

# GUIDE TO THE GENERA OF LIANAS AND CLIMBING PLANTS IN THE NEOTROPICS

## CYPERACEAE

By Mark T. Strong (25 May 2017)



*Scleria secans* (L.) Urb. (photo: P. Acevedo)

A widely distributed family of herbs primarily found in warm temperate to tropical regions worldwide. Climbing herbs in the Cyperaceae are restricted to the genus *Scleria* and occur primarily in the Neotropics. There are 13 out of a total 116 species of *Scleria* in the Neotropics that are climbing herbs. They are predominant in forest openings (often made from tree falls), edges of gallery forest, and open secondary vegetation along trails and roadsides. Along forest edges, the culms often originate in the forest, climbing high on other vegetation to reach sunlight and flower.

**Diagnosics:** In the absence of fertile material, climbing *Scleria* species are easily distinguished from vines in similar families, especially from Poaceae by their coarsely barbed leaves and

stems that can produce sharp cuts on the skin. Their herbaceous triangular stems are wiry and coarsely barbed; leaves are linear-elongate, parallel-veined, and often barbed or with sharply spinulose margins.

### General Characters

1. **STEMS.** Stems are triangular in cross section, finely ribbed, retrorsely barbed or sharply spinulose, and leafy at middle and upper nodes.

2. LEAVES. Leaves are 3-ranked, the sheaths and blades are retrorsely barbed or sharply spinulose on margins. The contraligule appendage at the adaxial summit of the sheath can be entire or with a membranous or scarious appendage at apex.
3. INFLORESCENCES. Inflorescences are terminal, paniculate, often composed of a series of axillary partial panicles from the upper leaf-like bracts.
4. FLOWERS. Flowers are unisexual, borne in separate staminate and pistillate spikelets, the panicle branches generally bearing several staminate spikelets above a solitary or several pistillate spikelets.
5. FRUITS. Fruits are globose, ovoid, or ellipsoid achenes, white or variegated with purple at maturity, with bony or crustaceous pericarp and often a 3-lobed hypogynium at base.

## USES

Although Cyperaceae has numerous useful species, the climbing species in *Scleria* are generally considered a nuisance. Walking through a patch of climbing *Scleria sp.* can produce scratches or cuts on unprotected skin. *Scleria secans* (L.) Urb. has been used to make fine paper in Brazil.

### Key to the climbing species of *Scleria*

1. Contraligule bearing a scarious appendage at apex (see note below on species of *Scleria* section *Hymenolytrum*); (Neotropical) ..... *S. secans*
1. Contraligule acute or rounded, the margin entire or fringed with trichomes.....2

2. Terminal and 1(-2) upper axillary inflorescence partial panicles strictly bearing staminate spikelets, the lower axillary partial panicles strictly bearing pistillate spikelets (Mexico, Central & South America) .....*S. bracteata*
2. All inflorescence panicles bearing both staminate and pistillate spikelets .....3
3. Hypogynium absent (SE and S Brazil) .....*S. variegata*
3. Hypogynium 3-lobed .....4
4. Leaf sheaths winged on the angles (Central & South America).....*S. vaginata*
4. Sheaths not winged on the angles .....5
5. Ligule a dense fringe of trichomes at the junction of the leaf sheath and blade .....6
5. Ligule absent .....7
6. Inflorescence with spreading partial panicles, the spikelets not appearing fascicled; spikelet scales often tinged with purple-black on sides; achene smooth (Neotropical)..... *S. secans*
6. Inflorescence with contracted partial panicles, the spikelets appearing fascicled at nodes; spikelet scales pale, tinged with brown on sides; achene reticulate-tuberculate (South America) .....*S. tenacissima*
7. Plants of the West Indies .....8
7. Plants of Central America and South America .....9
8. Inflorescences panicles open; leaf blade margins with coarse barbs, 0.2-0.5 mm long; spikelet scales dark brown or purplish brown; achene body ovoid-globose to ovoid, 2.6-3.3 mm long; hypogynium lobes strongly revolute, obtuse, typically appressed to base of achene body (Cuba, Puerto Rico) .....*S. canescens*
8. Inflorescences panicles contracted; leaf blade margins with fine barbs, less than 0.2 mm long; spikelet scales greenish brown; achene body globose to ovoid, 2.3-2.6 mm long; hypogynium lobes weakly revolute, rounded, often spreading away from base of achene body (Cuba, Hispaniola, Virgin Islands, St. Vincent) .....*S. chlorantha*
9. Mature achene exceeding tip of subtending fertile spikelet scale.....10
9. Mature achene shorter than tip of subtending fertile spikelet scale .....12
10. Mature achene body 2.5-3.5 mm wide at base, rounded at apex (SE Mexico, Central and South America) ..... *S. flagellum-nigrorum*
10. Mature achene body 2-2.3 mm wide at base, conical or narrowed to recurved at apex .....11

11. Mature inflorescence panicles erect and spreading with stiff, ascending to divaricate branches; prophylls of lateral branches eciliate at base; achenes conical (South America) .....*S. macbrideana*
11. Mature inflorescence panicles pendulous with elongate and flexuous branches; prophylls of lateral branches long-ciliate at base; achene ovoid, narrowly rounded to recurved summit (Costa Rica and South America) ..... *S. skutchii*
12. Mature achene body depressed-globose, truncate at apex, essentially smooth (Brazil).....  
.....*S. scandens*
12. Mature achene body globose, rounded at apex, with low tubercles bearing tufts of hairs (South America) ..... *S. splitgerberiana*

Note: Species of *Scleria* section *Hymenolytrum*, (*S. cyperina*, *S. cyperinoides*, *S. grandis*, *S. martii*, *S. macrogyne*, *S. ramosa*, *S. stipularis*, and *S. violacea*), many of which have a contraligule bearing a scarious appendage at apex, are not included here. They can sometimes be scandent, but generally are not high climbers.

## GENERIC DESCRIPTION

**SCLERIA** P.J. Bergius, Kongl. Vetensk. Acad. Handl. 26: 142. 1765 (nom. cons.).

Herbs, perennials or sometimes annuals, sometimes climbing or scandent. Cross section of stem trigonous, often harshly spinulose or barbed on angles. Leaves 3-ranked, the blades linear-elongate or sometimes lanceolate; sheaths closed at summit, the adaxial apex with a rounded, obtuse or triangular, herbaceous or membranous-appendaged, contraligule. Inflorescences paniculate or spike-like, terminal, or terminal and a series of axillary partial panicles from the upper leaf-like bracts. Flowers unisexual; stamens 1-3; style 3-branched. Fruit an achene with a globose or ovoid to ellipsoid body (white or variegated with purple at maturity), bony or crustaceous pericarp and 3-lobed hypogynium at base.

**Unique features:** Culms are trigonous and the adaxial sheath summit has an elongated acute to rounded appendage called a contraligule.

**Distribution:** 200-225 species in warm-temperate to tropical regions worldwide.

## RELEVANT LITERATURE

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