The genus *Tillandsia* in Belize includes approximately 30 species, which can be found growing singly, or in large colonies, and can usually be identified by their non-spiny leaves, often flattened inflorescence branches, symmetrical sepals, free petals, and often colorful flower clusters which fade quickly after flowering. They are most always epiphytic growing on trees and shrubs to gain better access to sunlight; an occasional species is found on rocks or on the ground (e.g., *T. dasyliriifolia*). Many have gray/silvery, scaly leaves (e.g., *T. pruinosa, T. streptophylla*). The scales (or “trichomes”) help capture water and nutrients from the environment. Some species form water-holding tanks by means of their overlapping leaves. These tanks are rich in with nutrients from the environment, provide sustenance for the plant, and create important habitat for animals in the forest canopy.

The genus is found throughout Belize, but reaches its peak of species diversity on the high summits of the Maya Mountains. Many species are adapted for hummingbird pollination, with brightly-colored bracts and flowers. The seeds of all species in the genus develop inside leathery capsules, which split open into three parts when mature; they are topped by a fluffy coma (resembling a tuft of “hairs”) and then may be dispersed by the wind. Important distinguishing characteristics of the species are the shape of the rosette, the shape and degree of branching of the inflorescence, and the color and length of the various bracts and flowers. All species in Belize, except *T. utriculata*, produce one or more “pups” or “offsets” from the mother plant and continue to grow after the mother branch flowers and dies. This growth habit can eventually form extensive clonal colonies.

**Identification Guide to *Tillandsia* species of Belize**

**Group 1. Stems elongate, leaves separated from one another along the stem; petals emerald green or yellow (2 species)**

**Groups 2–7. Stems short, leaves tightly arranged in a rosette; petals purple, pink, greenish, or white (page 2)**

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*Tillandsia usneoides*

- Known from Ca, OW, TO; 100–580 m elev.
- The most distinctive tillandsia, but often overlooked; the pendent, gray foliage that doesn’t even look like a bromeliad is unique, and the emerald-green, fragrant flowers are rarely observed.
- Known as Spanish moss.

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*Tillandsia schiedeana*

- Common and widespread in Belize in B, Ca, Co, OW, T; 40–610 m elev.
- Forms large colonies; distinct with tight “ball” shape, as well as the elongated stems, dense gray scales, reddish floral bracts, and yellow petals and anthers.

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**Tillandsia (Bromeliaceae) of BELIZE**

**Group 2.** Plants with bulbous bases, often clumping, often growing in multiple orientations in relation to their attachment (see also *T. dasyliriifolia* in group 6, with bulbous base, but with a large inflorescence and long-spreading branches) (5 species)

Groups 3–7. Plants not bulbous-based, the rosette form a narrow to broad vase (page 3)

**Tillandsia balbisiana**
- Found in seasonally dry forests in **all Districts**; 5–550 m elev.
- Distinguished by the bulbous base, narrow, leathery, silvery green, spreading, recurved, or twisting leaves; red to orange floral bracts, and purple corollas; plants often colonized by ants.

**Tillandsia bulbosa**
- Found in **all Districts**, and in many habitats except the wettest ones in the south; 0–760 m elev.
- Distinguished by the gray, bulbous base, few cylindric, narrow leaves, bright red bracts, lavender corollas.
- Often found hanging upside down individually or in colonies, and inhabited by ants.

**Tillandsia butzii**
- Rare in Belize, known from a single collection from Little Quartz Ridge, **T**: 700–750 m elev.
- Similar to *T. bulbosa* and *T. pseudobaileyi*, but distinguished by the prominent bands of spots on the leaf sheaths.
- Images here taken of a specimen from Mexico.

**Tillandsia pseudobaileyi**
- Discovered in Belize in 2017 by Caves Branch Bot. Gard. staff, from **OW**: 10–20 m elev.
- Rare in Belize; growth similar to *T. bulbosa*, but leaves distinctly “lined” toward base and with dull gray coloration, compared with not lined and with glossy, dark green leaves.

Habit pictured here is of a plant in cultivation at Selby Gardens (PN)

Leaves and bulbous bases have fine vertical lines (DA)

*T. pseudobaileyi* on right, compared with *T. bulbosa* (left; DA)

Flowers are similar to those of *T. bulbosa* (PN)
**Tillandsia (Bromeliaceae) of BELIZE**

**Tillandsia × jaguactalensis**
- Rare in Belize, only known from citrus fields in Ca; 80 m elev.
- Similar to *T. brachycaulos*, but with elongated flower cluster, and to *T. streptophylla*, but flower cluster compact, versus broadly branching. This is a natural hybrid between these two species.

**Tillandsia pruinosa**
- Known from southern Belize in Ca, OW, SC, T; 130–750 m elev.
- Distinctive compact plant with bulbous base, heavy covering of scales, few curved or twisted and
- deeply channeled leaves, pink floral bracts, and purple corollas.

**Tillandsia streptophylla**
- Most common in lowland areas, in B, Ca, Co, OW, SC, T; 0–600 m elev.
- The most photographed tillandsia in Belize! A robust species, often teaming with ants; distinguished by the large bulbous base, heavily scaly nature, twisted leaves, and multi-colored flower cluster.

**Group 3: Leaves narrow at the base and along entire length, ≤ 3 mm wide (3 species)**

**Tillandsia filifolia**
- A rare species from Ca, SC, T; 160–750 m elev.
- Distinguished by the narrow leaves and basal sheaths that are blackish and together form a fluffy ball, and the delicate, greenish flower cluster and bracts, and lavender petals.
Tillandsia (Bromeliaceae) of BELIZE

**Tillandsia festucoides**
- Where found, **B, Ca, OW, SC, T**, this species often occurs in dense colonies; 80–750 m elev.
- One of the narrowest-leaved tillandsias, distinguished by the reddish bracts, lavender/purple corollas, finely spotted leaves and floral bracts, and non-stoloniferous growth.

**Tillandsia juncea**
- Found in **B, Ca, OW, SC, T**; 30–900 m elev.
- Identified by the narrow leaves, compact flower clusters, and stoloniferous growth; foliage is often reddish in the sun; confused with *T. festucoides*, but has elongated rhizomes and shorter inflorescence branches (see above).

**Tillandsia excelsa**
- Restricted to high elevations in Belize in **Ca, T**; 700–1100 m elev.
- Distinguished by the large, branched inflorescence with bright colors of orange, red, and yellow. The stiff, lateral inflorescence branches have long primary bracts at their bases and the leaves are spotted below.

**Tillandsia leiboldiana**
- One of the rarest species in Belize, found on the highest peaks of **Ca, SC, T**; 700–1000 m elev.
- A colorful, relatively small species, with reddish leaves (especially on the lower surface); inflorescences shortly branched, usually pendent, with long primary bracts; the petals purple.
Tillandsia multicaulis
- A rare species in Belize, restricted to high mountains of Ca, T; 800–1100 m elev.
- Similar to T. anceps because of the paddle-shaped flower cluster, but with broader leaves, inflorescences often more than 1, found in axils of leaves (versus terminal), and with bright orange-red bracts.

Plants usually with 2 or more inflorescences at a time (BH)
Inflorescence paddle-shaped, with brightly colored scape and floral bracts (LM)
Each flower is subtended, and mostly covered by the orange-red floral bracts (PN)
Petals are purple and the protruding anthers bright yellow (PN)

Group 5: Leaves with colored stripes, bands (see also Werauhia vittata in separate guide), or with purple-black leaf bases; petals purple, greenish, or white (4 species)

Tillandsia anceps
- Found in humid forests of Ca, SC, T; 10–1000 m elev.
- Distinguished by long, narrow leaves with maroon stripes at the base; flat, paddle-like flower clusters with pink, green, or whitish floral bracts, and lavender flowers.

Leaves long, soft, narrow; flower cluster pink, green or whitish (BH)
Reddish vertical stripes usually present at the leaf bases (EB)
Flower clusters broad, paddle-like (PN)
Petals spreading, lavender; anthers and stigma do not protrude beyond the petals (PN)

Tillandsia flexuosa
- Found in lowland semideciduous forests in OW; 10 m elev.
- One of the rarest, most distinctive bromeliads in Belize, this was discovered for the first time in mid-2017 by Caves Branch Bot. Gard; it is distinguished by its twisted, gray-banded leaves, and pink inflorescences.

Inflorescence greatly exceeds the leaves and is widely branched (DA)
Leaves are gray, twisted, and with strong horizontal banding (DA)
Inflorescence has long branches and widely spaced flowers (plant from Panama; PN)
Flower bracts and corolla are pink, and anthers and stamens protruding (plant from Panama; PN)

Tillandsia punctulata
- A rare species in Belize, restricted to high mountains of Ca, T; 800–950 m elev.
- Distinguished by the narrow leaves that are purple-black at the base, an inflorescence as long as the leaf blades, red to green bracts, and purple corollas.

Tightly clumping form, narrow leaves and dense colony (BH)
Leaf bases are distinctly dark purple-black (EB)
Inflorescences elongate, arching or erect, with a combination of reddish to greenish bracts (BH)
Petals purple with white tips, anthers protruding; scape bracts reddish, floral bracts green (EB)
**Tillandsia (Bromeliaceae) of BELIZE**

### Tillandsia orogenes
- Another rare species in Belize, found only on the highest peaks of the Maya Mountains, often growing on *Colpothrinax cookii*, in Ca, T; 980–1140 m elev.
- Identified by narrow stiff leaves and dark bases, spreading bright red inflorescences that have long primary bracts.

### Group 6: Inflorescence > 2x beyond the leaves, branches elongate, slender and flowers widely spaced along them (3 species)

#### Tillandsia dasyliriifolia
- A species known from coastal and southern Belize and found in all Districts; 0–680 m elev.
- Inflorescence similar to *T. izabalensis*, but plants distinguished by the bulbous base, the flower cluster which produces “pups” after flowering, and floral bract length (<23.2 vs >23.4 mm).

#### Tillandsia izabalensis
- A coastal species found in Ca, Co, SC, and T; at low elevations, 5–20 m.
- The tallest tillandsia in the country, and belonging to a complex of several species
- Often confused with *T. dasyliriifolia*. See under that species, as well as the closely related *T. utriculata*.

#### Tillandsia utriculata
- Moist forests, especially common in citrus groves of Ca, SC; 5–130 m elev.
- A large plant distinguished by a spreading rosette, slender, straight inflorescence branches, and white petals. See similar species *T. dasyliriifolia* and *T. izabalensis*.
**Tillandsia** (Bromeliaceae) of BELIZE

**Group 7: Inflorescence less than 2x beyond the leaves, if branched then with densely arranged flowers**

**Tillandsia brachycaulos**
- This compact species grows in large colonies in the citrus orchards of Ca, and is also known from B, OW, T; 0–550 m elev.
- Distinguished by flower cluster borne among the central leaves, and vivid red to coral color bracts; compare with *T. variabilis*, which has fewer leaves.

**Tillandsia fasciculata**
- Known from central to northern Belize in B, Ca, Co, OW; 10–400 m elev.
- Recognized by the stiff, narrow, ascending leaves, stout flower clusters with few branches, reddish to green bracts, and lavender/purple corollas. There are several color forms in Belize.

**Tillandsia chlorophylla**
- A rare bromeliad in Belize, only known from “near the border of Guatemala,” T; elev. unknown.
- Distinguished by the colorful, compound inflorescences with short branches and long primary bracts that envelop the short branches; leaves are slender and long.

**Tillandsia maya**
- Uncommon in Belize, and found only in the citrus orchards of Ca; 80 m elev.
- Intermediate between *T. balbisiana*, *T. polystachia*, and *T. brachycaulos*. The plant is less bulbous at the base than *T. balbisiana*, and the inflorescence is more elongated than *T. brachycaulos*. It may be a hybrid.
**Tillandsia polystachia**
- Uncommon in Belize, though can be abundant in citrus orchards, Ca; 80–550 m elev.
- Small plant with narrow, stiff, glossy green leaves, green to reddish inflorescence, and purple flowers; leaves can turn brony in the sun. Possibly hybridizing, making ID difficult.

**Tillandsia variabilis**
- Found in broadleaf forests and citrus orchards of B, Ca, OW, SC, T; 25–610 m elev.
- The relatively small size of the rosette, narrow leaves, simple or few-branched pink to red inflorescences, strongly flattened inflorescence branches, help distinguish it from

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**Group 8: Additional rare or unknown species**
- There are three additional species documented in Belize that are poorly known from the herbarium and photographic record.
  - One is identified to species level, two are not.
  - There are likely more bromeliad species to be discovered in remote areas of the country.

**Tillandsia tricolor**
- Epiphyte on Maya Mountains, T; 750 m elev.
- Only known photo of a Belizean plant is the one shown above of a plant in fruit.
- Bears a stout, simple inflorescence and according to the literature, orange and green bracts when in flower (WC)

**Tillandsia sp. 1**
- Lithophyte on Pine Ridge, Ca; 620 m elev.
- Leaves with coppery tinge above, grayish below.
- Possibly an undescribed species, it has the inflorescence simple, arching; corollas purple with protruding stamens and stigma (EB)

**Tillandsia sp. 2**
- Epiphyte from CA, OW; 400–500 m
- This species belongs to the *Tillandsia fasciculata* complex, but more study is needed to determine the correct name.
- Differs from typical *T. fasciculata* by having a broad, paddle-shaped inflorescence 4–5 cm wide (vs. 1–3 cm); both species can have simple or compound inflorescences and the vegetative portion of the plants is identical (EB)
Illustrated Glossary

Letters in parentheses below refer to those in the illustrations.

- **Floral bract (F)**: the modified leaf subtending a flower, which can be longer than, and obscure the calyx from view.
- **Flower (J)**: consisting of the sepals (K, L; together called calyx), the petals (M; together called corolla), the androecium (N; the male part of the flower, or stamen, consisting of the filament and the anther), and the gynoecium [the female part of the flower, or pistil, consisting of the ovary, style, and stigma (O)].
- **Flower cluster (C)**: the portion of the inflorescence consisting of the flowering region of the inflorescence, including the associated primary and floral bracts, the axes bearing flowers, and the flowers themselves.
- **Habit (A)**: General shape and growth form of a plant.
- **Inflorescence (B)**: the flowering portion of the plant, which consists of the scape and flower cluster.
- **Inflorescence type**: bromeliad inflorescences can be simple (unbranched; see left-side of adjacent illustration, or *T. anceps*) or compound (branched; see right-side of adjacent illustration, or *T. chlorophylla*, below). When compound, the branches can be short (e.g., *T. polystachia*), or elongate and spreading (e.g., *T. utriculata*).
- **Leaf (D)**: The vegetative portion of the plant, including the broad basal leaf sheath (Da) and the usually narrower blade, or lamina (Db).
- **Primary bract (G)**: the modified leaf at the base of an inflorescence branch; it can be colorful (e.g., *T. leiboldiana*), or small and green, and inconspicuous (e.g., *T. filifolia*).
- **Scale** (see “Trichome” below).
- **Scape (I)**: the stalk that connects the vegetative portion of the plant to the flower cluster; the scape may be short and hidden among the leaves and bracts (e.g., *T. brachycaulos*), or elongate and evident (e.g., *T. izabalensis*). Note, the term “peduncle” is used for the same structure in many other plant families.
- **Scape bract (H)**: the modified leaf borne along the nodes of the scape that can be from scale-like to leaf-like in appearance.
- **Trichome (E)**: minute structures analogous to plant “hairs” and often called scales, that cover the leaves of many bromeliads (seen as a gray cover on many tillandsias). Trichomes in bromeliads are often scale-like and have an elegant “mosaic-window” appearance. They help to facilitate the movement of water and nutrients into the plant, as well as to help regulate water loss.

Tillandsia (Bromeliaceae) of BELIZE


Note on Natural Hybrids

Possible hybrids can be observed in several areas of Belize, particularly in the citrus orchards where many species thrive closely together. A more detailed study is needed to determine the possible parents of some hybrids, but we believe the following species may be involved in natural hybridization: T. balbisiana, T. brachycaulos, T. fasciculata, T. polystachia, T. streptophylla, and T. variabilis.

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