

TROPICAL AMERICAN PLANTS, XVIII

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The Guatemalan members of the tribe Senecionieae, of the Compositae are few, consisting of five native genera, Emilia, Erechtites, Psacalium, Senecio and Werneria and one, Gynura, which is occasionally naturalized.

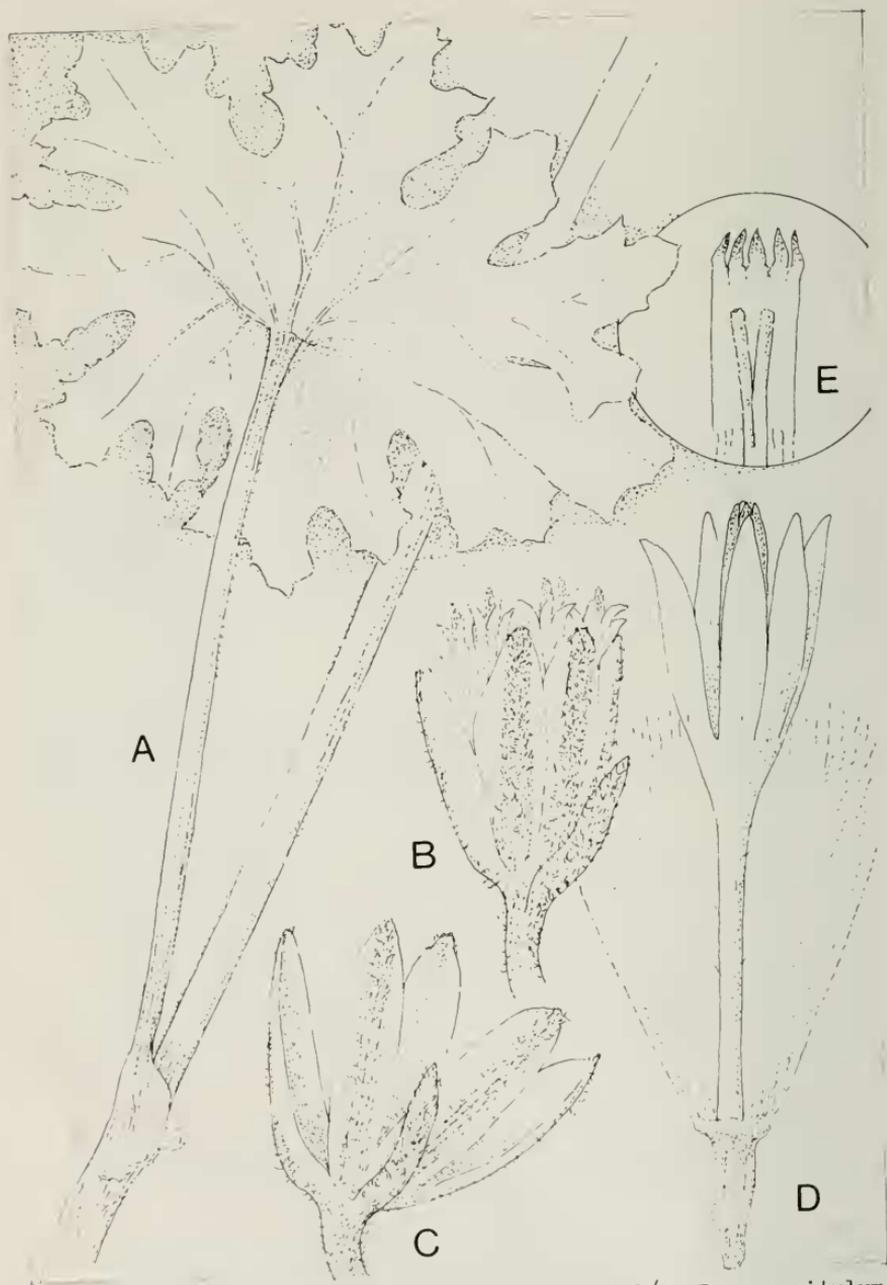
Senecio is the only genus of importance in the flora. But even though more than thirty species of Senecio are represented most of these are "hidden" in the forest so they do not appear to be an impressive part of the flora. In addition to the Guatemalan plants mentioned there are a few related plants from Mexico and Central America discussed in this paper.

The field work, both in Guatemala and other Central American countries, as well as the long term floristic studies, have been liberally funded through the years by the National Science Foundation. We are most appreciative of this help.

At this writing the manuscript for the Compositae of the Flora of Guatemala is essentially completed. The manuscript for the Cucurbitaceae is being prepared by Jennie J. V. Dieterle, at the University of Michigan, and should be completed soon. An index of the entire flora, except mosses, ferns and orchids, has been and is being prepared by Terua P. Williams. This volume should be ready soon after the last page proofs of the flora are in hand. It is expected that the index will contain more than 30,000 entries.

Psacalium pinetorum (Standl. & Steyererm.) Cuatr. Brittonia 8: 157. 1955. Cacalia pinetorum Standl. & Steyererm. Field Mus. Bot. 23: 142. 1944. Illustration.

Known only from the Guatemalan type and from Williams, Molina & Williams 22856, from which the illustration was prepared. It is closely related to the Mexican Psacalium pippenianum, which follows.



Psacalium pinetorum. A, a lower leaf, X $3/4$; B, a capitulum, X4; C, involucre showing 5 phyllaries and a bract, X4; D, a floret, X8; E, style and anthers much enlarged.

~~Psacalium pippenianum~~ L. Wms. nom. nov. Senecio tabularis Hemsl. Biol. Cent.-Am. Bot. 2: 248. 1881, not Senecio tabularis Sch.-Bip., 1845. Cacalia tabularis Gray, Proc. Am. Acad. 19: 52. 1883. Psacalium tabulare Rydb. Bull. Torr. Bot. Club 51: 375. 1924; Pippen, Contr. U. S. Nat. Herb. 34: 432. 1966.

The use of Senecio tabularis Sch.-Bip. precludes the use of the same epithet later by Hemsley. The plant requires a new name and as I find no other to apply to it that above is provided. The name commemorates Richard W. Pippen who prepared a fine account of the genus.

~~Senecio aschenbornianus~~ Schauer, Linnaea 20: 698. 1947.

Specimens from Guatemala and from south Mexico which have been determined with this name are mostly S. quezalticus.

Senecio chenopodioides HBK. Nov. Gen. & Sp. Pl. 4: 179. 1820. Gynoxys haenkei DC. Prodr. 6: 326. 1836 (basionym for S. kermesinus); G. berlandieri DC. l.c. (basionym of Senecio berlandieri Hemsl., not S. berlandieri Sch.-Bip., and of S. confusus Britten); G. berlandieri var. cordifolia DC., l.c.; G. fragrans Hook. Bot. Mag. 76: t. 4511. 1850; G. cumingii Benth. ex Oersted, Kjoeb. Vidensk. Meddel. 1852: 106. 1852; G. oerstedii Benth. l.c. 107; Senecio berlandieri Hemsl. Biol. Cent.-Am. Bot. 2: 236. 1881, not Sch.-Bip., 1845. S. calocephalus Hemsl. l.c. 237; S. kermesinus Hemsl. l.c.; S. skinneri Hemsl. l.c. 247; S. chinotegensis Klatt, Leopoldina 24: 125. 1888; S. hoffmanni Klatt, Leopoldina 25: 106. 1889; S. confusus Britten, Journ Bot. 36: 260. 1898. S. convolvuloides Greenm. Monog. nord. und centralam. Art. Gattung Senecio, pt. 1, 26. 1901; Engler Bot. Jahrb. 32: 22. 1902, nomen; S. bernoullianus Greenm. ll.cc.; S. trixioides Greenm. ll. cc., nomen; S. rothschuhianus Greenm. ll. cc., nomen; Pseudogynoxys haenkei Cabrera, Brittonia 7: 54. 1950; S. chenopodioides Cabrera, l.c. 56; P. hoffmannii Cuatr. Brittonia 8: 156. 1955; P. oerstedii Cuatr. l.c.

This is certainly one of the commonest and most attractive of the Senecios of Mexico and Guatemala. It extends southeastward to Costa Rica and possibly Panama. It is most abundant at middle elevations in Central America and is an inhabitant principally of thickets and forest edges. A vine most often with bright orange to brick-red flowers it is quite conspicuous and consequently it has been quite adequately collected.

The complicated synonymy above is an indication of the variability found in the species. Dr. Greenman in the protologue for his monograph (Engler Bot. Jahrb. 32: 1-33. 1902) gave a synopsis of the sections in which the North American species

might be found. The list of species found in his section Convolvuloidei is essentially like the list of synonyms given above and included four manuscript names of his which were never published. Greenman in the beginning of his "Monograph of the North and Central American species of Senecio" (Ann. Mo. Bot. Gard. 2: 573- et seq. 1915) divided the American Senecios into two subgenera. One of these, subg. Pseudogynoxis, contains the complex which I shall call Senecio chenopodioides. Dr. Cabrera (Brittonia 7: 54. 1950) raised the subgenus to generic level, as Pseudogynoxys.

Senecio cobanensis Coulter, Bot. Gaz. 16: 101. 1891.

S. cobanensis var. sublaciniata Greenm. Ceiba 1: 120. 1950.

Telanthophora cobanensis Robinson & Brettell, Phytologia 27: 427. 1974. T. molinae Robinson & Brettell, l.c.

When Coulter described S. cobanensis he said that Donnell-Smith had placed in his hands his recent collections of Compositae from Guatemala. He did not indicate that these were returned to Donnell-Smith. Coulter's herbarium, subsequently in the herbarium, University of Chicago, and now a part of the Field Museum herbarium, contained a specimen annotated in Coulter's script as "Senecio cobanensis Coulter, n. sp." I believe that this specimen is the holotype of the species.

Both radiate and discoid populations occur in this species. Most collections from the Mexican-Guatemalan frontier mountains are radiate, but not all. In Honduras, the other extreme of the range, most collections are discoid but one has some ray flowers in the inflorescence. There is a possibility that some disk flowers may be functionally unisexual, for styles and stigmas often appear undeveloped. The pistillate ray flowers appear sterile, at least in some heads examined.

Senecio cuchumatansensis Williams & Molina, sp. nov.

Subg. Senecio, sec. Tomentosi. Herbae subscaposae perennes; folia conferta laminis oblongo-ovatis aut suborbicularibus obtusis revolutis leviter araneosis aut glabrescentibus; inflorescentia uni-bicapitulata; capitula heterogama; involucrem campanulatum leviter puberulentum aut glabrum; phyllaria plusminusve 20 lineari-lanceolata acuta penicillata; flosculi plusminusve 60; corollae flosculum discoideum 8-9 mm. longae anguste campanulatae.

Subscapose perennials to about 30 cm. tall; the scape slender, purple, with reduced leaves or bracts; the long petiole leaves crowded at the crown of the thick roots, the blade

oblong-ovate to suborbicular, obtuse, revolute, sparsely araneose and purple beneath, glabrescent, 1-3.5 cm. long and 1-1.5 cm. broad, petioles to 3 cm. long; inflorescence one or two heads at the end of the scape; heads calyculate, heterogamous, campanulate, the florets yellow; involucre campanulate, sparsely pubescent to glabrous, the phyllaries about 20, linear-lanceolate, acute, the tips penicillate, about 7 mm. long and 1.5 mm. broad; receptacle slightly alveolate; immature achenes about 2 mm. long, pubescent; pappus abundant, caducous, about $\frac{3}{4}$ as long as the corolla; florets about 60, 10-12 radiate and about 50 discoid; corolla of ray flowers tubular with a conspicuous ray, the tube about 5 mm. long, the ray about 10-12 mm. long and 3 mm. broad, elliptic, tridentate; disk corollas 8-9 mm. long, tubular below, narrowly campanulate throat about 3.5 mm. long, the lobes narrowly triangular, about 1 mm. long; anthers and styles slightly exerted at anthesis.

Guatemala: on bluffs above San Juan Ixcoy along trail to Tojquía, Sierra de los Cuchumatanes, department of Huehuetenango, alt. 2,800-3,400 m., August 5, 1942, Steyermark 50117 (F, fragment EAP); on high limestone bluff between Toquía and Caxín bluffs, summit of Sierra de los Cuchumatanes, department of Huehuetenango, alt. 3,700 m., Steyermark 50107 (type, F).

Allied to Senecio gerberaeifolius Sch.-Bip. and found in the same subalpine region of Huehuetenango. The suborbicular to oblong-ovate leaves abruptly attenuated to the petiole, the greater number of phyllaries, the less pubescent under surface of the leaves will help to separate the two.

Senecio doratophyllus Benth Pl. Hartw. 87. 1841. Cacalia cuspidata Bertol. Fl. Guat. 32. 1840, not Senecio cuspidatus DC., 1837. Senecio guatemalensis Sch.-Bip. Flora 28: 499. 1845. S. godmanii Hemsl. Biol. Cent.-Am. Bot. 2: 240. 1881; Blake, Bull. Torr. Bot. Club 53: 218. 1926.

A common species on the western volcanoes of Guatemala (with one collection known from Chiapas, Mexico) which belongs in the subg. Senecio, sec. Mulgedifolii, of Greenman's treatment of Senecio (Engler Bot. Jahrb. 32: 21. 1902). The species is a variable one. The phyllaries, which are usually fairly constant in number in a given species of the Central American Sencios, vary from 8 to 12-13 in this species with 12 being the common number. The species normally is without ray flowers and the section Mulgedifolii is so limited. The problem is that we have two specimens with ray flowers, and one of these (Nelson 3638) began causing trouble to Donnell-Smith back in the last century. I think that these specimens are just S. doratophyllus and that the radiate condition does not even justify a varietal designation in this genus. Curiously enough one of these specimens

(Steyermark 34098) has 8 phyllaries in the involucre while the other (Nelson 3638) has 13 phyllaries.

Senecio epidendrus L. Wms. sp. nov.

Subg. Senecio, sec. Streptothamni. Frutices aut lianae grandes. Folia carnosae petiolata glabrescentes penninervia, laminae ovaes acutae vel abrupte acuminatae; capitula heterogama campanulata; phyllaria 8, anguste oblonga acuta coriacea leviter lanata; flosculi plusminusve 28 ligulati plusminusve 5; corolla disci tubulares usque ad 8-9 mm. longae.

Large epiphytic shrubs or lianas; the stems araneose-floccose, becoming glabrate, striate, 8-10 mm. or more in diameter. Leaves petiolate, fleshy, sparsely puberulent below, glabrous and shining above, prominently pinnate-veined, the veins about 8 pairs, the blade oval, acute or abruptly acuminate, about 13 cm. long and 9 cm. broad, the petioles about 3 cm. long; the inflorescence an axillary multicapitate corymbose raceme to about 20 cm. long; heads heterogamous, campanulate, about 10-12 mm. long at early anthesis, with 8 phyllaries and about 28 florets of which about 5 are ligulate and pistillate; involucre about half as long as the head, coriaceous, sparsely lanate; phyllaries narrowly oblong, acute, about 5-6 mm. long and 1.5-2 mm. broad, the inner with scarious margins; mature achenes not seen; pappus copious, about as long as the corollas; ray corollas 10-12 mm. long, the rays small, elliptic, about 5 mm. long; disk corollas 8-9 mm. long at anthesis, tubular and gradually expanded into a subcampanulate throat, the lobes lanceolate, acute, about 1 mm. long.

Mexico: flowers yellow; epiphytic shrubs; steep slopes with Quercus near crest of ridge on road from San Cristóbal las Casas to Tenejapa. Chamula paraje of Las Ollas, municipio of San Cristóbal las Casas, elevation 8300 feet, 19 February 1965, Breedlove 9053 (type, MICH).

Guatemala: between Cerro de Monos and the upper slopes of Monte Virgen, alt. 2,000-2,600 m., January 17, 1942, Steyermark 42889 (F).

This is the largest known species of Greenman's section Streptothamni in which all of the species are epiphytic. The several pairs of nerves in the leaves are very conspicuous while the nerves in all other species are obscure, or the pairs of nerves many fewer. Only one other species in the section is heterogamous, S. morazensis Greenm. from the highlands of Honduras and El Salvador. The Guatemalan specimen cited is too immature

for certain determination but if it is not this species then it is a closely related one.

Senecio greenmanii (Rob. & Brettell) L. Wms. comb. nov.

Roldana greenmanii Robinson & Brettell, Phytologia 27: 419. 1974.

Illustration.

This is one of the largest species of Senecio to be found in Central America,- tree-like herbs to 8 meters tall. The plant is found along the outer slopes of the volcanoes of western Guatemala and is to be expected in adjacent Mexico. Dr. E. S. Gibson who monographed the section Palmatinervii of Senecio, but has not yet published the work, annotated most of the specimens as a new variety of Senecio heterogamus.

Senecio montidorsensis L. Wms. nom. nov. Telanthophora

bartlettii Robinson & Brettell, Phytologia 27: 426. 1974, not

Senecio bartlettii Greenm., 1950.

A distinctive species known only from Belize. Recognized long ago by Dr. Greenman but never published. I have seen the following collections: Bartlett 11852 (MICH), 11753 (MICH); Molina 57 (F, EAP); Stevenson XV (F); Conservator of Forests 82 (F).

Senecio nubivagus L. Wms. nom. nov. Cacalia pudica Standl.

Steyerm. Field Mus. Bot. 23: 255. 1947, not Senecio pudicus

Greene, 1900. Pericalia pudica Cuatr. Brittonia 8: 157. 1955.

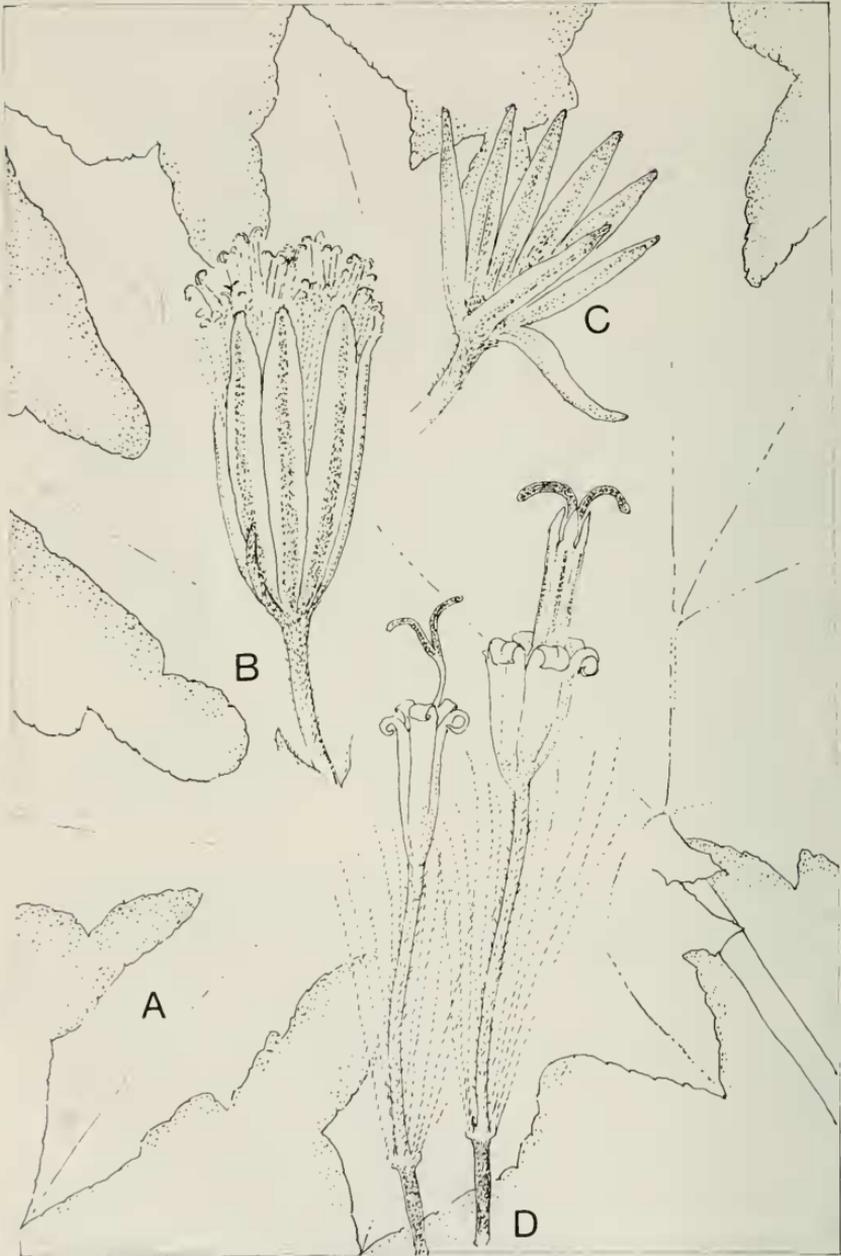
Psacaliopsis pudica Robinson & Brettell, Phytologia 27: 408.

1974.

Greenman, when he described the closely related Senecio purpusii attributed it to the section Palmatinervii Hoffm. The Guatemalan Cacalia pudica Standl. & Steyerm. is closely related, which Robinson & Brettell call attention to by placing the two species into a segregate genus, Psacaliopsis. However in preparing a description and a plate for the Flora of Guatemala I have found no character, as Greenman obviously did not, to separate the plants generically from Senecio. The segregate would be useful in the sectional division of Senecio and since there seems to be minor differences in the vegetative habit, from the usual condition in Section Palmatinervii, I propose to use the segregate generic name in sectional status, as follows:

Senecio, subg. Senecio, sec. Psacaliopsides (Rob. Brett.)

L. Wms. stat. nov. Psacaliopsis Robinson & Brettell, Phytologia 27: 408. 1974, as genus.



Senecio greenmanii. A, a leaf in background, X $3/4$; B, a capitulum, X $4\ 1/2$; C, involucre showing 8 phyllaries, X $3\ 1/2$; D a pistillate disk floret and a polygamous one, X 6.

Senecio oerstedianus Benth. in Oersted, Vid. Medd. Kjoeben. 1852: 109. 1853.

First found on the high volcanoes of Costa Rica, where it is fairly common. It is rare on the high volcanoes of western Guatemala and in adjacent Mexico. It occurs also on Chiriquí volcano in Panama. One Guatemalan specimen, Steiermark 34180, is much less tomentose than any of the others seen.

Senecio orogenes L. Wms. sp. nov.

Subg. Senecio, sec. Fruticosi. Frutices aut arbores usque ad 4 m. alti. Folia oblongo-ovata lobulata vel lobulato-dentata penninervia glabra vel sparse pubescentia petiolata; inflorescentia terminalis aut lateralis paniculis multicapitatis corymbosis; capitula radiata; involucrem subcylindricum, phyllariis 5; flosculi 5-8; corollae discis tubis cylindricis faucibus anguste campanulatis lobis linearis ornatis.

Shrubs or weak trees to 4 m. tall, the pithy stems and inflorescences sparsely araneose-pubescent but soon glabrous. Leaves oblong-ovate to ovate, lobulate or lobulate-dentate, penninerved with 6-8 pairs of lateral nerves, glabrous or sparsely pubescent along the nerves below, long petiolate, the blades 7-18 cm. long and 5-12 cm. broad, acute, the base rounded, often somewhat unequal, the petiole slender, mostly 5-10 cm. long; the inflorescence terminal and lateral in the uppermost leaves, of profuse corymbose, many-headed panicles; heads radiate, yellow, mostly 8-10 mm. long; involucre subcylindric, glabrous, with 5 linear-lanceolate or lanceolate, acute phyllaries of which three are scarious margined, about 6 mm. long and 1.5-2 mm. broad; florets 5-8, with usually two radiate and the others discoid, all fertile; ray florets about 12 mm. long, pistillate, the corolla tube cylindric, 5-6 mm. long, the blade oblong-ob lanceolate, obtuse, 2-3-nerved, about 5 mm. long; disk florets about 10-11 mm. long, perfect, the corolla tube cylindric, about 3.5 mm. long, the throat very narrowly campanulate, about 3.5-4 mm. long, divided to the middle into linear, acute lobes; pappus bristles shorter than the corollas; achenes (immature) 2.5-3 mm. long, obscurely ridged, glabrous.

Nicaragua: flowers yellow, 4 m. tall, "Jinotega rock quarry," cloud forest area, Cordillera Central de Nicaragua, Dept. Matagalpa, alt. 1,500 m., Feb. 19, 1963, Williams & Williams 24679 (type, F; EAP; others).

Most closely related to Senecio schaffneri Sch.-Bip. from which it is easily distinguished by the broader leaves obtuse at the base, and with much more prominent lobes. It is a cloud forest species.

Senecio parasiticus Hemsl. Biol. Cent.-Am. Bot. 2: 244.

1881. Cacalia parasitica Sch.-Bip. ex Hemsl. l.c., in synon.

This homogamous species has been considered to be the common epiphytic, vine-like Senecio from Vera Cruz through much of the forested area at middle elevations to Guatemala and on to the highland forests of Honduras and El Salvador.

Photographs and fragments from the type collection show this to be as described by Hemsley. The determinable Guatemalan collections are all from the Atlantic forests, as are those from Mexico.

The specimens from the Pacific slopes of the mountains in Mexico and Guatemala are Senecio phorodendroides described below. The highland heterogamous species from Honduras and El Salvador is Senecio morazensis Greenm. while the highland monogamous species in Nicaragua and Costa Rica is Senecio candelariae Benth.

Senecio petasioides Greenm. in Donn.-Sm. Bot. Gaz. 37: 419.

1904. Roldana chiapensis Robinson & Brettell, Phytologia 27: 416.

1974. Senecio petasitis of many authors, not (Sims) DC.

Specimens belonging to this species have most often been considered to belong to Senecio petasitis (Sims) DC., a species grown out in England in 1812 from seeds received from Mexico. It is illustrated as Cineraria petasitis Sims in the Botanical Magazine 37: t. 1536. 1813.

The plate mentioned would seem not to represent our plant which occurs from Guatemala to Nicaragua and is now known in adjacent Chiapas, Mexico. Several details of the plate do not coincide with our specimens: the heads are said to be 6-radiate, have too few florets, only 6 ray florets according to the description and, counting styles, perhaps still fewer disk florets. The mass of material available to me from Central America mostly has some 16 florets of which 2-4 are ray florets and 10-14 are disk florets. The involucre shown on the plate would seem to have about 5 phyllaries. De Candolle wrote in the Prodrum ".... circ. 10-phylo ecalyculato" Neither is the situation normally found in Central American plants where 8 phyllaries is the common number. Again the plate shows the involucre at anthesis to be about as long as the heads while in our material the involucre at anthesis is normally 1/2 to 2/3 as long as the heads. The leaves in the plate are shown to be quite green on the lower surface and the description states: "foliis pubescentibus verrucosis." The usual condition of

the lower leaf surface in our material is densely floccose-tomentose.

Since there seems to be a reasonable doubt that the name Senecio petasitis (Sims) DC. may be applied properly to our plants I will use the name Senecio petasioides Greenm. in the Flora of Guatemala.

Senecio phorodendroides L. Wms. sp. nov.

Subg. Senecio, sec. Streptothamni. Lianae vel frutices epiphyticae glabrae striatae. Folia carnosae lanceolata vel lanceolato-ovata acuta vel acuminata petiolis gracilibus; inflorescentiae terminales vel laterales racimis pauci-multi-capitatis; capitula homogama discoidea campanulata; involucrem 8-phyllis aut connatis in 5-6 calycalatum; phyllariis lanceolatis vel ovatis quam flosculi brevioribus; corollae tubulares supra anguste campanulatae.

Epiphytic vines or shrubs, glabrous or nearly so, the stems striate. Leaves alternate, fleshy, petiolate, the veins inconspicuous, the blade lanceolate to lance-ovate, acute or acuminate, 4.5-8 cm. long and 1.5-3 cm. broad; petioles slender, to 1.5 cm. long; inflorescences terminal or lateral few-many-headed racemes; heads homogamous, discoid, campanulate, 7-8 mm. long, florets about (10-)20; involucre calyculate, basically with 8 phyllaries but these sometimes connate into fewer unequal phyllaries; phyllaries lanceolate to ovate, glabrous, the tips obscurely penicillate, mostly 4-5 mm. long, much shorter than the heads; achenes ridged, glabrous, about 2 mm. long; pappus ample, as long as the corollas; corollas 6-7 mm. long, tubular below and somewhat expanded at the base, the throat narrowly campanulate, the lobes lanceolate, about 1 mm. long; anthers and stigmas exerted.

Mexico: Pinabeto, Mozozintla, Chiapas, 258 m., 9 July 1945, Matuda 15461.

Guatemala: wet forest, very large woody vine over tall trees, heads greenish yellow, Finca Monterrey, south slope of Volcán de Fuego, Dept. Escuintla, alt. 1,140-1,260 m., February 5, 1939, Standley 64554 (type, F); San Lucas, Sololá; Kellerman 6302; San Rafael pie de la Cuesta, San Marcos, Standley 69469; San Martín Chile Verde, Quezaltenango, Standley 58080; Cumbre de Chichoy, Quiché, Williams 14213.

Closely related to Senecio parasiticus Hemsl. which occurs in the Atlantic forests from Vera Cruz in Mexico to Alta Verapaz in Guatemala and is perhaps a sibling species. It may be distinguished easily by the phyllaries which are about half as long as the head.

Senecio quezalticus L. Wms. sp. nov.

Subg. Senecio, sec. Palmatinervii. Frutices debiles usque ad 4.5 m. alti. Folia ovato-cordata vel suborbiculari-cordata 5-7-lobata aut lobulata breviter mucronato-denticulata subtus areoso-lanata, petioli elongati; inflorescentiae multicapitatae corymboso-paniculatae; capituli heterogami campanulati; phyllaria lineari-oblonga, acuta, plusminusve 12; flores radii ca. 8; flores disci ca. 14-16 tubis cylindricis leviter ampliatis, lobis lineari-lanceolatis; antherae exsertae; pappus quam flores leviter brevioribus.

Weak, simple or branched shrubs 1-4.5 m. tall; stems sparsely floccose, becoming glabrous, striate or obscurely ridged; leaves large and long petiolate, broadly ovate-cordate to suborbicular-cordate, mostly 5-7-lobate or lobulate and short mucronate-denticulate, araneose-lanate below to glabrescent, penninerved but principal nerves near the base, blades 5-23 cm. long and 5-15 cm. broad, the petioles 2-11 cm. long, floccose to glabrescent; inflorescences multicapitate pedunculate corymbose panicles from the axils of the upper leaves, about as long as the subtending leaves at anthesis or slightly longer; the heads heterogamous, 8-12 mm. long, campanulate, calyculate; involucre with about 12 phyllaries, the phyllaries linear-oblong, acute, canaliculate and thickened at the base, about 5-6 mm. long; flowers yellow; ray flowers 6-8, pistillate, the tube cylindric, about 4 mm. long, the lamina linear-oblong, obtuse, 5-6 mm. long; disk flowers about 14-16, corolla subcylindric, somewhat ampliate above, about 7 mm. long, the lobes linear lanceolate, acute, about 2 mm. long; style about as long as the anthers, the stigmas truncate; pappus abundant, slightly shorter than the corollas; immature achenes ridged, glabrous, 1.6-2 mm. long.

Guatemala: damp forest, shrub 6 feet, heads yellow, slopes of Volcán de Agua, Sacatepéquez, alt. 2,250-3,000 m., Feb. 11, 1939, Standley 65185; shrub 5-8 feet, heads yellow, frequent at 3,100-3,600 m., slopes of Volcán de Santa María above Palojunoj, Dept. Quezaltenango, alt. 2,400-3,768 m., March 6, 1936, Standley 67593; damp sandy hillside forest, shrub 2-3 m. tall, common, heads yellow, mountains southeast of Palestina on old road to San Juan Ostencalco, alt. 2,250-2,800 m., January 21, 1941, Standley 84286 (type, F).

Additional specimens seen: Mexico, all state of Vera Cruz, Cardenas 535; Orcutt s.n.; Pringle 8069. Guatemala, all immature but assumed to belong here: Standley 61093, 77351, 83436, 84233, 84252; Steyermark 32351.

Closely related to Senecio barba-johannis DC. but to be distinguished by the more prominently lobate, sparsely floccose

leaves larger on the average. These specimens have been annotated by Dr. E. S. Gibson as "cf. Senecio aschenbornianus Sch." This species is closely related to that north Mexican species but more so to the sympatric S. barba-johannis DC. A specimen from Vera Cruz annotated by Dr. Gibson as S. aschenbornianus seems rather to belong to this species.

Senecio schaffneri Sch.-Bip. Leopoldina 24: 126. 1888.

S. grandifolius var. glabrior Hemsl. Biol. Cent.-Am. Bot.

2: 240. 1881. S. ghiesbreghtii var. pauciflorus Coulter, Bot.

Gaz. 16: 101. 1891. S. santarosae Greenm. Field Mus. Bot. 2: 281.

1907. Roldana schaffneri Robinson & Brettell, Phytologia 27: 423. 1974.

A fairly distinctive species found from Vera Cruz to Honduras. It is quite common in Guatemala but has not been often collected in adjacent Chiapas. Like most of the related species it is a weak shrub usually of the wet forests or forest edges at middle elevations. The leaves are usually elliptic-lanceolate to elliptic-ovate, quite coriaceous and glabrous, entire margined or shallowly sinuate-dentate; the phyllaries are 5 usually conspicuously shorter than the heads.