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Photos by David Amaya (DA), Ella Baron (EB), Wade Collier (WC), Bruce Holst (BH), Jan Meerman (JM), Marvin Paredes (MP), Phil Nelson (PN), David Troxell (DT) Support from the Marie Selby Botanical Gardens, Ian Anderson's Caves Branch Jungle Lodge, Environmental Resource Institute - University of Belize

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The Gesneriaceae family in Belize, sometimes called the African Violet family or simply “gesneriads,” is comprised of varied growth forms, from herbaceous rosettes growing on limestone walls to small shrubs, or shrubby epiphytes. There are eight genera and 14 species in Belize. The plant family is distinguished by the following characteristics: leaves op-posite, stipules lacking, corolla zygomorphic, tubular with fused petals, stamens 4, in pairs with a 5th often reduced, nectary disc present, ovary 1-locular with parietal placentation, and the fruit is a capsule, berry, or berry-like capsule with a leathery texture.

Gesneriads are an important source of food for animals via their nectar and sometimes fleshy fruits. The animals in turn aid the plants by effecting pollination and seed dispersal. As well, gesneriads are popular garden plants grown for their attractive foliage and flowers; well-known horticultural varieties include gloxinias, African violets, and lipstick plants. An interesting note is that gesneriad leaf and flower color and degree of spotting can change in cultivation, perhaps in response to nutrition or light regimes. Gesneriads are known from all Districts in Belize except Corozal. All species in the family known from the country are illustrated here.

District Abbreviations: Belize (**B**), Cayo (**Ca**), Corozal (**Co**), Orange Walk (**OW**), Stann Creek (**SC**), Toledo (**T**).

Elevations are for Belize only.

Achimenes

- One species in Belize, *Achimenes erecta*.
- Distinguished by the bright red or scarlet flowers with long tube, broad corolla lip, yellow throat, and herbaceous stems and leaves.
- Found in damp, rocky, lightly to deeply shaded habitats, including the deepest cenotes in Belize.
- **Ca, SC, T**; 100–720 m elev.



Achimenes erecta has scalloped, fuzzy leaves with impressed veins on the upper surface (MP)



The leaves have red to purple coloration below that follow the veins (MP)



The corolla is crimson red, with a long red tube (arrow) and usually a yellow, spotted throat (MP)



Plants produce a scaly rhizome for water storage (MP)

Alsobia

- One species in Belize, found on limestone walls and outcrops, less commonly so as an epiphyte.
- Distinguished by the trailing stems, soft pubescent leaves, and showy white flowers with lilac spots, especially on the petal lobes and at base of tube.
- **B, Ca**; 10–210 m elev., on limestone outcrops and bluffs.



Alsobia baroniae, named for coauthor Ella Baron of Ian Anderson's Caves Branch Botanical Garden in early 2018, has long rhizomatous growth. It is a lithophyte or rarely an epiphyte, and known from **Cayo** and **Belize** Districts at 10–200 m elev. (PN)



Leaf blades are soft, and grayish on the lower surfaces (EB)



The flowers of *Alsobia baroniae* are white, soft, and with marked spots on the corolla lobes and base (WC)

Gesneriaceae of BELIZE

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Amalophyllon

- One species in Belize found on limestone outcrops, *Amalophyllon parviflorum*.
- Distinguished by its small, tight rosettes, colonial growth, and few-flowered inflorescences with white flowers that lack a tube.
- **Ca**, 80–180 m elev., on limestone outcrops.



Amalophyllon parviflorum is found growing in shady, rocky habitats on limestone cliffs. The plants form small, tight rosettes and grow in colonies (BH)



The leaves are purplish on the under-surface; corolla tube lacking (BH)



Petals spreading widely, borne on long stalks (EB)

Besleria

- A genus of terrestrial shrubs, represented by one species in Belize, *Besleria laxiflora*.
- Distinguished by the long-stalked flower cluster, orange, tubular flowers, and soft membranous leaves with impressed midveins.
- **T**; 450–900 m elev.



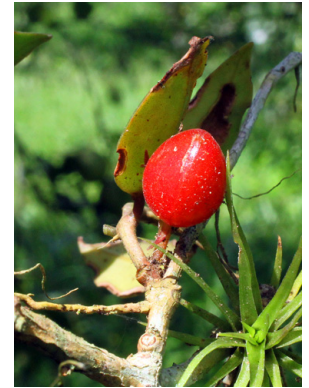
Besleria laxiflora is a few-branched shrub with membranous leaves, impressed veins, long-stalked inflorescence, and orange, waxy flowers (BH)



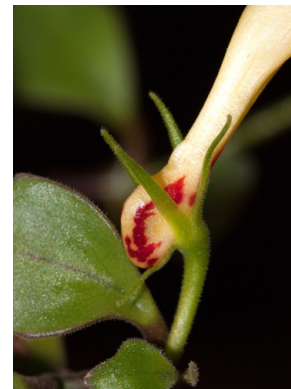
Corolla succulent, orange; plants are found in shady, moist habitats at middle to high elevations in Belize (JM)

Codonanthis

- Includes four epiphytic species in Belize. They are distinguished, though not easily, by their flower shape and coloration, and habit (viny or shrubby).
- Several species are often found in ant nests. The thick, fleshy leaves turn red in bright sunlight. The fruits are red or purple berries or leathery capsules.
- **B, Ca, OW, SC, T**; 40–500 m elev.



Codonanthis crassifolia has stems pendent; leaves entire to slightly toothed; corolla gradually narrowed and often yellow throat within; calyx lobes broadest at middle; fruits split in half and are bright red at maturity. **B, SC, T**; 5–400 m elev. (all photos EB)



Codonanthis elegans is a beautiful local endemic species of plant from Belize (endemic species are those known from a restricted geographical location, and nowhere else in the world). Plants are pendent, with the corolla gradually narrowed, pale yellow to whitish, yellow within, and with distinctive maroon spots at the base; calyx lobes triangular to elliptic and with glandular trichomes. Fruits have not been observed. Known only from a few locations in southern Belize in **T**; 120–500 m elev. (All photos EB).

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Codonanthis macradenia. Corolla abruptly enlarged and arched above the base, whitish or flushed pink without, orange within the throat; calyx lobes narrowly triangular, not keeled (see *C. uleana*). Image on right taken of plant from Panama. T; 40–280 m elev. (PN-1-3; BH)



Codonanthis uleana is similar in appearance to *C. macradenia*, with both species having abruptly enlarged corolla tubes above the base and spotting within. It is distinguished most easily by the short awns on the anthers (inset arrows) and the keeled calyx lobes (arrow far right); the fruit appears to ripen with a more lavender color than the other species. It is found often in ant nests (coloring red in the sun), growing alongside *Aechmea tillandsioides* (Bromeliaceae) and *Anthurium gracile* or *Anthurium scandens* (Araceae). Ca, SC, T; 90–120 m elev. (BH, BH)

Columnea

- Three epiphytic species in Belize easily separated from one another by leaf shape and color, and flower color.
- In Belize, the genus is restricted to humid forests of Cayo and Toledo.
- The leaves are succulent, but less so than *Codonanthis*, and the many-seeded fruits are berries.
- Ca, SC, T; 60–1100 m elev.



Columnea linearis. The densely arranged narrow leaves and slender red corolla distinguish this species of *Columnea* in Belize; the berries, not pictured here, are white at maturity. Ca, T; 250–1000 m elev. (BH, BH)



Columnea purpurata is a sprawling, few-stemmed epiphytic shrub with broad, heavily pubescent leaves that can appear to be alternately arranged on the stem as one of the leaves in the pair is greatly reduced. The flowers are densely pubescent, with yellowish green petals that are covered with scarlet trichomes. Ca, SC, T; 740–920 m elev. (DA, BH, PN, DA)

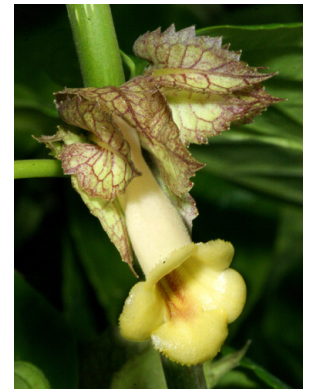
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Columnea sulfurea, with its yellow corolla and leaves that are purple below, make it one of the most distinctive, and beautiful plants in Belize.
Ca, SC, T; 60–1100 m elev. (EB, WC, BH, PN)

Drymonia

- Includes two species in Belize, both of which are quite rare in the country.
- They can be distinguished from each other by the color of their flowers and the degree of coloration and serration of the inflorescence sepals.
- Ca, T; 60–500 m elev.



Drymonia macrophylla has lemon-yellow corollas and a distinctive, strongly serrate calyx with colored, netted veins.
T; 60 m elev. (Plants shown from Costa Rica; all PN)



Drymonia serrulata has pale pink corollas and large, green calyx lobes; the leaves, petals, and calyx lobes are distinctly serrate.
Ca; 450–500 m elev. (WC, BH, WC)

Kohleria

- One species, *Kohleria spicata*, which is uncommon in the country.
- Distinguished by its tubular orange to red flowers that are spotted within and with a narrow corolla lip (compare to *Achimenes*), racemose inflorescences, elongated stems, and leaves that are whitish below.

Ca, T; 100–720 m elev.



Kohleria spicata in Belize is found on rocky outcrops, the leaves are uniformly green below (DT)



The stout, racemose inflorescence helps to distinguish this genus from *Achimenes* (DT)



Flowers from a plant in cultivation from Costa Rica. Note narrow corolla limb (arrow) (PN)



Though the species name is “spicata,” the inflorescence is actually a raceme, with flowers borne on stalks (pedicels) (PN)