

Sciaphyllum amoenum (Acanthaceae) is a Peruvian *Streblacanthus*

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ABSTRACT. *Sciaphyllum amoenum* has been known solely from cultivated plants of unknown origin. This species exhibits all of the diagnostic characteristics of *Streblacanthus* but is not conspecific with any previously described species of that genus. The cultivated specimens, including the type, of *S. amoenum* correspond to an undescribed series of collections from Peru. Thus the species is transferred to *Streblacanthus*, and its place of origin can be established. *Streblacanthus amoenus* is compared with the other species of this genus of American plants. *Streblacanthus boliviensis* is considered to be a synonym of *S. dubiosus*.

Bremekamp (1940) described a plant known to him only from cultivated material as a new genus and species, *Sciaphyllum amoenum* Bremekamp. Plants were reported to have been cultivated in Europe (the Netherlands and England) and Asia (Java), but their origin was not known. Bremekamp (1940) concluded that *S. amoenum* would be included in his *Odontonemeae*, and he discussed its probable relatives in that tribe. He noted that *S. amoenum* had pollen similar to *Streblacanthus* Kuntze, but he did not pursue other similarities to or differences from this genus. Bremekamp's description and figure both suggested to me a likely relationship with *Streblacanthus*, and examination of type material confirms that *Sciaphyllum amoenum* belongs in that genus.

Streblacanthus is a small American genus of *Odontonemeae* characterized by corollas with a long, narrow tube and a bilabiate limb; an androecium of two stamens and no staminodes; tricolporate pollen with six pseudocolpi; and capsules with flattened, subcircular heads. Eight names have been utilized in the genus; however, many of these have been synonymized or shown to refer to species in other genera. For example, Daniel (1990) transferred *Streblacanthus parviflorus* Leonard to *Schaueria* Nees; Daniel (1993) included *Streblacanthus chirripensis* Lindau in the synonymy of *Justicia chamaeranthemodes* (Kuntze) T. F. Daniel; and Durkee (1986) included both *Streblacanthus macrophyllus* Lindau and *Streblacanthus longiflorus*

Cufodontis within *Streblacanthus monospermus* Kuntze.

Sciaphyllum amoenum has all of the diagnostic characteristics of *Streblacanthus* but is not conspecific with any of the remaining species in that genus. However, there are numerous unidentified Peruvian collections of *Streblacanthus* at US that correspond to Bremekamp's (1940) description and illustration, the type specimen at U, and other specimens from cultivated plants. *Sciaphyllum amoenum* is therefore transferred to *Streblacanthus*, and the provenance of this cultivated plant can be established as Peru. The unspecific genus *Sciaphyllum* Bremekamp becomes a synonym of *Streblacanthus*. A comprehensive description of the species is provided based on cultivated and field-collected specimens.

***Streblacanthus* Kuntze**, Rev. Gen. Pl. 1: 497. 1891. TYPE SPECIES: *Streblacanthus monospermus* Kuntze.

Sciaphyllum Bremekamp, Recueil Trav. Bot. Néerl. 37: 298. 1940. Syn. nov. TYPE SPECIES: *Sciaphyllum amoenum* Bremekamp.

***Streblacanthus amoenus* (Bremekamp) T. F. Daniel**, comb. nov. Basionym: *Sciaphyllum amoenum* Bremekamp, Recueil Trav. Bot. Néerl. 37: 298. 1940. TYPE: Indonesia. West Java: Buitenzorg (= Bogor) suburb of Kotta Paris, 4 July 1922, R. C. Bakhuizen van den Brink, Jr. 1402 (holotype, U; see discussion).

Erect perennial herb or shrub to 2.5 m tall; young stems subterete to subquadrate, evenly pubescent with straight eglandular trichomes and inconspicuous sessile or stipitate glands up to 0.05 (–0.1) mm long. Leaves petiolate; petioles to 135 mm long; blades deltate to broadly ovate to ovate-elliptic, 65–270 mm long, 52–180 mm wide, 1.1–1.7 times longer than wide, acute to subacuminate at apex, rounded to truncate to subcordate at base, surfaces green adaxially, purplish abaxially, pubescent (especially along major veins) with cauline type trichomes; a pair of reduced, sessile leaves often subtends inflorescence. Inflorescence of ax-



Figure 1. Map of Peru showing the natural distribution of *Streblacanthus amoenus*.

illary and terminal pedunculate spicate thyrses to 4.5 dm long (including peduncle and excluding flowers), these sometimes branched proximally; peduncles (to first branch or dichasium) to 110 mm long, rachis pubescent with straight to flexuose eglandular (and $\pm$ inconspicuous glandular) trichomes to 0.5 mm long (see discussion); dichasia opposite (to subopposite to alternate) at nodes, sessile; flowers 1–7 per dichasium, subsessile or borne on pedicels to 3.5 mm long. Bracts sessile, triangular to ovate to lanceolate, 1.5–5 mm long, 0.7–2.5 mm wide, pubescent like rachis. Bractlets and secondary bractlets triangular to ovate to lanceolate, 1–3 mm long, 0.5–1 mm wide, pubescent like rachis. Calyx 5-lobed, 5–8.5 mm long; lobes lance-subulate, 4.5–8 mm long, externally pubescent with glandular (sometimes inconspicuous or represented by sessile glands only) and eglandular trichomes to 0.2 mm long. Corolla purplish or pinkish, 24–36 (–40) mm long, externally pubescent with flexuose eglandular trichomes to 0.5 (–1) mm long; tube gradually ampliate distally from near midpoint or more abruptly ampliate distally into a throat (4–) 10–16 mm long, 2.5–5 mm diam.; upper lip $\pm$ triangular, 4–8 mm long, apically emarginate; lower

lip 4–10 mm long with elliptic (to subcircular) lobes 4–8 mm long, 2.5–6 mm wide. Stamens exerted from corolla tube; thecae parallel, 2–2.2 mm long. Style 19–35 mm long, glabrous (or sparsely pubescent proximally); stigma subcapitate, 0.2 mm long. Capsule 11.5–17 mm long, pubescent with straight to flexuose eglandular trichomes 0.05–0.5 mm long. Seeds 4, flat, subcordate, 4–4.7 mm long, 3.5–4.5 mm wide, surface and margin papillose.

Phenology. Flowering: May–December; fruiting: June–December.

Distribution. Native to Peru (Fig. 1; Ayacucho, Huánuco, Junín, Loreto, and San Martín); plants occur in tropical moist forests at elevations from 250 to 800 m. Cultivated in Europe, Asia, North America, South America, and the West Indies.

Additional specimens examined. NETHERLANDS. **Utrecht:** Baarn, Cantonspark 3404 (U). U.S.A. **California:** San Francisco Co., Strybing Arboretum, Golden Gate Park, San Francisco, *E. McClintock* s.n. (CAS). **Florida:** Hillsborough Co., U.S.F. Botanical Garden, *D. Burch* 4154 (CAS, MO); Lee Co., Alva, cultivated at River Haven Nursery from seed from Andromeda Gardens, Barbados, *T. Plowman* 13284 (US). PERU. **Ayacucho:** Estrella, between Huanta and Río Apurímac, *E. Killip & A. Smith* 23089 (US). **Huánuco:** Puente Tulumayo entre T. M. y Divisoria, *R. Ferreyra* 4331 (US); Pachitea, Sungaro, W of Puerta Inca, along hwy. 10 km S of Sungaro River crossing, 9°22'S, 75°00'W, *R. Foster* 8787 (US); prov. Leoncio Prado, distr. Rupa Rupa, Cueva de las Lechuzas, Tingo María, *J. Schunke* V. 3100 (US); prov. Leoncio Prado, distr. Rupa Rupa, Calpar Bella, cueva de los Hauriños, *J. Schunke* V. 9478 (US); prov. Leoncio Prado, distr. Rupa Rupa, along Río Monzon, trail to Cueva de las Lechuzas, *D. Wasshausen & O. Tovar* 1256 (US). **Junín:** prov. Chanchamayo, San Ramón, cultivated, *M. Antonieta V. & R. Fernández* 89 (US); between Azupízu and Santa Rosa, Pichis Trail, *E. Killip & A. Smith* 26135 (US); Río Negro, *F. Woytkowski* 5798 (US). **Loreto:** Balsapuerto (lower Río Huallaga basin), *E. Killip & A. Smith* 28694 (US). **San Martín:** prov. Mariscal Cáceres, distr. Tocache Nuevo, Quebrada de Huaquisha (márgen derecha del Río Huallaga), *J. Schunke* V. 8649 (US); prov. Mariscal Cáceres, distr. Tocache Nuevo, Quebrada Cachiayacu de Huaquisha, *J. Schunke* V. 12487 (US).

In the protologue, Bremekamp (1940) did not specifically designate a type of *Sciaphyllum amoenum*. The only herbarium specimen to which he directly referred, that cited as the holotype above, bears his determination in ink to which was added "Typus" in pencil. Because this specimen lacks capsules and seeds whereas Bremekamp's (1940) description and illustration included these, he undoubtedly utilized materials cultivated at the University Botanical Garden in Utrecht, to which he referred, in devising his protologue. In fact, it is clear from the protologue that such material formed the basis for most of the descriptive data. The only

herbarium specimen of *S. amoenus* at U based on a cultivated plant (that cited above from Baarn) was not collected until 1951. Collector's information on the type specimen from the island of Java indicates that it was probably cultivated there. The circumstances surrounding the introduction of this species into cultivation around the world remain unknown.

The species shows considerable variation in corolla form (especially length of the throat, which, however, is always longer than in *S. dubiosus* (Lindau) V. M. Baum) and rachis pubescence. Rachis pubescence varies from glandular puberulent with mostly sessile glandular and eglandular trichomes up to 0.05 mm long (e.g., Killip & Smith 23089) to glandular puberulent and with a dense and even overstory of straight to flexuose eglandular trichomes 0.2–0.4 mm long (e.g., Killip & Smith 28694) to glandular puberulent and with a dense and even overstory of straight glandular trichomes 0.1–0.2 mm long (e.g., Antonieta V. & Fernández 89).

Streblacanthus amoenus can be distinguished from *S. monospermus* of Costa Rica and Panama by its evenly pubescent young stems with trichomes to 0.1 mm long (vs. bifariously pubescent with trichomes greater than 0.3 mm long), rounded to truncate to subcordate leaf bases (vs. acute to attenuate bases), bracts and bractlets shorter than the calyx (vs. longer than the calyx), and 5-lobed calyces (vs. 4-lobed calyces). *Streblacanthus amoenus* differs from *S. cordatus* Lindau (including *S. cordifolius* T. F. Daniel) of Costa Rica, Panama, Colombia, and Ecuador by its shorter calyces (5–8.5 mm long vs. 10–25 mm long) and larger corolla throats (4–16 mm long and 2.5–5 mm diam. vs. 1.5–2.5 mm long and 2–2.5 mm diam.). *Streblacanthus amoenus* most closely resembles the southern South American

species *S. dubiosus*. These species can be distinguished by the following couplet:

Young stems inconspicuously puberulent with straight eglandular trichomes and sessile glands to 0.05(–0.1) mm long; corolla tube ampliate for (4–)10–16 mm forming a gradually funnellform throat, the throat 2.5–5 mm diam.; trichomes on capsule to 0.5 mm long; Peru *S. amoenus*
Young stems densely pubescent with an understorey of straight eglandular trichomes 0.1–0.2 mm long and an overstorey of flexuose to antrorse eglandular trichomes to 1 mm long; corolla tube abruptly ampliate near apex for 1–2 mm forming a short throat, the throat 2–2.5 mm diam.; trichomes on capsule 0.2–1.3 mm long (at least some always > 0.5 mm long); Peru, Bolivia, Paraguay, Argentina, and Brazil *S. dubiosus*

Based on my preliminary studies of a large series of specimens and type photographs, *Streblacanthus boliviensis* Lindau is here included in *S. dubiosus*. The resulting species forms a morphologically variable complex with both glandular and eglandular individuals. This species and the recently expanded and variable Central American *S. monospermus* (Durkee, 1986) are deserving of further studies.

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