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Ignurbia, a new genus of the *Asteraceae-Senecioneae* from Hispaniola

Abstract

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The new genus *Ignurbia* of the *Asteraceae* tribe *Senecioneae* is described from the island of Hispaniola in the Caribbean. Its only species, *I. constanzae,* first described by Ignatz Urban under *Senecio,* is illustrated. The new genus is characterized by its herbaceous, suffruticose habit, dissected leaves with a herbaceous texture, orange or dirty yellow discoid capitula and styles with continuous stigmatic areas lacking distinct sweeping-hairs. Possibly related genera are *Odontocline* (Jamaica), *Jessea* (Costa Rica, Panama) and *Talamancalia* (Costa Rica, Panama, Ecuador, Peru).

Key words: angiosperms, *Compositae, Senecio,* generic taxonomy, Greater Antilles.

Introduction

During my ongoing revision of the *Asteraceae* tribe *Senecioneae* of the Greater Antilles the need for a new generic taxonomy has become obvious. In the most recent flora by Liogier (1996) the *Senecioneae* are represented in Hispaniola by *Senecio* (16 spp.), *Erechtites* (2 spp.), *Emilia* (3 spp.), *Pseudogynoxys* (1 sp.) and the endemic genera *Herodotia* (3 spp.) and *Mattfeldia* (1 sp.). Liogier (1996) also included *Liabum* and *Neurolaena* in the *Senecioneae,* but these genera belong to the tribes *Liabeae* and *Heliantheae,* respectively.

Not noted by Liogier (1996), Borhidi & al. (1992) added to the flora of Hispaniola the new genus *Ekmaniopappus,* comprising two of the species formerly treated in *Herodotia,* and the genus *Pentacalia,* by combining two *Senecio* spp. under that generic name.

In my opinion *Pentacalia* is not represented in the flora of Hispaniola or any of the other Greater Antilles, and it is moreover necessary to distinguish further segregates from *Senecio*. These propositions are also supported by molecular data (in an ongoing worldwide study, see Pelser & al. 2004). One of these segregates is described here as the new genus *Ignurbia,* others are being published elsewhere (Nordenstam, in prep.).

Material and methods

Field work was conducted in the Dominican Republic in 2004, and herbarium material in JBSD and S has been studied (herbarium abbreviations as in Holmgren & Holmgren 1998-).

Results

Ignurbia B. Nord., **gen. nov.**
Type: *Ignurbia constanzae* (Urb.) B. Nord.

Herba erecta perennis suffrutescens sparse pubescens et glandulosa. *Folia* alterna petiolata, ambitu ovata vel oblonga, plana, herbacea, inciso-lobata vel pinnatifida, margine irregulariter dentata et mucronulata. *Capitula* numerosa, dense corymbosa, homogama, discoidea. *Involucrum* cupuliforme-cylindricum calyculatum, bracteis uniseriatis herbaceis trilineatis subglabris apice puberulis. *Flosculi* aurantiaci vel lutei hermaphroditi. *Corolla* tubulosa superne sensim ampliata quinquelobata, lobis lanceolatis-ovatis. *Antherae* ecaudatae basi minute auriculatae; cellulae endothecii parietibus omnibus noduliferis. *Styli* rami intus area stigmatica continua instructi, extus papillati, apice obtuso papillis sparsis coronato. *Cypselae* teretes vel leviter compressae ad subtriquetrae, glabrae, decemcostatae. *Pappi* setae numerosae barbellatae albae persistentes.

Eponymy. – The new genus is named after Ignatz (Ignatius) Urban (1848-1931), long-time collaborator at the Botanic Garden and Botanical Museum in Berlin and initiator of its move to Berlin-Dahlem, who contributed greatly to the knowledge of the flora of the Antilles.

Only species recognized here:
Ignurbia constanzae (Urb.) B. Nord., **comb. nov.**
≡ *Senecio constanzae* Urb., Symb. Antill. 7: 430. 1912.
Lectotype (designated here): Santo Domingo, Constanza, in declivibus umbrosis, 1250 m, May 1910, *H. von Türckheim 3291* (S; [the material at B is destroyed]) – Fig. 1.

Erect, little-branched, herbaceous, suffrutescent *herb*, 0.5-2 m high, sparsely pubescent on stems, leaves and peduncles; trichomes unbranched, mostly multicellular, articulated, tapering from a wider base, white or brownish, some gland-tipped, some slender, unicellular. *Leaves* alternate, petiolate, ovate to oblong-obovate in outline, 5-14 × 4-9 cm, irregularly pinnately 3-5-lobed or pinnatifid, apically acute, basally subtruncate or somewhat cuneately tapering into the petiole, herbaceous, pinnately veined with reticulately anastomosing veinlets, laxly hirsute, leaf margins laxly dentate with mucronulate tips; petiole 2-6 cm long. *Synflorescence* terminal, pedunculate, densely corymbose; peduncles 6-25 cm long. *Capitula* numerous, homogamous, discoid, 15-21-flowered, calyculate. *Involucre* cupshaped-cylindrical; involucral bracts 8-13, ± uniseriate, linear-lanceolate, 7-10 × 0.7-1.5 mm, herbaceous with scarious, whitish margins, acute to acuminate, with 3-5 resiniferous veins, glabrous except for a few scattered short setae and distinctly puberulous tips; calyculus bracts 4-6, linear, 2 mm long. *Receptacle* flat or slightly convex, glabrous, minutely alveolate. *Corolla* orange or dull to dirty yellow, 7-10 mm long, tubular and gradually widening above; lobes lanceolate or narrowly ovate, 1.5-2 mm long, glabrous, faintly midlined and with distinct lateral veins continuing down the corolla, margins involute, apex acute. Stamens and styles much exserted. *Anthers* 2.5-3 mm long, basally obtuse and shortly auriculate; apical appendage oblong-lanceolate, obtuse; endothecial tissue radial with short, almost isodiametric cells with thickenings on all walls; filament collar long, ± uniformly wide but with enlarged marginal cells. *Pollen* grains tricolporate, very minutely spinulose. *Style* branches linear, c. 2 mm long, with continuous stigmatic areas inside, apically obtuse to rounded without distinct sweeping-hairs and just with a few short pili or papillae, dorsal side shortly glandular-papillate in the distal half. *Cypselas* narrowly oblong, subterete but some subcompressed or slightly triquetrous, 2-3 × 0.7-0.8 mm, glabrous, dark brown, with 10 prominent honey-coloured ribs; carpopodium distinct, of 6-7 cell layers; ovary wall crystals small, non-prismatic, like sand.

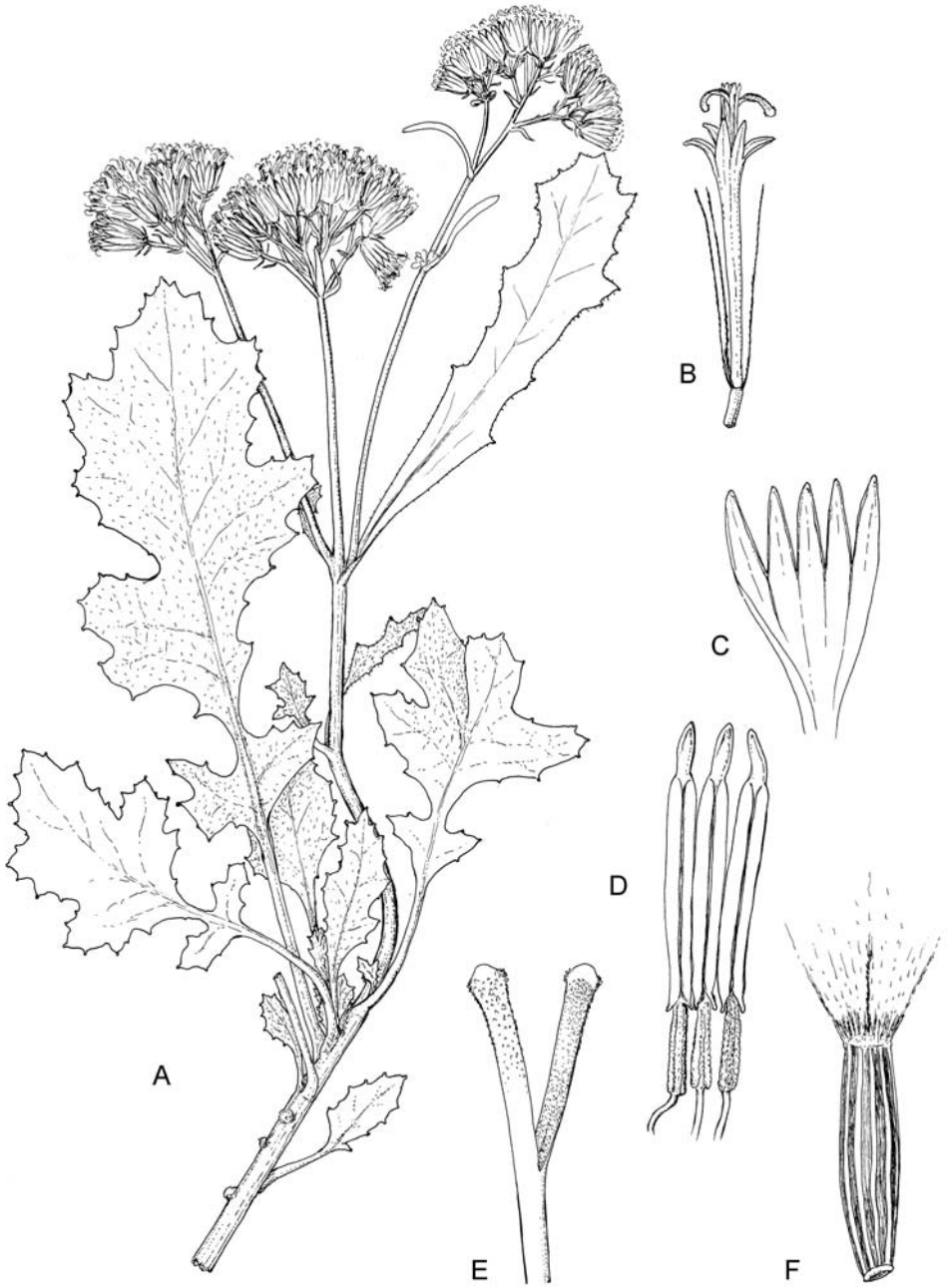

Fig. 1. *Ignurbia constanzae* – A: habit, × ½; B: floret, × 3; C: corolla, opened, × 6; D: stamens, × 12; E: style branches, × 12; F: cypsela, × 12. – Drawings by the author after *Ekman H7999* in S (A-E) and *Ekman H1647* in S (F).

Pappus bristles pluriseriate, slender, only minutely barbellate, white, 6-8 mm long, basally connate, persistent.

Morphological variation. – The type material of *Senecio constanzae* was collected in 1910 by H. von Türckheim near Constanza in Santo Domingo, where I observed and collected it again in 2004. The floret colour in this part of the distribution area is dull yellow to orange-yellow. In the 1920s E. L. Ekman found it in several localities in the adjacent areas of the Cordillera Central and also in the Massif de la Selle, Haiti. As noted by Ekman *(in sched.)* the Haitian material has generally more brightly orange-coloured florets than the Dominican Republic populations. A collection from the Massif de la Hotte in Haiti *(Ekman H5267)* is particularly striking with more regularly and profoundly dissected leaves and larger capitula than the others. It may represent a second taxon of the genus and will be further investigated.

A corolla with six regular lobes was found in one collection *(Ekman H1647)*. This is regarded as an unusual and unimportant aberration.

Distribution. – Dominican Republic (Liogier 1996 cites collections, additional to those listed below, from El Montazo, Aguas Blancas, El Valle de Bao, La Comparticíon) and Haiti.

Additional specimens seen. – DOMINICAN REPUBLIC: Cordillera Central, Prov. de la Vega, Valle Nuevo, camino a Las Pyramidas, along roadside to Ocoa, 18°44'50"N, 70°36'51"W, 2254 m, 4.4.2004, *Nordenstam & Lundin 555* (JBSD, S); Constanza, La Silvenia, along road from El Convento to Valle Nuevo, natural montane forest, 18°50'30"N, 70°42'13"W, 1723 m, 6.4.2004, *Nordenstam & Lundin 560* (B, JBSD, K, MO, S); Prov. de la Vega, Valle Nuevo, headwater of Río Nizao, c. 2400 m, 16.10.1929, *Ekman H13781* (S); Prov. de la Vega, Constanza, Arroyo de la Paila, at the brook, c. 1350 m, 30.10.1929, *Ekman H13973* (S); Prov. Peravia, en el camino a La Nuez (de San José de Ocoa) a Tetero de Mejía, 18°40'N, 70°37'W, 1950 m, s.d., *Zanoni & Jimenez 44277* (JBSD, S); Prov. de Azua, Valle del Yaque, edge of brooks etc., c. 1500 m, 5.10.1929, *Ekman H13676* (S). — HAITI: Massif de la Selle: Morne Cabaio, edge of Rivière Chota, c. 1900 m, 25.8.1924, *Ekman H1647* (S); Morne de la Selle, in deep shady limestone gulch above Badeau, c. 2000 m, 28.1.1925, *Ekman H3122* (S); Pétionville, narrow gulch on northern slope of Morne Cabaio, 1600 m, 11.4.1927, *Ekman H7999* (S).

Ecology. – *Ignurbia constanzae* grows in montane, humid forest or broad-leaved scrub with, e.g., *Brunellia comocladifolia, Garrya fadyenii* and sometimes *Pinus occidentalis,* and along streams and brooks, at altitudes from 1250 to 2400 m.

Relationship. – *Ignurbia constanzae* is distinct from all other Antillean *Senecioneae* by the combination of herbaceous, suffrutescent habit, large and irregularly incised leaves with a herbaceous texture, orange or dirty yellow discoid capitula, funnel-shaped corollas, and styles with continuous stigmatic areas and lacking distinct sweeping-hairs. In spite of Urban's description under *Senecio* as a "frutex", it is rather a perennial herb, although more or less suffrutescent. The other herbs in the tribe occurring in the area are very different, viz. the cosmopolitan annual weed *Senecio vulgaris*, *Emilia* with ecalyculate orange to red-flowered capitula, *Erechtites* with disciform cylindrical capitula with numerous marginal female tubular florets and *Crassocephalum crepidioides* (Benth.) S. Moore with homogamous, discoid capitula and brownish red corollas (Nordenstam, in press). These genera all have 'senecioid' disc-floret styles with discrete stigmatic areas and distinct sweeping-hairs. Most other *Senecioneae* of Hispaniola are shrubs or vines with coriaceous, entire or dentate leaves, which are often densely tomentose beneath.

When describing *Senecio constanzae* Urban suggested a relationship to the Jamaican *Gynoxys incana* Less., which is now *Jacmaia incana* (Less.) B. Nord., a unispecific genus endemic to Jamaica (Nordenstam 1978). There is some resemblance in habit and leaf shape, but *Jacmaia* is shrubby and has a quite different style morphology with elongate acuminate tips to the style branches (which explains its initial position in *Gynoxys*). Besides, the capitula of *Jacmaia* are radiate and yellow-flowered and the receptacle is very distinctly denticulate with long processes.

The Jamaican endemic genus *Odontocline* B. Nord. is possibly related. Its six species are, however, erect shrubs or climbing vines with radiate yellow-flowered capitula, denticulate receptacles and caudate anthers, but they do possess styles with continuous stigmatic areas and obtuse tips (Nordenstam 1978).

The genus *Jessea* with four species in Costa Rica and Panama (Nordenstam 1996) has some traits in common with *Ignurbia,* such as the suffruticose habit, stems with large pith and (sometimes) petiolate and incised-lobate large leaves, a similar floral morphology and ecaudate anthers. Important differences include the constantly radiate capitula in the *Jessea* species and their different disc floret styles with separated stigmatic areas and an apical hair tuft on the style branches.

Ignurbia may also have some affinity to *Talamancalia* H. Rob. & Cuatrec., a genus of three suffrutescent or shrubby species and known from Costa Rica, Panama, Ecuador and Peru (Robinson & Cuatrecasas 1994, Nordenstam & Pruski 1995, Beltran & Pruski 2000). The species of *Talamancalia* have petiolate, lobed leaves, orange to yellow florets, and the style branches are apically obtuse to rounded with rather short sweeping-hairs (although with an apical pencil or brush). *Talamancalia* differs from *Ignurbia* in important characters such as the winged petioles and pseudostipular petiole base, radiate capitula, disc-floret styles with separated stigmatic areas and cypselas with mucilaginous hairs.

Ignurbia differs from *Senecio* s. str. by the disc floret styles, which have continuous stigmatic areas and obtuse tips without distinct sweeping-hairs. The orange or dirty yellowish corolla is tubular and gradually widening above. The stamens are ecaudate and non-sagittate, with a narrow apical appendage and long filament collars, which are uniformly wide although provided with larger cells along the margins (Fig. 1D). This can be regarded as a variation of the 'balusterform' collar typical of 'senecioid' genera. The endothecial tissue of the anthers is radial as generally in 'senecioid' genera, but the cells are short, almost isodiametric, with small thickenings on all walls. The pollen grains, too, look unusual and deserve a closer study. Although tricolporate as usual in the tribe, they are apparently (in light microscopy) only minutely spinulose and in this respect unlike most pollen grains in the tribe, and superficially reminiscent of some *Valerianaceae* (e.g., *Plectritis aphanoptera*, cf. Skvarla & al. 1977: t. 28A).

A distinct, pleasant fragrance from the synflorescence was noted in the field. The possibly related *Odontocline* (Jamaica) and *Jessea* (Costa Rica) are also similarly pleasantly scented (B. Nordenstam, pers. obs.).

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