

NOTES ON ARCHIBACCHARIS (COMPOSITAE - ASTEREAEE)

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The following notes are drawn from my recent revision of Archibaccharis which is to be published in the near future. They consist of descriptions of new taxa and nomenclatorial changes.

ARCHIBACCHARIS HIERACIIFOLIA Heer. var. HIERACIIFOLIA.

Archibaccharis hieraciifolia Heer., Hamb. Wissensch. Anst. 21: Beiheft 3: 40. 1904 (prim.). Type: MEXICO: State of Oaxaca: Sierra de San Felipe, ele. 2966 m, 13 Dec. 1895, Pringle 6257 (HBG; photo. MIN!; isotypes: BM! F! GH! K! MIN! MO! MSC! NY! P! UC! US!).

Baccharis oaxacana Greenm., Proc. Amer. Acad. 40: 37. 1904. Hemibaccharis oaxacana (Greenm.) Blake, Contr. U. S. Nat. Herb. 20: 546. 1924. Archibaccharis oaxacana (Greenm.) Blake, ibid. 23: 1508. 1926. Type: Pringle 6257.

Heering's publication of Archibaccharis hieraciifolia preceded the publication of Baccharis oaxacana Greenm. in the same year. Both names were based on plants from the same collection, Pringle 6257. My study of the holotype of B. oaxacana and photos of the holotype of A. hieraciifolia show that these plants are members of the same taxon. I view the two following taxa as varieties of A. hieraciifolia.

ARCHIBACCHARIS HIERACIIFOLIA Heer. var. GLANDULOSA (Greenm.)

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Baccharis glandulosa Greenm., Proc. Amer. Acad. 40: 36-37. 1904. Hemibaccharis glandulosa (Greenm.) Blake, Contr. U. S. Nat. Herb. 20: 546. 1924. Archibaccharis glandulosa (Greenm.) Blake, Journ. Washington Acad. Sci. 17: 60. 1927. Type: MEXICO: Federal District: Serrania de Ajusco, ele. 2895 m, 7 Dec. 1903, Pringle 8782 (GH!); isotypes: BM! C! F! K! MICH! MIN! MO! NY! P! POM! UC! US!).

ARCHIBACCHARIS HIERACIIFOLIA Heer. var. HIERACIOIDES (Blake)

J. D. Jackson, stat. nov.

Baccharis hieraciifolia Hemsl. Biol. Centr. Amer. 2: 129. 1881. Not Lam. 1783. Hemibaccharis hieracioides Blake, Contr. U. S. Nat. Herb. 20: 547. 1924. Archibaccharis hieracioides

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Blake, Journ. Washington Acad. Sci. 17: 60-61. 1927. Lectotype: MEXICO: State of Mexico: Desierto Viejo, Valley of Mexico, 3 Nov. 1865 or 1866, Bourgeau 1230 (K! photo. MIN! isolectotypes: C! GH! P! US! photo. of C isolectotype, GH! NY! TEX! photo. and fragments from an undetermined herbarium, MSC!).

ARCHIBACCHARIS SCHIEDEANA (Benth.) J. D. Jackson, comb. nov.

Baccharis scandens Less., Linnaea 5: 146. 1830. Not Pers. 1807. Baccharis Schiedeana Benth. in Oerst. Nat. For. Kjöbenhavn Vid. Medd. 1852: 83. 1852. Type: B, destroyed (D. E. Meyer, per. comm.). Lectotype: MEXICO: State of Vera Cruz: Jalapa, Aug., no year cited, Schiede 318 (GH!; photo. MIN!).

Baccharis elegans var. Seemannii Schultz Bip., Seem. Bot. Voy. Herald: 303. 1856. Type: MEXICO: Sierra Madre, N. W. Mexico, Seemann 2015 (K!; photo. MIN!; isotypes: GH! K!).

Baccharis Thomasii Klatt, Abh. Naturf. Ges. Halle 15: 326. 1881. Type: MEXICO: State of Vera Cruz: Orizaba, 1866, Thomas s. n. (P!; photo. MIN!).

Hemibaccharis torquis Blake, Contr. U. S. Nat. Herb. 20: 550. pl. 51. 1924. Archibaccharis torquis Blake, *ibid.* 23: 1508. 1926. Type: COSTA RICA: Prov. of San José: "hospice des alienes," San José, Nov. 1892, Tonduz 1535 (US!; photo. MIN! UC!; isotypes: F! G! GH! NY! P!).

ARCHIBACCHARIS SERRATIFOLIA (H.B.K.) Blake, Contr. U. S. Nat. Herb. 26: 236. 1930.

Baccharis serratifolia H.B.K., Nov. Gen. & Sp. 4: 59. 1820. Type: MEXICO: State of Guanajuato: on steep slopes between Santa Rosa and Los Ioares, ele. ca. 2600 m, Sept., no year cited, H.B.K. 31 (P!).

Baccharis mucronata H.B.K., Nov. Gen. & Sp. 4: 60. 1820. Hemibaccharis mucronata (H.B.K.) Blake, Contr. U. S. Nat. Herb. 20: 550-551. 1924. Archibaccharis mucronata (H.B.K.) Blake, *ibid.* 23: 1508. 1926. Type: MEXICO: State of Guanajuato: growing with H.B.K. no. 31, H.B.K. 32 (P!; photo. MSC!).

Baccharis micrantha H.B.K., Nov. Gen. & Sp. 4: 60. 1820. Type: MEXICO: State of Guanajuato: near Guanajuato, ele. ca. 2000 m, Sept., no year cited, H.B.K. 33 (P!).

Pluchea floribunda Hemsl., Diag. Pl. Mex. 2: 32-33. 1879. Lectotype: MEXICO: State of Vera Cruz: Mirador, Linden 1171 as part of a mixed sheet including Galeotti 2308, also A. serratifolia (K!; photo. MIN!; isolectotypes: G! P!).

Diplostegium paniculatum Donnell Smith, Bot. Gaz. 23: 8-9. 1897. Hemibaccharis mucronata paniculata (Donn. Smith) Blake, Contr. U. S. Nat. Herb. 20: 551. 1924. Archibaccharis mucronata paniculata (Donn. Smith) Blake, *ibid.* 23: 1508-1509. 1926. Archibaccharis mucronata var. paniculata (Donn. Smith) Blake, Amer. Journ. Bot. 15: 64. 1928. Archibaccharis serratifolia var. paniculata (J. D. Sm.) Blake, Journ. Washington Acad. Sci. 21: 328. 1931. Type: GUATEMALA: Dept. Huehuetenango: between San Martín and Todos Santos, ele. 2180-2656 m, Dec. 1895, Nelson 3629 (US!; photo. MIN!; isotype: GH!).

ARCHIBACCHARIS HIRTELLA (DC.) Heer. var. ALBESCENS J. D. Jackson, var. nov.

Caulibus glabratis infra, tum paulo sordidis-pilosis albescentibus-pilosis desuper et in ramis, foliis maxime ellipticis sed interdum oblongis-ovatis vel raro ovatis, tenuiter chartaceis, sparsim albidis-pilosis in superis et infernis pagines et stipitatis-glandiferis atque infra, phyllariis glabris.

Type: MEXICO: State of Oaxaca: oak woods, Sierra de Clavellinas, ele. 2812 m, 18 Oct. 1894, Pringle 4988 (MIN!; isotypes: BM! G! GH! K! MICH! MO! MSC! NY! P! POM! UC!).

Scandent vines; 50-70 dm tall; pilosulous, the hairs sordid below becoming whitish above on the branches and leaves. Roots fibrous. Stems strongly fractiflex, terete, the bases 3.0-8.0 mm in diam., graduating to 1.0-2.5 mm above, slender, the internodes 1.0-7.5 cm long, dull, brown or gray-brown below, brown or green above, glabrescent below, pilosulous above. Leaves with petioles 1.5-6.0 mm long, pilosulous; blades usually elliptical but sometimes oblong-ovate or ovate, 3.5-6.5 cm long, 1.0-2.5 cm wide, thinly chartaceous, obtuse at bases, acuminate or just acute at apices, margins often subentire throughout or merely sparsely denticulate, distally serrate or serrulate, the upper surfaces dark-green, somewhat shiny, sparsely pilosulous with some glandular hairs on the major lateral veins, the lower surfaces lighter green, sparsely pilosulous and rather evenly stipitate-glandular, the glands amber. Panicles rather small and close, pilosulous. Pistillate heads: 3.5-4.0 mm high, ca. 2.0 mm wide, phyllaries ca. 5-seriate, acute, the outer lanceolate and glabrous, the inner linear-lanceolate and glabrous; filiform ray flowers 9-14, pappus 2.0-2.7 mm long, whitish becoming brown-tinged, corollas 1.3-1.9 mm long, green-white becoming dark-purple especially above at maturity, puberulous only near the apices, the ligules present or absent, 0.1-0.4 mm long, achenes 0.8-1.2 mm long, 2-3 nerved, shiny and finely hispidulous; disk flowers 1-2, pappus 2.0-2.8 mm long, corollas 2.6-3.3 mm long, anthers sterile, achenes inane. Staminate heads: 3.5-4.0 mm high, 2.0-2.5 mm wide, phyllaries ca. 4-seriate, resembling those of the pistillate heads; disk flowers 11-16, green-white becoming dark-purple especially above at maturity, pappus 1.9-2.2 mm long, whitish becoming brown-tinged, tubes 0.9-1.8 mm long, puberulous above, limb 1.2-1.6 mm long, puberulous below, lobes oblong or barely linear, 1.0-1.3 mm long, dorsally glabrous, style branches rhombic-oblong, short-acuminate or acute, achenes abortive, small knobs.

Chromosome number: $n = 9$ (Jackson, 1969). Published originally as Archibaccharis hirtella (DC.) Heer. var. intermedia Blake.

Pollen diameters (microns): polar, 15.0-20.0; equatorial, 16.7-21.0; Jackson 1025, Smith 259.

This variety of Archibaccharis hirtella is a long, slender-stemmed vine which climbs over shrubs. The floral morphology matches that of the other varieties of A. hirtella very well.



Fig. 1. Holotype of Archibaccharis hirtella var. albescens.

Although closely resembling *A. hirtella* var. *taeniotricha* from Chiapas, Mexico and Guatemala in vegetative characters, this new variety proved to be consistently different in a few characters. The stems are whitish pilosulous above as are the leaves. The abundant stipitate-glandular hairs on the lower leaf surfaces are lacking on var. *taeniotricha*, a taxon with densely sordid or brown-pilosulous hairs on the stems and thicker, larger leaves. The present variety also possesses glabrous outer phyllaries while those of var. *taeniotricha* are noticeably pilosulous.

Blake (1934, p. 434) cited Pringle 4988 and Smith 259 as var. *taeniotricha*. These collections are now referred to var. *albescens* and the MIN sheet of Pringle 4988 was selected as the holotype.

Growing in oak woods and in a moist, wooded barranca near moving water, 1750-2745 m ele., known only from Sierra de San Felipe and Sierra de Clavellinas, State of Oaxaca, Mexico.

MEXICO: State of Oaxaca: Oaxaca, Conzatti & Gonzalez 997 (GH!); moist, wooded barranca along Río Puente, Sierra de San Felipe del Agua, Jackson 1025 (B, BM, C, DS, F, G, GH, K, MICH, MIN, MO, MSG, NY, P, POM, TEX, UC, US, WIS); Sierra de Clavellinas, Smith 259 (BM, MICH, MO, NY, UC, US, WIS).

ARCHIBACCHARIS LINEARILOBIS J. D. Jackson, sp. nov.

Herba erecta(?); caulibus, foliis, pediculis dense glandiferis-pubescentibus; corollis florum filiformum capitum pistillatorum 3.9-4.6 mm longis; lobis florum hermaphroditorum disci capitum staminatorum linearibus vel raro oblongis, 1.7-2.2 mm longis.

Type: GUATEMALA: Dept. Huehuetenango: steep, rocky slopes along road to San Juan Ixcay, Sierra Cuchumantanes, ele. 3700 m, 12-23 Jan. 1966, Molina, Burger & Wallenta 16446 (F! photo. MIN!; isotype: NY!).

Erect ligneous herbs(?); ca. 15 dm tall; densely glandular-pubescent, the sordid hairs mixed with white or brown pilosulous hairs; subterranean parts and bases not seen. Stems straight or obscurely fractiflex above, terete, 1.5-3.5 mm in diam. above, dull, dark-brown or lighter, glandular-pubescent. Leaves with short petioles, 1.0-3.0 mm long, thickly glandular-pubescent; blades ovate, oblong-ovate or elliptical, 3.5-6.0 cm long, 1.5-3.0 cm wide, firmly chartaceous, shallowly cordate or rarely rounded at bases, short acuminate at apices, margins serrulate distally, the upper surfaces dark-green or perhaps sordid olive-green, somewhat shiny, glandular-pubescent, the lower surfaces dark-green and sordid, duller than the upper surfaces, glandular-pubescent. Panicles convex, densely glandular-pubescent. Pistillate heads: ca. 6.0 mm high, 3.0 mm wide, phyllaries ca. 4-seriate, acute or acuminate, the outer triangular, ovate-oblong becoming lanceolate, puberulous with superficial brown glands, the inner linear-lanceolate and becoming glabrous; filiform ray flowers 30-40, pappus 3.4-4.8 mm long, white or perhaps light-yellow, corollas 3.9-4.6 mm long, white, puberulous above, the ligules erect or obliquely



Fig. 2. Holotype of Archibaccharis linearilobis.

reflexed, 1.5-2.0 mm long, achenes immature, 1.1-1.4 mm long, trigonous, shiny and hispidulous; disk flowers 2, pappus 3.6-4.0 mm long; corollas 3.9-4.2 mm long, anthers sterile, achenes abortive, reduced and inane. Staminate heads: ca. 7.0 mm high, 5.0 mm wide; phyllaries 4-5-seriate, resembling those of the pistillate heads; filiform ray flowers ca. 9; pappus 3.4-3.8 mm long, corollas 5.1-5.8 mm long, achenes apparently infertile; disk flowers ca. 36, white, pappus 3.8-4.4 mm long, white or perhaps light-yellow, tubes 1.9-2.2 mm long, puberulous above, limb 2.6-3.0 mm long, puberulous below, lobes linear, rarely oblong, 1.7-2.2 mm long, sparsely puberulous near the apices of the dorsal surfaces, style branches subclavellate or oblong, abruptly acute, achenes abortive, reduced and inane.

Pollen diameters (microns): polar, 22.2-28.9; equatorial, 24.4-32.1; Molina, Burger & Wallenta 16446.

Archibaccharis linearilobis shares some vegetative and floral characters with A. subsessilis, a species with which it is sympatric, at least in a portion of the range of that species. The head composition of the present species parallels that found in A. subsessilis and A. corymbosa with constant presence of heterogamous heads on both pistillate and staminate plants. As with those species, the heads present a diminished monoecious condition. The type collection of A. linearilobis was distributed as A. corymbosa.

The specific epithet "linearilobis" refers to the distinctive linear lobes found on the disk flowers of the staminate heads.

When the cotton blue test was applied to the pollen from the staminate specimen of A. linearilobis (NY), ca. 92 per cent of the grains were found to be full, thus reducing the probability that the specimens were of hybrid origin. Although only a single sample of the pollen of A. linearilobis was available, there was a marked difference in the size of the grains when compared to those of A. subsessilis.

Although A. linearilobis is known only from the type collection, a single specimen from an additional collection, Breedlove 8515 (MICH), is nearly identical to the present species. This pistillate specimen, however, appears different with angled stems, thicker and harsher leaves, much larger heads and larger floral measurements. The giant characters perhaps suggest a polyploid origin for this specimen. Further collections are needed.

Literature Cited

- Blake, S. F. 1934. New Asteraceae from Guatemala collected by A. F. Skutch. Journ. Washington Acad. Sci. 24: 433-435.
Jackson, J. D. 1969. IOPB Chromosome Number Reports. Taxon 18: 435.