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**A New Species of *Phyllostegia* and Two New
Varieties of *Cyanea* of the Hawaiian Islands**

By **E. Y. HOSAKA** and **OTTO DEGENER**

Phyllostegia Yamaguchii Hosaka and Degener, new species (fig. 1).

Planta suffruticosa ramosa 1-2 metra alta pilosa, truncus quadrangularis, foliis 7-12 cm. longis 3.5-5 cm. latis, acuminatis ovatis oblongis subcordatis ad cuneatis ad basim pilosis; pedunculus 1-4 mm. longus, tubo calycis 3-4 mm. longo labis calycis 1-1.8 mm. longis pilosis; corolla tuba 10-12 mm. longa alba pilosa.

Plant branching, suffruticose, 1-2 m. high, with horizontal branches, pilose throughout, stem quadrangular, hollow, dark purplish to dark reddish; leaves on petioles of 3.5-4.5 cm. long, purplish, pilose, blades 7-12 cm. long, 3.5-5 cm. wide, ovate-acuminate to oblong-acuminate, subcordate to cuneate at base, margin serrate, chartaceous, sparsely pilose on both surfaces, dark green above, whitish beneath, veins not prominent; inflorescence terminal to subterminal, 15-30 cm. long, branching, leafy at base, upper ones bracteiform, ovate-acuminate, 8-15 mm. long, 4-8 mm. wide, serrate, sparsely pilose, petiole to subsessile; flowers 3 in each axil, raised on a common peduncle, 1-4 mm. long, purplish, pilose; pedicels 6-8 mm. long, slender, subtended by short filiform bractlets; calyx tube 3-4 mm. long, 2-3 mm. wide, with short, triangular, acute, obconical, purplish, pilose lobes, 1-1.8 mm. long; corolla white, with purplish tinge on the upper and the lower lips, tube 10-12 mm. long, 2.5-3 mm. wide, slightly wider at the throat, upper lip 3-4 mm. long, rounded at the tip, lower lip 9-12 mm. long, rounded at the tip, cleft above the middle into small blunt lobes, pilose on the outer surface, pubescent within; stamens slightly protruding beyond the tube; stigma bilobed, only the lower one capitate at tip; fruits 5-7.5 mm. in diameter, obovate, 4-parallel, black when ripe, glabrous; nucules 4-5 mm. long, triangular in cross section, obovate, subtruncate at apex.

Oahu, Koolau Range, Laie, Puu Kainapuaa, very rare in open, wet summit ridge, altitude 2,500 feet, December 19, 1937, *E. Y. Hosaka* and *M. Yamaguchi* 1924 (type in Bishop Museum).

This new species is closely related to *Phyllostegia glabra* (Gaud.) Benth. and especially to its variety *Macraei* (Benth.) Sherff. It can

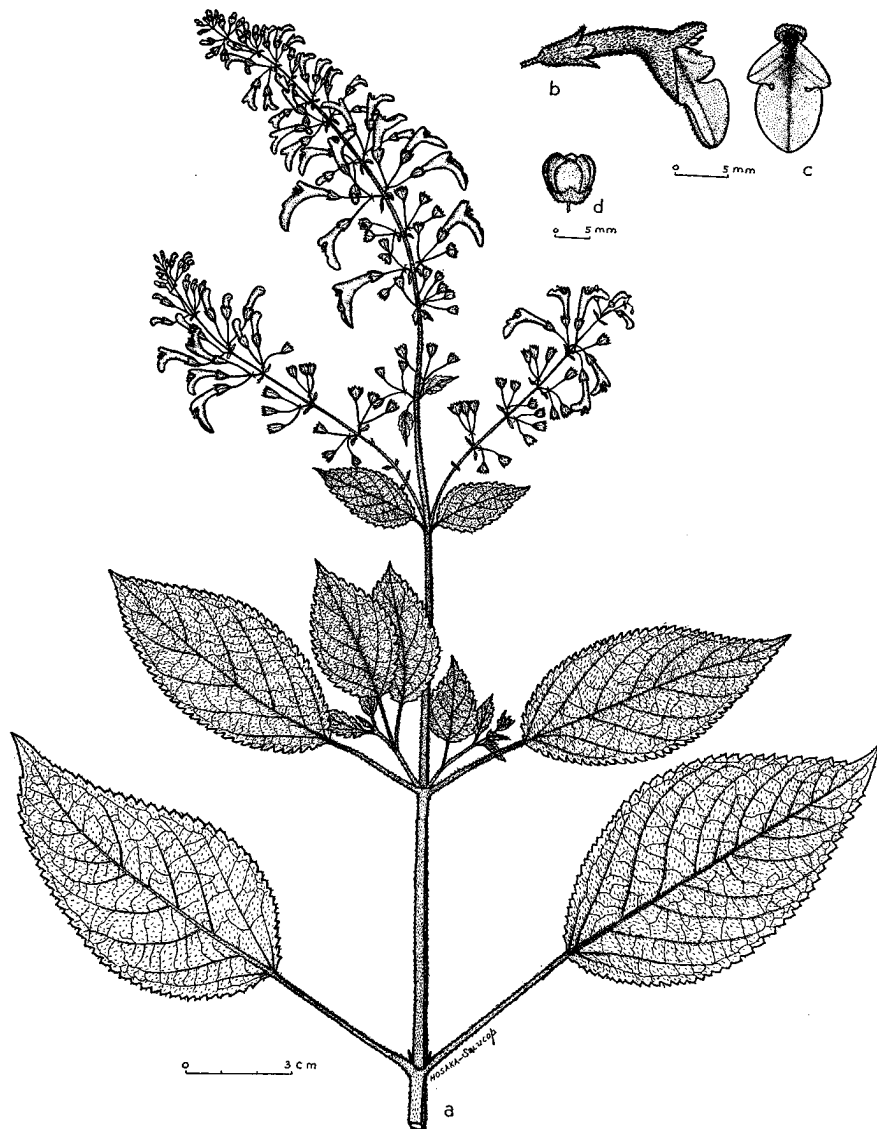


FIGURE 1.—*Phyllostegia Yamaguchii*: a, flowering branch; b, flower, side view; c, flower, front view; d, fruit.

be distinguished easily from the species and variety by the following characters: *Phyllostegia Yamaguchii* is pilose throughout, with square stem; peduncles 1-4 mm. long; calyx tube 3-4 mm. long, lobes 1-1.8 mm. long, pilose; corolla tube 10-12 mm. long, pilose. *Phyllostegia glabra*, on the other hand, is glabrous throughout, with rather terete stem; peduncles 4-8 mm. long; calyx tube 6-8 mm. long, lobes 2-3 mm. long, glabrous; corolla tube 14-22 mm. long, glabrous. The variety *Macraei* differs from *P. Yamaguchii* in being glabrous throughout, with square stem; peduncles 4-8 mm. long, calyx tube 4-4.5 mm. long, lobes 2-2.5 mm. long, glabrous; corolla tube 8-12 mm. long, glabrous.

This species is named for Mr. Michio Yamaguchi, teacher of agriculture at Waipahu, Oahu, and amateur botanist, who has collected many plants in the Hawaiian mountains with the authors.

Cyanea acuminata (Gaud.) Hillebr. variety ***calycina*** Hosaka, new variety (fig. 2).

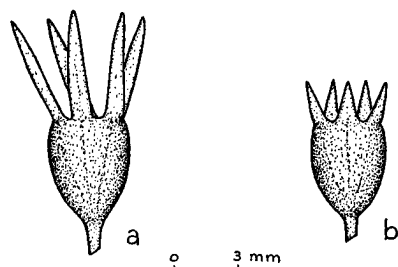


FIGURE 2.—a, *Cyanea acuminata* variety *calycina*, calyx; b, *Cyanea acuminata*, calyx.

Planta stricta 1-1.5 metra alta, labis calycis 4-5 mm. longis, corolla subpuberula, columna staminea glabra.

Plant erect with simple stem, 1-1.5 m. tall; leaves broad-oblong, acuminate at both ends, glabrous above, sparsely puberulous below; peduncles sparsely puberulous; calyx lobes 4-5 mm. long, lance-acuminate; corolla faintly puberulous; staminal column glabrous.

Oahu, Koolau Range, Waipio, Kipapa Gulch, altitude 1,700 feet along stream bed, August 7, 1933, *E. Y. Hosaka 1185* (type in Bishop Museum).

This variety closely resembles *Cyanea acuminata* (Gaud.) Hillebr. but differs in having glabrous upper leaf surface, calyx lobes 4-5 mm.

long, corolla faintly puberulous, staminal column glabrous. *Cyanea acuminata* has puberulous upper surface of leaf, calyx lobes 2 mm. long, corolla conspicuously puberulous, staminal column puberulous.

Cyanea Grimesiana Gaud. variety **Munroi** Hosaka, new variety.

Labis calycis 10-13 mm. longis.

Plant simple to branching, 1-3 m. tall; leaves 30-65 cm. long, 15-25 cm. wide, lacinate; calyx tube 7-10 mm. long, cylindrical, glabrous, lobes 10-13 mm. long, 4-6 mm. wide, broadly lanceolate; corolla (measured along curve) 4.5-5.5 cm. long, about 5 mm. wide, curved, glabrous; anther hirsute at base.

Lanai: Mts. E. end, June 1913, *C. N. Forbes 266L.*; August 23, 1919, *G. C. Munro 673*; Mahana, August 23, 1919, *G. C. Munro 276*; Ravine in Mt., moist woods, September 22, 1916, *A. S. Hitchcock 14703*; Kaiholena, November 3, 1913, *G. C. Munro 166* (type in Bishop Museum).

This new variety closely resembles *Cyanea Grimesiana* Gaud. variety *mauiensis* Rock, but differs from it in having calyx lobes 10-13 mm. long, whereas variety *mauiensis* has calyx lobes 24-36 mm. long.

Rock [B. P. Bishop Mus., Mem. 7 (2) : 251, 1919] cites Hitchcock's specimen no. 14703 under variety *mauiensis* and says that this variety had not been reported previously from Lanai. Hitchcock's specimen is distinctly different from the type of variety *mauiensis* and is similar to the new variety *Munroi*, known only from the island of Lanai.

This variety is named for Mr. George C. Munro who has made the largest collection of Lanai plants during his long residence on the island.