where it has been found from the wet forests of the Caribbean slopes of Bocas del Toro up to Cerro Pirre in the province of Darién (Dressler 1983). The species ranges altitudinally from 700–1,200 m, where it is usually found in very wet forests and in open shade conditions.

Flowering mostly occurs from September to December.

According to Dressler (pers. comm. 2006), the colour of the flowers of *E. anatonom* show a distinct tendency to being paler towards the eastern end of the species' distribution, close to the Colombian border. In plants collected in western Panama [*Pupulin* 3121 (JBL-Spirito), *Pupulin* 5726 (JBL-Spirito)] the base of the lip varies from orange to reddish-brown, while the apex may be pure yellow or white spotted with rose-purple. Plants collected in Coclé are uniformly yellowish green or pale creamy white (photo in Dressler 1983).

Euryblema andreae (Ortiz) Dressler, *Lankesteriana* 5(2): 94. 2005

Syn. *Chondrorhyncha andreae* Ortiz, *Orquideología* 19(4): 13. 1994.

Type: Colombia. Chocó: Bajo Río Atrato, flowered in the collection of Senén Rendón, La Delfina (Buena-ventura, Valle del Cauca), 28 Oct. 1993, *P. Ortiz* 1055 (holotype UJCOL).

Epiphytic, caespitose herbs without pseudobulbs. **Roots** terete, thick, to 1.7 mm in diameter, produced from the short rhizome. Stem abbreviated, enclosed by 4–6 imbricating sheaths, heavily spotted with red-purple or solid purple, the upper ones foliaceous. **Leaf** conduplicate, articulate, membranaceous, oblanceolate to narrowly obovate, acute to acuminate, 12–30 x 3.3–5 cm, abaxially carinate, the margins undulate, narrowed at the base into an indistinct, conduplicate petiole, dark green on the upper surface, paler abaxially. **Inflorescence** lateral, stout, 1–2 per shoot, single-flowered, produced from the axil of the lower sheaths; the peduncle terete, suberect to erect, provided with 2–3 narrow, conduplicate bracts; floral bract double, conduplicate, subequal to pedicellate ovary, the

external one narrowly deltoid, 1.8 x 0.8cm, the subopposite internal bractlet ligulate, c2cm long. *Flowers* resupinate, large, sweetly scented, the sepals greenish cream to yellowish green, adaxially spotted and blotched with dark purple at the apex; the petals greenish cream to yellowish green, apically spotted and blotched with purple-red; the lip whitish cream, mostly spotted with purple-red, apically solid red with darker purple. *Dorsal sepal* free, narrowly lanceolate-elliptic, acute, basally reclinate over the column, revolute at the slightly conduplicate apex, 3.8–4.5 x 0.8–1cm. *Lateral sepals* narrowly ligulate-elliptic, acute, strongly falcate, reflexed, becoming

apically erect, strongly inrolled-folded toward the base, 4.4–5 x 1–1.2cm.

Petals narrowly oblong-elliptic, acute, subapiculate, 4 x 1cm, arcuate-revolute at the subconduplicate apex.

Lip articulate with the column foot, rhombic-ovate, 5 x 4cm, the base rounded-subcordiform, the apex emarginate, deflexed, the distal margins undulate to strongly crisped or irregularly sublacerate, the proximal margins erect, flanking the column; disc with a low, longitudinal keel from the base to about the middle of the lip and a transverse, laminar callus extending over the middle of the blade, apically erose. *Column* straight, with a distinct foot, slightly dilated at apex into inconspicuous, elliptic stigmatic wings, adaxially

pilose-hirsute toward the base, the ventral surface basally provided with a longitudinal, low keel, the stigma transverse, narrow. *Anther cap* incumbent, cucullate, widely ovate, flattened, 2-celled. *Pollinia* 4, in 2 subequal pairs, on a wide, shield-like stipe scarcely distinct from the narrowly ligulate, apically truncate-recurved, hyaline viscidium.

Distribution and ecology

The type specimen of *E. andreae* was originally collected in the tropical, warm forests along the Río Atrato, the navigable and largest river of the Pacific lowlands in the Colombian province of Chocó, which flows northward to the Golfo de Urabá. To the west of these lowlands, still largely



Euryblema andreae lateral view of the flower (Pupulin 6282)

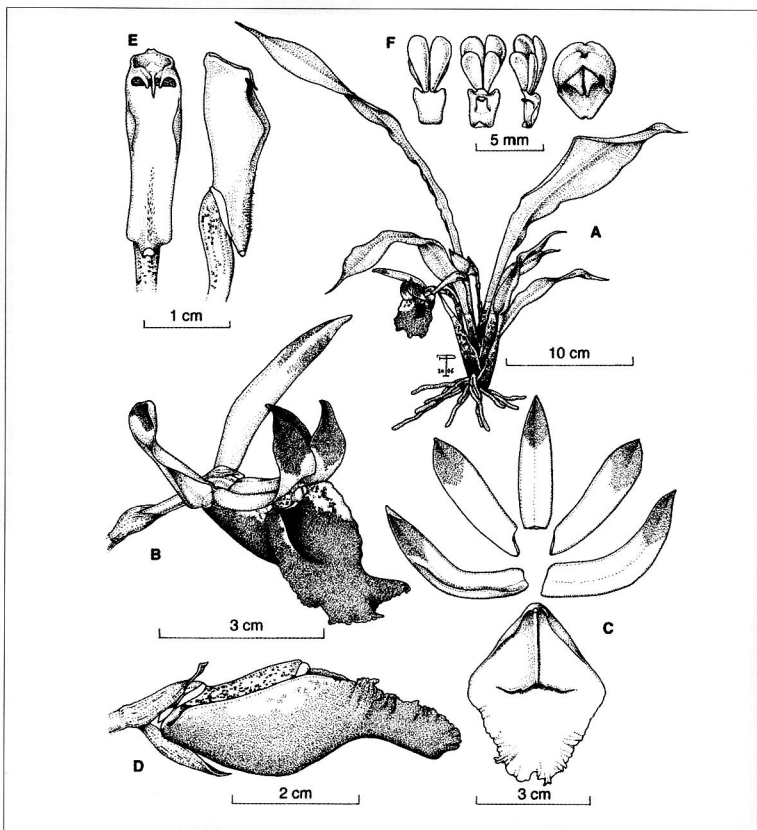
undeveloped, rise the isolated chain of the Serranía de Baudo, whose highest elevation is less than 1,800m. Flowering has been recorded in October and November.

Although in the original protologue and the accompanying illustration Ortiz (1994) describes the outline of the lip as elliptic, in the specimens I studied the lip is mostly distinctly trapezoid. It is also interesting to note that the photograph of a plant supposedly identified as *Chondrorhyncha andreae*, published on the internet by the Groupement Midi-Pyrénées des Amateurs d'Orchidées (2006) presents a lip almost solid purple, but the petals and sepals do not have the characteristic purple blotch at the apex. The information provided with

the photograph does not include locality data, and the specimens may perhaps be assigned to a particularly colourful form of *E. anatumum*.

Cultivation

Plants of *Euryblema* should be grown in open shade, in intermediate to slightly cool temperatures, maintaining high levels of humidity all year round. They may be grown on slabs, but culture in pots, with a rather coarse medium, provides a more constant amount of humidity around the roots. Watering must be frequent throughout the year. If watering is maintained, and under proper conditions of humidity, healthy specimens of *Euryblema* usually produce two flowers in succession. ■



Euryblema andreae A - habit, B - flower, C - dissected perianth, D - column and lip (lateral view), E - column, ventral and lateral views, F - pollinarium (dorsal, ventral and lateral views) and anther cap

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Drawn by the author from Pupulin 6282, (JRS:SPH)