

NOVITATES ANTILLANAE. XVI.

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ABSTRACT

New species and new combinations from the island of Hispaniola, reported here, as a result of studies in preparation of coming volumes of the Flora of Hispaniola.

KEY WORDS: Asclepiadaceae, Solanaceae, Rubiaceae, Hispaniola, taxonomy, floristics

ASCLEPIADACEAE

Following the latest opinion on the genus *Metastelma* vs. *Cynanchum*, the following combinations are necessary:

Metastelma calcicola (Alain) Alain, *comb. nov.* BASIONYM: *Cynanchum calcicolum* Alain, *Phytologia* 64(5):345. 1988.

Metastelma leptophyllum (Schltr.) Alain, *comb. nov.* BASIONYM: *Astephanus leptophyllum* Schltr. in Urban, *Symb. Ant.* 1:241. 1899. *Cynanchum leptophyllum* (Schltr.) Jiménez, *Rhodora* 62:238. 1960.

Metastelma occidentale (Spreng.) Alain, *comb. nov.* BASIONYM: *Secamone occidentalis* Spreng., *Neue Entd.* 3:34. 1822. *Tainionema occidentale* (Spreng.) Schltr. in Urban, *Symb. Ant.* 1:241. 1899. *Cynanchum occidentale* (Spreng.) Jiménez, *Rhodora* 62:238. 1960.

SOLANACEAE

Lycianthes speciosa (Dunal) Lourteig, Phytologia 62(6):442. 1987.

This species reported by Plumier from Haiti: Port de Paix and Léogane, has been confused by different authors, and although Lourteig did not see the specimens reported by Plumier, it seems different from *L. pauciflora* (Vahl) Bitter. Howard (*Fl. Less. Ant.* 6:278. 1989.) cited *Solanum speciosum* Dunal in the synonymy of *Lycianthes pauciflora* (Vahl) Bitter; he also cites *Solanum neglectum* Dunal (= *Lycianthes neglecta* [Dunal] Lourteig) in the synonymy. Lourteig creates *Lycianthes neglecta* (Dunal) Lourteig (Phytologia 62[6]:442. 1987.). It seems that Lourteig thinks that the plants cited by Plumier from Martinique and two specimens from Dominica (*Toepfer 896* and *Plée s.n.*) belong to a distinct species, named by her *Lycianthes neglecta*. She thus creates two species, basing the first one on drawings and two old specimens, and the second one on drawings only.

As for our species, *Lycianthes speciosa* (Dunal) Lourteig, as we have no specimens at hand, I have decided to consider it as a dubious record. Furthermore, on page 443 of her paper on *Lycianthes*, she divides the genus in the Antilles into two sections: a) species with glabrous petals, and b) species with pubescence on the adaxial side of the petals; but there is no mention of *Lycianthes speciosa* in either of the sections. Where does it belong?

Howard (*Fl. Less. Ant.* 6:278. 1989.) cites *Lycianthes pauciflora* (Vahl) Bitter from the Lesser Antilles, with *Solanum speciosum* Dunal and *S. neglectum* Dunal in the synonymy. No mention is made of *Lycianthes neglecta*, cited by Lourteig from Dominica and Martinica.

Solanum aquartia Dunal var. *fuertesii* (O.E. Schulz) Alain, *comb. nov.*
BASIONYM: *Solanum aculeatum* O.E. Schulz var. *fuertesii* O.E. Schulz
in Urban, *Symb. Ant.* 7:370. 1912.

Solanum aquartia Dunal var. *luxurians* (O.E. Schulz) Alain, *comb. nov.*
BASIONYM: *Solanum aculeatum* O.E. Schulz var. *luxurians* O.E. Schulz
in Urban, *Symb. Ant.* 7:370. 1912.

RUBIACEAE

Exostema myrtoides Alain, *sp. nov.*

Frutex 3 m altus, glaberrimus; rami teretes striati lenticellosi, vetustiores cinerascens cortice fisso sed adhaerente; stipulae ovatae apice rotundatae, obtusae vel acutae, 1 mm longae; folia opposita usque 5 mm longae petiolata, petiolo supra canaliculato; lamina elliptico-oblonga 2.0-3.5 cm longa, 1.0-1.5 cm lata, apice rotundata, basi attenuata in petiolum protracta, nervo medio supra prominulo subtus prominente, lateralibus nullis vel utroque latere 2-3 arcuatis non anastomosantibus, margine anguste recurva, supra nitentia obscure viridia, subtus pallidiora glaberrima; inflorescentiae plerumque ad ramos terminales in corymbum usque 2.5 cm latum collectae, in juventute pulverulentae; bractae filiformes 1.5 mm longae; pedicelli 1-2 mm longi; calycis tubus in fructo turbatus 1.5 mm longus, glaber, nitens, venis prominentibus auctus; lobi 4 lineares 1 mm longi; corolla et caetera non visa; semina elliptica apice ala 1 mm longa, lateraliter 0.5 mm alata.

TYPE: DOMINICAN REPUBLIC. Prov. Barahona: In thickets, on slope, Polo-Los Arroyos, alt. 800-1000 m, 28 Feb 1969, A. Liogier 14342 (HOLOTYPE: NY). PARATYPE: DOMINICAN REPUBLIC: between Boucan Calice and Hoyo de Pelempito, 13 Feb 1969, A. Liogier 13866 (NY), old fruits only.

This species is in the same group as *Exostema elegans* Krug & Urban, from which it is distinguished by being entirely glabrous, its leaves are obovate-elliptic, up to 3.5 cm long, instead of oval to oval elliptic and up to 9 cm long in *E. elegans*; this last species has domatiate nerve axils beneath the leaves. *Exostema selleanum* Urban & Ekman has acute to acuminate leaves, and these are also domatiate in the nerve axils beneath; in both *E. elegans* and *E. selleanum*, the branchlets are pubescent.

The genus *Stevensia* Poiteau.

The genus *Stevensia* was created by Poiteau in 1804, with a single species, *S. buxifolia* Poiteau (Ann. Mus. Hist. Nat. Paris 4:1835. 1804.). Urban (Ber. Deutsch. Bot. Ges. 15:264. 1897.) cites this genus and species. In the meantime, Grisebach (*Fl. Brit. W. Ind.* 328. 1861.) described *Rondeletia poiteai*, a name applied in part to *S. buxifolia*, and erroneously cited by Grisebach as occurring in Cuba. Several authors included *S. buxifolia* in their publications:

Gaertner f. (1807), Poiret in Lamarck, *Encyclopédie* (1806), A. Richard (1829), P. DeCandolle (1830). Urban again describes the genus in *Symb. Ant.* (1:420. 1899.). Standley (N. Amer. Fl. 32:42. 1918.) describes the genus with the only known species (*S. buxifolia*) as part of the tribe Rondeletieae.

After the extensive collections by Ekman in Haiti (1917), and later (1924-1931) both in Haiti and the Dominican Republic, Urban described five more species: *Stevensia samanensis* Urban (1924), *S. ovatifolia* Urban & Ekman (1926), *S. hotteana* Urban & Ekman (1931), *S. ekmaniana* Urban (1931), and *S. ebracteata* Urban & Ekman (1931).

In my explorations in Hispaniola, I have collected and studied three species new to science, giving a total of nine species in this genus which is endemic to Hispaniola. Recent collections confirm my diagnoses and add new specimens to my own collections.

Stevensia Poiteau is a member of the Rondeletieae and differs from *Rondeletia* L. in having a calyx closed before anthesis and strongly rostrate, opening in two or three lobes and deciduous, usually densely sericeous within; the corolla presents 5-7 lobes, the flowers are solitary in the leaf axils; in *Rondeletia*, the calyx is 4-5(-7) lobed, not rostrate and persistent, the corolla cymose, paniculate, thyrroid, racemose or spiciform. While *Rondeletia* is widespread throughout tropical America, *Stevensia* is restricted to the island of Hispaniola.

Key to the species of *Stevensia*

1. Twigs glabrous; fruits glabrous; pedicels 5-12 mm long. 2
 2. Stipule tube truncate, 2-3 mm long; prophylla forming a truncate tube 1.5 mm long. *S. ebracteata*
 - 2' Stipules connate at base, with triangular-acute to deltoid lobes. ... 3
 3. Prophylla leafy, linear-lanceolate, 7-10 mm long; stipules 5 mm long, including the connate base; leaves up to 8 cm long. *S. hotteana*
 - 3' Prophylla connate forming a tube, with minute, narrowly triangular lobes; stipules 2 mm long, with deltoid lobes; leaves up to 12 cm long. *S. grandiflora*
- 1' Twigs pilosulous to papillose. 4
 4. Leaves elliptic to oblong, up to 1.5 cm long, rounded to obtuse at apex; corolla 8 mm long; flowers sessile or nearly so. *S. minutifolia*
 - 4' Leaves acute to acuminate at apex, 2.5-10. cm long; corolla 1.0-2.5 cm long. 5

5. Twigs usually not resinous; corolla 20-25 mm long; leaves brown beneath, glabrous. *S. ekmaniana*
- 5' Twigs resinous; corolla 10-20 mm long; leaves whitish to grayish beneath. 6
6. Leaves 2.5-5.0 cm long; corolla 1.0-1.5 cm long. 7
7. Stipule tube 1 mm long, the lobes triangular, 1 mm long; corolla 1 cm long; prophylla connate, tube 2 mm long, lobes 1.5 mm long; pedicels 2 mm long.
 *S. buzifolia*
- 7' Stipules 2.5-4.0 mm long, including the connate base; prophylla free; pedicels up to 0.5 mm long. 8
8. Leaves ovate, 1.5-4.0 cm long, 1.0-2.2 cm broad; prophylla triangular, 1 mm long; twigs smooth, papillose.
 *S. ovatifolia*
- 8' Leaves elliptic oblong to lanceolate, 2.5-5.0 cm long, 5-15 mm broad; prophylla oblong-elliptic, 6-8 mm long, acuminate; twigs aculeolate, retrorse strigose.
 *S. aculeolata*
- 6' Leaves lanceolate to linear lanceolate, 4-10 cm long; corolla 2 cm long or longer; prophylla lanceolate to linear lanceolate, 8 mm long. *S. samanensis*

Stevensia aculeolata Alain, *sp. nov.*

Frutex 1.5 m altus; rami hornotini valde resinam exsudantes, retrorse-strigosi aculeolati teretes; stipulae interpetiolares basi subconnatae, e basi triangulari cuspidatae pulverulentae, 4 mm longae; folia petiolis usque 3 mm longis supra canaliculatis suffulta, lamina anguste elliptico-oblonga vel lanceolata, 2.5-5.0 cm longa, 5-15 mm lata, basi versus attenuata, basi ipsa rotundata, obtusa vel subcordata, apice acuta vel breve acuminata, nervo medio supra impresso subtus prominente, lateralibus supra obsoletis, subtus utroque latere 15-20, sub angulo 60-65° abeuntibus non anastomosantibus, lamina valde discoloria, supra glabra in sicco pallide brunnea, subtus pallide fulva dense tomentulosa, margine recurva, coriacea; flores in axillis solitarii sessiles; prophylla 2 oblongo-elliptica, 6-8 mm longa apice acuminata dorso brevissime puberula, cum stipulis aequilongis alternantia; calycis alabastra ovata in rostrum 3 mm longum contracta, posterius in lobos 2 anguste ovato-cuspidati 4-5 mm longi, ciliati, dorso strigulosi; corolla alba 12-14 mm longa, extus dense retrorso-sericea, lobi 6 anguste elliptici 3 mm longi, 1.5 mm lati; capsulae sphaeroideae 4 mm diam., extus parce et brevissime pilosa, calycis lobis coronata, demum nuda.

TYPE: DOMINICAN REPUBLIC. On limestone rocks, at sea level, Samana Bay, Los Haitises, 19 Jan 1977, *Alain & Perfa Liogier* 26329 (HOLOTYPE: UPR; Isotypi: NY, SD). Paratypes: DOMINICAN REPUBLIC. On limestone rocks, at sea level, Samana Bay, Los Haitises, 25 Apr 1985, *Zanoni, et al.* 34895 (NY, SD); On limestone rocks, at sea level, Samana Bay, Los Haitises, 24 Apr 1985, *Zanoni, et al.* 34202 (NY, SD); Boca del Infierno, Samana Bay, 24 Jun 1930, *Ekman* 15421 (S, NY).

Stevensia aculeolata Alain is similar to *S. buzifolia*. However, the latter species has but slightly resinous branchlets, not aculeolate, short pilose; the stipular sheath is 1 mm long, and the lobes are triangular, 1 mm long; the pedicels are up to 2 mm long, the prophylla are connate at the base, the lobes 2-4, triangular, acute; the nerves on the leaf blade are 8-10 on each side. The new species is also near to *S. samanensis* Urban, which has larger leaves, 4-10 cm long; the corolla is longer (2 cm long or longer), the prophylla are lanceolate to linear lanceolate, 8 mm long.

Stevensia buzifolia Poiteau, Ann. Mus. Hist. Nat. Paris 4:235. 1804. (*Rondeletia poiteai* Griseb., Fl. Brit. W. Ind. 328. 1861. p.p.).

– “Cuabilla,” RD. – This is by far the most common species in the genus, growing in the eastern half of the Dominican Republic and throughout Haiti, at altitudes from sea level to about 1000 m alt., in forests and thickets, mostly on metamorphic soil.

Stevensia ekmaniana Urban, Ark. Bot. 24A(4):41. 1931. TYPE: HAITI. Massif du Nord, near Bayeux on limestone rocks at Morne Brigand, 800 m alt., *Ekman* 2849 (HOLOTYPE: S).

Known only from the type collection.

Stevensia grandiflora Alain, sp. nov.

Frutex 2 m altus, rami hornotini teretes, in sicco striati, resinam exsudantes, glabri; stipulae infra petiolos breve connatae, late ovatae apice breve cuspidatae ciliatae, 3.0-3.5 mm longae; petioli 1.0-1.3 mm longi, supra canaliculati glabri; foliorum lamina oblongo-elliptica 4.5-8.0 cm longa 1.5-3.0 cm lata, apice acuminata, basin versus attenuata in petiolum protracta, nervo medio supra impresso lateralibus obsoletis, subtus nervo medio bene prominente, lateralibus utroque latere 10-12, brunneis ad marginem paullo arcuatis non anastomosantibus, supra obscure viridia (in sicco obscure brunnea), subtus albo-grisea, margine integra paullo recurva,

glabra; flores solitarii in foliorum axillas, pedunculi ca. 1 cm longi glabri, prophylla sub calycem posita in cupulam 1.5 mm longam connata, lobi lineares 2 mm longi; alabastra anguste ellipsoidea 4 mm longa 2 mm lata in rostrum 4 mm longum protracta, in lobis 2 subaequales 3 nerves, glabri usque 1.5 mm longos aperiens; corolla alba 2.5 cm longa, extus dense retrorso-sericea, tubus cylindraceus ad apicem paullo ampliatus, in statu compresso usque 3 mm latus, lobi 6 oblongo-obovati usque 8 mm longi, 4 mm lati; stamina sub fauce corollae inserta, filamenta brevissima; capsulae globulosae 8 mm diametro, glabrae, nitidae, septicide dehiscentes, apice nudaе.

TYPE: DOMINICAN REPUBLIC. La Vega Prov.: La Manaclita, on lateritic soil and serpentine, alt. 600 m, 25 Jun 1969, *Alain H. Liogier 15816* (HOLOTYPE: NY; Isotypi: G, J, P, US). Paratypes: DOMINICAN REPUBLIC. La Vega Prov.: La Manaclita, on lateritic soil and serpentine, alt. 600 m, 28 May 1968, *Alain H. Liogier 11461* (G, J, NY, P, US). Bonao: banks of Hato Viejo River, Hato Viejo, 10 May 1969, *J. Jiménez & A. Liogier 5678* (NY); Barrancón, Hato Viejo, alt. 250-300 m, 10 May 1969, *Alain H. Liogier & J. Jiménez 15186* (G, J, NY, P, US); Loma Peguera, alt. 500 m, 17 Oct 1970, *Alain H. Liogier 17595* (G, J, NY, P, US); Loma Peguera, alt. 450 m, 29 Nov 1972, *Alain H. Liogier 18553* (G, J, NY, P, US); Falconbridge Dominicana, Loma Peguera, alt. 500 m, 23 Apr 1981, *Zanoni, Mejía, & Ramírez 12950* (NT, SD). Piedra Blanca: Río Mahoma, alt. 900-1100 m, 26 Aug 1982, *Zanoni, et al. 22903* (NY, SD). Distrito Nacional: Loma Mariana Chica, alt. 300-800 m, 19 Jun 1984, *Zanoni, et al. 30565* (NY, SD).

The specimens cited as paratypes present larger leaves than the type specimen: up to 12 cm long and 4 cm broad.

This species has the largest flowers and leaves of any described member of *Stevensia*. Plants are entirely glabrous; stipules are short and deltoid, connate at the base, with narrowly triangular lobes. The specimens cited as types of *S. grandiflora* had previously been named *S. ebracteata* Urban & Ekman. However, the latter species has stipules and prophylla connate to form a truncate tube, and smaller leaves (up to 8 cm long).

Stevensia hotteana Urban & Ekman, Ark. Bot. 24A(4):40. 1931. TYPE: HAITI. Massif de la Hotte, near Jérémie at about 150 m alt., between Source Chaude and Source Cahouane, *Ekman 10222*.

Another collection not seen by this author, but identified by T. Zanoni as this species is: HAITI. Morne Formon, in cloud forest, at 1530-1650 m alt., *W. Judd 3653*.

Stevensia minutifolia Alain, *sp. nov.*

Frutex 1.25 m altus; rami hornotini teretes, in sicco striati, ad apicem resinam exsudantes, pilis minutissimis pilosuli; stipulae basi breve intra petiolos connatae, triangulares, apice rotundatae, 1.5 mm longae, ciliatae; petioli 1-2 mm longi, supra sulcati, pilosuli; lamina foliorum elliptica vel anguste elliptica, 1.0-1.5 cm longa, 0.3-0.5 cm lata, apice rotundata, obtusa vel acuta, basi acuta, obtusa vel rotundata, nervo medio valde prominente, lateralibus utroque latere 5-6, ad marginem curvatis non anastomosantibus brunneis; lamina supra obscure brunnea, subtus albogrisea utroque latere glabra, margine paullo incrassata chartacea; flores in axillis foliorum solitarii, pedicelli vix 1 mm longi; prophylla sub ovario posita in cupulam 1 mm longam connata, pars libera subulata 2 mm longa; calyx in alabastro ellipticus 3 mm longus in rostrum 2 mm longum contractus, papillosus, posterius in lobos 2 ellipticos cuspidatos usque 3 mm longos intus dense sericeos divisus; corolla alba 8-9 mm longa, extrinsecus dense retrorso-sericea, tubus turbinatus 5 mm longus ad apicem 2 mm crassus, lobi 5 obovato-elliptici 2 mm longi, 1.5 mm lati, apice rotundati; stamina fauci corollae inserta filamenta perbrevia, stylus ad apicem bifidus, lobis linearibus; capsulae sphaeroideae 4 mm diam., apicae nudaе, minute pilosulae.

TYPE: HAITI. In pine forest, 1650 m alt., from Furcy to Seguin, 17 Nov 1982, *M. Mejía & J. Pimentel 24394* (HOLOTYPE: NY; Isotypus: SD). Paratypes: HAITI. Massif de la Selle, Morne Tranchant, on limestone on slope, 1750 m alt., 6 Jun 1924, *Ekman 1779* (NY, S).

Additional paratypes: DOMINICAN REPUBLIC. Prov. Pedernales: Hoyo de Pelempito, 1100 m alt., 26 Feb 1971, *A.H. Liogier 17936* (G, J, NY, P, US). Bahoruco Mountains: Aceitillar-Cayo, on limestone rocks mixed with bauxite, 9 Feb 1969, *A.H. Liogier 19698* (NY); Aceitillar-Cayo, on limestone rocks mixed with bauxite, 9 Feb 1969, *A.H. Liogier 19663* (NY); Aceitillar-Cayo, on limestone rocks mixed with bauxite, 24-25 Jul 1973, *A. & P. Liogier 19653* (NY, SD); Aceitillar-Cayo, on limestone rocks mixed with bauxite, Feb 1971, *F. Votava & A.H. Liogier 103* (NY).

This species is readily recognized among the other species in *Stevensia* by its small leaves, rounded stipules, and small, nearly sessile flowers. The nearest species seems to be *S. buxifolia*.

Stevensia ovatifolia Urban & Ekman, Ark. Bot. 20A(5):54. 1924. TYPE: HAITI. ad Montagnes Trou d'Eau, near Gloire, on top of the mountain near 800 m alt, *Ekman 1064*.

Additional specimens examined: HAITI. Morne a Cabrits, *Ekman* 5648; Montagnes Noires, near Croix des Bouquets, alt. 550 m, *Zanoni, et al.* 24011 (NY, SD).

Stevensia samanensis Urban, Repert. Spec. Nov. Regni Veg. 20:351. 1924.

TYPE: DOMINICAN REPUBLIC. Samana Peninsula, on Pilon de Azúcar mountain, near Laguna, *Abbott* 2354. Paratypes: DOMINICAN REPUBLIC. Samana Peninsula, on Pilon de Azúcar mountain, near Laguna, *Ekman* 14554; Los Haitises, Samana Bay, *Zanoni, et al.* 35958; Los Haitises, Samana Bay, *Mejía & Pimentel* 23953.

Mejía & Pimentel 23953 has capsules globose, 4 mm diam., minutely pilose, grayish, the calyx lobes persistent, 3-4 mm long, acuminate, densely sericeous within, ciliate, resinous without; seed elliptic, 1.5 mm long, acuminate at both ends.

A doubtful specimen collected by Ekman on Tortue Island, Haiti (no. 4189) seems different from *Stevensia buzifolia*. The specimen has young flowers on 3 mm long pedicels with linear prophylla 1.5 mm long, the bud is oblong, 3 mm long, 1.75 mm wide, with a 2.5 mm long rostrum; the leaves are elliptic, rounded to obtuse at apex, acute at base, 3.0-3.5 cm long, 2.0-2.7 cm broad, glabrous, dark brown above, light brown beneath, reticulate veined; the twigs are papillose. Probably a hybrid between *S. ebracteata* and *S. ovatifolia* Urban & Ekman.



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