

SUPPLEMENTARY NOTES ON AMERICAN MENISPERMACEAE XIV

NEOTROPICAL TRICLISIAEAE AND ANOMOSPERMEAE

B. A. Krukoff

Consulting Botanist of Merck Sharp & Dohme Research Laboratories, Rahway, N.J., and Honorary Curator of New York Botanical Garden.

It is satisfactory that good steady progress is being made in our knowledge of both tribes. Since the latest paper of this series (Supplement XIII) was published, 65 new collections were examined, adding to our knowledge of several species. Extensions of range were noted for 9 species, and two species, namely Caryomene grandifolia and Anomospermum andersonii, are described as new. The prize collection is of a new genus, Cionomene javariensis, with extraordinary staminate flowers which have the inner 3 sepals fused for the most part into a solid column. Two excellent collections in mature fruit of Anomospermum reticulatum ssp. idroboi from Panama permitted Barneby and me to finally ascertain the identity of numerous collections from Costa Rica collected by Humberto Barquero M. on various occasions in 1970, 1971 and in 1977. First collection of Abuta steyermarkii in fruit and of Abuta aris-teguietae appear to back up our understanding that these two are distinct species. For their full understanding we need staminate specimens of both species which are still not known.

The chemical work on neotropical Triclisiaae and Anomospermeae by Dr. Michael P. Cava and his associates continues. A new oxoaporphine alkaloid - splendidine - has been recently isolated from stem wood of Abuta rufescens Aublet.⁽¹⁾ Its structure was proved by total synthesis. The promising results on this project with cancer on behalf of the Cancer Institute are being followed; large samples, \pm 50 lbs. each, of Abuta rufescens, Sciadotenia toxifera and Abuta pahnii were recently obtained by me and presently studied chemically by Dr. Cava. K. Thanikaimoni continues study of pollen. This study appears to be promising as there are several types of pollen in these tribes. The extensive paper on the wood anatomy of the two tribes by A. M. W. Mennega is still being revised by the author and unfortunately not yet published.

Unexpectedly progress in the study of chromosomes was made. Seeds of several species were distributed to three institutions. At MO seeds did not germinate; at NY the technique in use was found not to be giving results with chromosomes of Menispermaceae which are very small and difficult to separate. Recently I received a communication from Pacific Tropical Botanical Garden in Hawaii to the effect that Dr. Carr succeeded in counting chromosomes from rooting material of Elephantomene eburnea. These studies are of considerable interest as of the 16 known New World

genera of Menispermaceae, chromosomes were studied of only four genera (Calycocarpum, Menispermum, Cocculus and Cissampelos). The material for all these studies (chemical, of the wood anatomy, and some material for chromosome studies) were supplied by me.

The time is not ripe as yet for writing Menispermaceae for Flora Neotropica. The revision of the small genus Hyperbaena, which was under study by Mathias for more than 15 years, still is not published. Furthermore, it is expected that many new species will be collected. We already have at NY material of 7 species and of one subspecies which are probably new and which we do not want to describe because of the lack of sufficient material.

I am continuing to receive specimens of Central and South American Menispermaceae for identification. Among these, specimens of Sparattanthelium (Gyrocarpaceae), also less frequently sterile collections of Dioscorea (from Brazil only - not Central American), and of Cucurbitaceae are often sent as unknown Menispermaceae.

I. Chondrodendron Ruiz & Pavón, Syst. Veg.
261. 1798.

2. Chondrodendron platiphyllum (A. de St. Hilaire) Miers, Ann. Mag. Nat. Hist. III. 19: 122. 1867.

Brazil: T. Plowman 7327 (ECON). Guanabara: D. Sucre 2074 (HB). São Paulo: Alb. Löfgren 3112.

II. Curarea Barneby & Krukoff, Mem. N. Y. Bot. Gard. 22(2): 7. 1971.

1. Curarea toxicofera (Weddell) Barneby & Krukoff, Mem. N. Y. Bot. Gard. 22(2): 9. 1971.

Colombia: Chocó: Rio Pichimá, +100 m, Luis E. Forero 666. Peru: Loreto: Maynas, Rio Itaya, Juan Revilla, 1501.

This is the first record from Chocó; the species has been already collected in Panama.

3. Curarea tecunarium Barneby & Krukoff, Mem. N. Y. Bot. Gard. 22(2): 12. 1971.

Ecuador: Tzapino, alt. +420 m, Oldeman & Avedo 42.

The collectors state on the label: "La corteza esta rasgada en pedazitos muy chicos, y usada para preparar Curary (no hay otras plantas mezcladas). Nombre Auca - "Hunta". "

CIONOMENE (1) Krukoff, gen. nov. Menispermaceum tribu Triclisieis referendum sepalis floris ♂ 3 intimis in columellam elongatam solidam androecium longe supra sepala externa calyculiformia elevantem concretis --
Generitypus: Cionomene javariensis Krukoff.

Bush rope, young branchlets stout, striate, not lenticillate, minutely puberulent, hollow inside as in some spp. of Caryomene; petioles (2.5)-7-9 cm long, stout, striate, incrassate at both ends, minutely puberulent; leaf-blades coriaceous, suborbicular or broadly ovate, obtuse or submarginate at apex, subcordate at base, (7)-13-19 cm long, (7)-11-14 cm broad, glabrous and lustrous above, densely and softly velvety-tomentulose below even at maturity; costa and secondaries depressed-canaliculate above, very prominent beneath; secondaries (8)-10-12 per side, tertiaries above slightly evident, prominent below; inflorescences ♂ narrowly cymose-paniculate serially supra-axillary, solitary or two together from young leafy branchlets, 11-23 cm long, many-flowered; - pedicels 2-5 mm; flower ♂: sepals 6--8, like the whole inflorescence densely velvety-puberulent externally, 1--2 exterior minute, 3 median at base of flower subequal ovate-deltate 1.5--1.8 x 1.5--2 mm, fleshy-thickened, dorsally convex, 3 interior linear-oblongate \pm 5 mm, united through \pm 3.5 mm into a solid column, the free lobes ovate \pm 1.5 mm, valvate in bud \pm erect at anthesis; petals 6, flabellate-truncate \pm 0.6 mm, the 3 outer embracing the opposed filament; androecium 6-merous, the filaments free from base, claviform slightly inclined, \pm 0.6--0.8 mm, the latero-terminal prominent anthers dehiscent by vertical slits.

Brazil: Amazonas: basin of Rio Javari, Rio Curacá, 8 miles above mouth, forest on terra firme, G. T. Prance, R. J. Hill, T. D. Pennington and J. M. Ramos 24137 (INPA-holotype, NY) (Oct. 25, 1976).

Collectors describe the plant as liana, corolla brownish-cream, tubular, flowers sweet sickly scented.

The plant cannot belong to the genera Chondrodendron, Curarea, Sciadotenia, Ungulipetalum, Telitocicum, Abuta, Anomospermum, Orthomene or Caryomene of which staminate flowers are known. This leaves out only Elephantomene, of which staminate flowers are not yet known.

The plant has the matted indumentum on the underside of leaves, an indumentum of extremely fine and short hairs clothing the back of the leaf-blades with a felt so close that individual trichomes often cannot be distinguished except under magnification of at least 20 diameters. Only two genera in American

(1) Means "column" + mene.

Menispermaceae, Chondrodendron and Curarea, have the same kind of indumentum, but the one known species of Elephantomene does not. Furthermore, leaves of our plant are unique in the American Triclisieae and Anomospermeae in outline; they are suborbicular or broadly ovate (13-19 cm long and 11-14 cm broad) and subcordate at base.

The full concept of this genus will not be understood until fruits and pistillate flowers are collected. This is the usual case with genera of newly described American Triclisieae and Anomospermeae because of extreme difficulties connected with their collection. It is to be recalled that fruits of Ungulipetalum, ♂ flowers of Telitoxicum and Caryomene, and ♂ and ♀ flowers of Elephantomene are not yet known. I place this genus in Triclisieae next to Curarea. I am backed on this by L. L. Forman, the specialist on Asiatic Menispermaceae, who stated in his letter to me: "It must be a new genus and I agree with your opinion that it could belong in Triclisieae, perhaps allied to Albertisia (syn. Epinetrum), where the inner 3 sepals are valvate but largely joined (laterally only) into an elongate tube; but here many anthers are present on a fused synandrium with the petals at its base, i.e., inside the base of the calyx tube."

For the latin diagnosis and the description of ♂ flowers I am obligated to Barneby who questioned however whether this genus should be described in absence of its fruits or the staminate flowers of Elephantomene. Inasmuch as the type is from the poorly accessible Rio Javari (border of Brazil and Peru) and inasmuch as inspite of our efforts during the last three years, we failed to obtain staminate flowers of Elephantomene, I do not want to wait for the new collection of these two entities.

III. Sciadotenia Miers, Ann. Nat.
Hist. II. 7: 43. 1851.

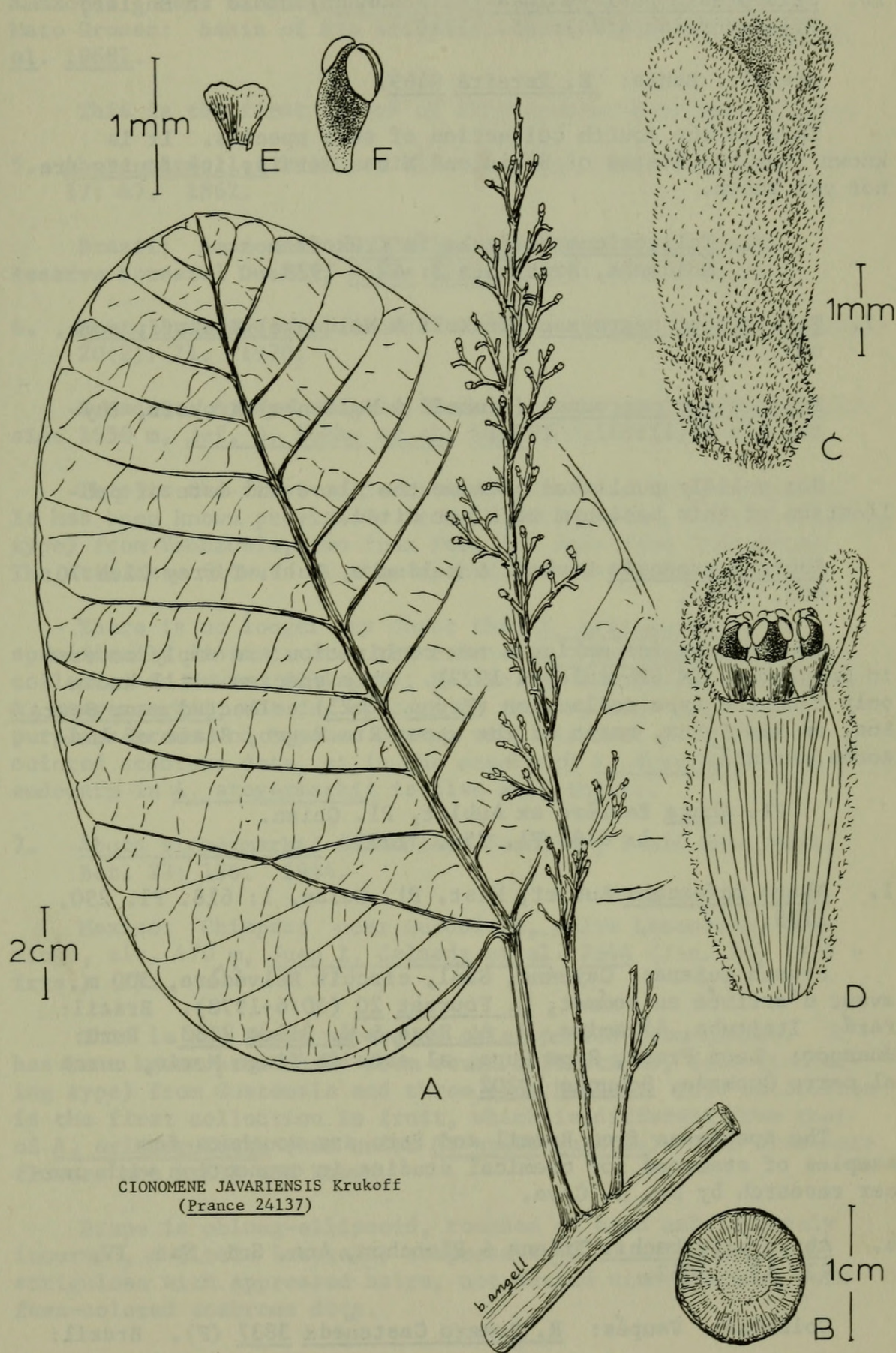
7. Sciadotenia sprucei Diels, Pflanzenreich 4(94): 84. 1910.

Brazil: Pará: Serra do Cachimbo, BR 163, Cuiabá - Santarem Highway, km 1135, vicin. of Igarape Natal, terra firme, G. T. Prance 25506.

9. Sciadotenia brachypoda Diels in Engler, Pflanzenreich 4 (94): 84. 1910.

Brazil: Acre: Cruzeiro do Sul, próximo do aeroporto novo, O. P. Monteiro & C. D. Mota 114.

This is the first record of this species from the State of Acre.



16. Sciadotenia pubistaminea (K. Schumann) Diels in Engler, Pflanzenreich 4(94): 85. 1910.

Brazil: Bahia: E. Pereira 9469.

This is the fourth collection of this species. It is known from the States of Bahia and Minas Gerais; its fruits are not yet known.

V. Telitoxicum Moldenke in Krukoff & Moldenke, Brittonia 3: 42. 1938.

7. Telitoxicum negroense (Krukoff & Moldenke) Krukoff, comb. nov.

Telitoxicum negroense (Krukoff & Moldenke) Krukoff, Phytologia 25(1): 37. 1972.

Not validly published because the place and date of publication of this basionym were not cited.

Abuta negroensis Krukoff & Moldenke, Bull. Torrey Club 70: 403. 1943.

The reasons for making a new combination are amply covered in Supplement IX (Phytologia 1972). This species still known only from the type collection (Fróes 12423) collected near Santa Ana, on Rio Içana, basin of the upper Rio Negro, State of Amazonas, Brazil.

VI. Abuta Barrère ex Aublet, Pl. Guian. 1: 618. Pl. 250. 1775.

1. Abuta rufescens Aublet, Hist. Pl. Guian. 1: 618. Pl. 250. 1775.

French Guiana: Cayenne, Saül, circuit Belvédère, 300 m avant d'arrivée au sommet, M. Fournet 20 (30/6-1978). Brazil: Pará: Itaituba, Altamira, N. A. Rosa & M. Silva 2233. Peru: Huanuco: Leon Prado, Rupa Rupa, al este de Tingo Maria, cerca al cerro Quemado, Schunke 10202.

The specimens from Brazil and Peru are vouchers for samples of stemwood for chemical studies in connection with cancer research by Dr. M. Cava.

4. Abuta grisebachii Triana & Planchon, Ann. Sci. Nat. IV, 17: 47. 1862.

Colombia: Vaupés: R. Romero Castañeda 3837 (F). Brazil:

Amazonas: near Manaus, O. C. Nascimento et al. 272 (INPA);
Mato Grosso: basin of Rio Aripuaná, above Andurina, Prance et al. 18681.

This is the first record of this species from Mato Grosso.

5. Abuta candollei Triana & Planchon, Ann. Sci. Nat. IV.
17: 47. 1862.

Brazil: Amazonas: D. Coêlho 737 (INPA) (near Manaus, Reserva Forestal Ducke), Fröes 22859 (basin of Rio Negro).

6. Abuta aristeguietae Krukoff & Barneby, Mem. N. Y. Bot. Gard.
20(2): 21. 1970.

Ecuador: Azuay: highway Cuenca - Cola de San Pablo, roadside 1650 m, Jef. D. Boeke et al. 1002 (2/15-1977 -frts.).

This is the first collection of this species from Ecuador. It has been known previously from 11 collections, five (including type) from Venezuela, two from Peru and four from Costa Rica. The staminate flowers of this species are still not known.

There is no longer any doubt that A. aristeguietae is specifically distinct from the related A. steyermarkii already collected in Mexico (Chiapas), Belize and Guatemala. Unlike in A. steyermarkii, the dry epicarp of this species turns dark purplish-brown and becomes dotted with distinct pale fawn-colored scabrous dots, as in the case with A. dwyerana. The endocarp in A. steyermarkii is also much thinner.

7. Abuta steyermarkii (Standley) Standley, Field Mus. Publ. Bot. 23: 156. 1944.

Mexico: Chiapas: near Guadalupe, selva Lacandona, Ocosingo, alt. 470 m, Juan I. Calzada et al. 2844 (Jan. 24, 1976 - frts.) (F).

This is the first record of this species from Mexico. It has been known previously from seven collections, four (including type) from Guatemala and three from Belize. This collection is the first collection in fruit, which is different from that of A. aristeguietae (see under A. aristeguietae). The staminate flowers are still not known.

Drupe is oblong-ellipsoid, rounded on both ends scarcely incurved, a little laterally compressed $\pm 2.25 \times 1.2$ cm, strigulose with appressed hairs, not dotted with distinct pale fawn-colored scabrous dots.

9. Abuta pahnii (Martius) Krukoff & Barneby, Mem. N. Y. Bot. Gard. 22(2): 43. 1971.
- Peru: Loreto: Maynas, T. Plowman et al. 6759.
11. Abuta barbata Miers, Contr. Bot. 3: 83. 1871.
- French Guiana: Cayenne: Saül, M. Fournet 19.
14. Abuta selloana Eichler, Flora 47: 389. 1864.
- Brazil: Guanabara: Herb. Jard. Bot. Rio 148538 (US).
24. Abuta racemosa (Thunberg) Triana & Planchon, Ann. Sci. Nat. IV. 17: 48. 1862
- Panama: Canal Zone: Barro Colorado Island, Robin Foster 2318 (F).
25. Abuta panamensis (Standley) Krukoff & Barneby, Mem. N.Y. Bot. Gard. 20(2): 22. 1970.
- Mexico: Veracruz: J. I. Calzada 678 (F) (Los Tuxtlas), 1077 (F) (Catemaco). Honduras: Copán, Antonio Molina 30600 (MO). Costa Rica: Heredia: Gary S. Hartshorn 1116.
- This is the first record of this species from Heredia.
26. Abuta chiapasensis Krukoff & Barneby, Mem. N. Y. Bot. Gard. 20(2): 23. 1970.
- Mexico: Chiapas: munic. Ocozocoautla de Espinosa, 3 km N. of Ocozocoautla, D. E. Breedlove 23348.
- Fruits of this species are described for the first time.
- Drupe obovoid 20-24 x 13-15 mm, densely minutely appressed-velutinous and inconspicuously lenticellate, the mealy exocarp ± 0.5 mm, the crustaceous endocarp ± 0.2 mm thick.
27. Abuta grandifolia (Martius) Sandwith, Kew Bull. 1937: 397. 1937.
- Venezuela: Alto Orinoco, Leon Croizat 399A (F). Brazil: Marlene da Silva & L. D. Coelho s.n. (18/8-1971) (MO); Mato Grosso: A. S. Lima s.n. (11/17-1944). Peru: Loreto: Maynas, T. Plowman et al. 6611. Ecuador: Cononaco, alt. 300 m, Oldeman & R. A. A. Arevalo 115.

VII. Caryomene Barneby & Krukoff, Mem. N. Y.
Bot. Gard. 22(2): 52. 1971.

5. Caryomene grandifolia Barneby & Krukoff sp. nov. a caeteris generis speciebus foliis maximis, lamina saepissime 15--35 cm longis absimilis.

Bush-rope wholly glabrous, but the leaf-blades very densely minutely pallid-papillose beneath, the young stems pale green to blackish, striate, without lenticels. Petiole slender, 4-16 cm long, between the thickened extremities 1-2.2 mm diam. Leaf-blades chartaceous, olive-green, lustrous above, dull beneath, conspicuously pallid-nerved, broadly to narrowly ovate-acuminate, rounded to sinuately subtruncate (rarely very broadly cuneate) at base, long acuminate and mucronate at apex, (0.9-)1.5-3.5 cm long, (4.5-)6-18 cm diam. Primary venation of 5 nerves from the base, the outer pair weak, submarginal, less than 1/4 length of blade, the inner pair divergently incurved-ascending from shortly above insertion of petiole to or beyond middle of blade, the costa giving rise on each side to $\pm 3-4$ incurved-ascending and several weaker, interposed, divaricate secondaries, these all elevated both sides but more strongly so beneath, the tertiary venation and reticulation faint, the ultimate defined areoles beneath much $\angle 1$ mm diam. Flowers σ^7 = sepals 6, the 3 outer small $\pm 1.5 \times 0.8-1$ mm, the three inner much larger $3-4 \times 2-2.5$ mm, imbricate in vernation; petals 6, fleshy, glabrous embracing filaments; stamens 6 cobriform, all equal, 1.3 mm.

Brazil: Amazonas: Maués, grounds of Guarana factory, disturbed forest on terra firme, D. G. Campbell, O. P. Monteiro, B. W. Nelson, J. O. Ongley (G. T. Prance number 22127 (Apr. 25, 1974 - flrs.) (Holotype - NY); basin of Rio Negro, Macubeta on Rio Marie, Fróes 12477/221. Peru: Loreto: vicinity of Aguaytía, Mathias & Taylor 5127, 5130, T. J. Zavortink 2294, J. Schunke 1970/21, 1970/26.

The earliest collection, which is sterile, was collected in 1942 while Fróes, in the employ of Chicle Development Co., was collecting gum samples and vouchers on the tributaries of the upper Rio Negro. Fróes' field number of this collection is 221 while 12477 stands for Krukoff Herbarium. This collection puzzled us for a long time. We referred (Mem. N. Y. Bot. Gard. 20(2): 11. 1970) to it and to three others from Peru as representing an undescribed Abuta perhaps related to A. imene. However, once the generic concept of Caryomene emerged, the relationship of this undescribed entity was revealed, the dense but minute papillosity of the leaf's lower surface and the general facies and venation of the foliage being characteristic of the genus. It differs from the four described species of Caryomene

in the large size of the leaves. Prance et al. 22127 is the first collection of this species, in fact, the first of the genus in staminate flowers. The above description of vegetative parts and its history of collections are taken from Suppl. VIII (Mem. N. Y. Bot. Gard. 22(2): 60. 1971).

It is interesting to note that two sterile collections of Schunke match the fertile collection of Prance et al. in every detail. The Schunke collection, Zavortink 2294, and Mathias 5127, 5130 were collected from the same property ("chacra de don Diogenes del Aguila"). The undersurface of the leaves in some of these are strikingly olive-green when dry, resembling in this character Caryomene olivascens.

The costa of leaf-blades in C. grandifolia, as in the case with C. foveolata and C. prumnoides is elevated above and tertiary venation of upper leaf-surface slender but evident and prominulous. In C. glaucescens and C. olivascens costa is depressed-caniculate above and tertiary venation of upper surface is immersed and invisible. It is distinguished from C. prumnoides and C. foveolata, in fact, from all other known species of Caryomene, in its large leaves 15-35 cm (in average), almost twice as large as of other known species, long acuminate and mucronate at apex.

VIII. Anomospermum Miers, Ann. Nat.
Hist. III, 14: 101. 1864.

1. Anomospermum grandifolium Eichler, Flora 47: 388. 1864.

Colombia: Chocó: along Rio Pavarandó, near border with Antioquia, W of Mutata, forest remnants along stream and on steep slopes, +150 m, Al. Gentry & Henry León 20243 (Oct. 8, 1977 (MO, NY-frts. only).

This is the first record of this species from Colombia. This collection in mature fruit.

4a. Anomospermum chloranthum Diels spp. chloranthum, Mem. N. Y. Bot. Garden 22(2): 68. 1971.

Brazil: Amazonas: estrada Manaus - Porte Velho, O. P. Monteiro & J. Ramos 789 (INPA).

This is the first record of this species from Amazonas.

5a. Anomospermum reticulatum (Martius) Eichler ssp. reticulatum, Mem. N. Y. Bot. Gard. 22(2): 73. 1971.

Brazil: Acre: Serra do Divisor, J. Ramos & G. Mota 336 (INPA).

- 5d. Anomospermum reticulatum (Martius) Eichler ssp. idroboi
Krukoff & Barneby, Mem. N. Y. Bot. Gard. 22(2): 75. 1971.

This subspecies was described from rather complete material, two collections with staminate flowers and one with mature fruits, all from a single locality, Cordillera La Macarena, Meta, Colombia at 1300-1900 m.

Plants of Menispermaceae are among the most unsatisfactory creations of nature from the taxonomist's point of view. Flowers are extremely small and dioecious, and some genera can be told apart only on fruit and seed characters. Under the circumstances, we usually have in a Herbarium half a dozen or so collections which probably represent new species but cannot be described until flowers of one or other sex or mature fruit are procured. In 1970 three collections of Anomospermum were received from H. Barquero M., one with immature fruit and two others with pistillate flowers. They were mentioned in Supplement X (Lloydia 37: 26. 1974.). Many letters were written to Sr. Barquero urging him to collect staminate flowers and mature fruits. In 1971 he sent a second pistillate collection in flower, and in 1977, still three other collections were received, one with female flowers, one with male flowers (unfortunately infected by mycelium), and a third with almost mature fruit. In the meantime a sterile collection (Croat 22158 (MO) was received from Panama which was cited in Supplement XI (Phytologia 33: 335. 1976.). Finally in June 1978, on a visit to MO, two excellent collections from Panama were found, both with mature fruit, one from Coclé and another from Colón. With these collections we finally have complete material of this subspecies, male and female flowers and mature fruits. The form and sculpture of the endocarp placed these collections in subspecies idroboi. Excellent, abundant leaf material of these two collections connect them with those from Colombia and Costa Rica.

The discontinuous distribution, which would be rather unusual in another group of plants, should not distress those who work on Menispermaceae, a family from which many similar examples could be cited. In 1938, when I was working on the first Monograph of Menispermaceae (Brittonia 3: 1-74. 1938.), Chondrodendrum tomentosum Ruiz & Pavon which, by the way, is the principal ingredient of Curare of many Indian tribes on the Amazon, especially in Peru, had been collected on several occasions in the Panama Canal Zone. Because this seemed to be a very disjointed range of distribution, I studied Ch. hypoleucum especially carefully before reducing it to Ch. tomentosum. During the last 40

years, of course, it has been collected outside of the Amazonian basin in Colombia (Caqueta) and also in the provinces of Panamá and Darién (Panama).

Orthomene verruculosa (Krukoff & Barneby) Barneby and Krukoff was originally collected in Vaupés, Colombia and then it was a great surprise to receive three specimens of it from French Guiana and one from adjoining Amapá, Brazil. These are cited in Supplement IX (Phytologia 25: 45-48. 1972.).

Still another example is Curarea toxicofera (Weddell) Barneby & Krukoff, originally thought to be confined to the Amazonian basin, but eventually found in Colombia (Caqueta) outside of the Amazonian basin and in Panama (provinces of Panamá, Colón, Darién and Canal Zone).

Costa Rica: Alajuela: Zapote de Alfaro Ruiz, Finca Los Ensayos, elev. 1100 m, Humberto Barquero M. 1970/202 (frts.), 1970/s.n., 1970/s.n., 1971/s.n. (o), 9/20-1977/s.n. (o² infected with mycelium), 9/20-1977/s.n. (o), 10/26-1977/s.n.
Panama: Chiriqui: Burica Peninsula, near Costa Rican border, Croat 22158 (MO); Cocle: 7 km N of El Copé, +900 m, Jim Folsom 1313 (1/14-1977 - frts.) (MO), Colón: Rio Lavanita, W. C. D'Arcy 11246 (4/7-1977 - frts.) (MO).

According to Barquero, flowers in Costa Rica usually occur in September.

8. Anomospermum andersonii Krukoff sp. nov. Species foliorum laminiis elongatis pinnatinervibus, drupis gracilibus 2-1/2plo longioribus quam latioribus a congeneribus differt.

For the description of sterile material of this species I refer to Supplement VIII (Mem. N. Y. Bot. Gard. 22(2): 78. 1971). At that time five collections were available to Barneby and me, three from the basin of the upper Rio Solimões, Amazonas, Brazil and two from vicinity of Aguaytia, San Martín, Peru. Recently I received an excellent collection in mature fruits and now this species can be formally described as new.

Drupe obliquely oblong-ellipsoid $\pm 4 \times 2$ cm; endocarp ± 1.5 mm thick, carinate around the long diameter and shallowly pitted in lines along either side of the keel, otherwise almost smooth externally except for fine incised venulation, the wall of the cavity undulately wrinkled but otherwise smooth, the external pits not produced internally as prongs.

Brazil: Pará: basin of the upper Rio Tapajós, Rio Cururú, 1-10 km upriver from Pratati 200-300 m; ca 8°8, 57°5' W; dense

inundated vegetation of trees and vines along edge of river at flood level, William R. Anderson 10861 (Feb. 12, 1974) (Holotype - NY); Amazonas: basin of Rio Solimões, Krukoff 7565, 7567 (São Paulo de Olivença), Fróes 12151 (Igarapé Belém). Peru: San Martín - Loreto, vicin. of Aguaytia, Mathias & Taylor 3526 (NY, UCLA), 5090 (NY, UCLA).

Few, if any, species of Menispermaceae had such a difficult time being "born". It was first collected by me in January 1936, then by Fróes in 1939, then by Mathias in 1957 and 1960 and finally for the first time in fruit by Anderson in 1974. Dr. Anderson asked me to have the holotype deposited at INPA, the only other Herbarium besides NY which is supposed to have this collection. I have written them and the specimen could not be located. Under the circumstances, I have no choice but to describe the species on the basis of the specimen deposited in NY. It differs immediately from Anomospermum matogrossense, fruits of which are not known, in differently shaped leaves which are 3 to 5 times as long and they are wide whereas in A. matogrossense they are not more than 2-1/2 times as long as they are wide. Leaves of Anomospermum andersonii superficially resemble leaves of Telitoxicum rodriguesii from which they are also immediately distinguished by distinct reticulation on both surfaces of the leaves tertiaries as seen under a magnifying glass.

For the latin diagnosis I am obligated to Barneby. He questions however that the five sterile specimens cited above are conspecific with the type.

IX. Orthomene Barneby & Krukoff, Mem.
N. Y. Bot. Gard. 22(2): 79. 1971.

1. Orthomene schomburgkii (Miers) Barneby & Krukoff, Mem. N.Y. Bot. Gard. 22(2): 80. 1971.

Colombia: Antioquia: Munic. Anori, D. D. Soejarto et al. 3943 (MO). Peru: Loreto: J. Schunke V. 6607 (San Martín), Al. Gentry et al. 19070 (MO) (Loreto).

This is the first record from Antioquia.

X. Elephantomene Barneby & Krukoff
Lloydia 37: 27. 1974.

1. Elephantomene eburnea Barneby & Krukoff, Lloydia 37: 28. 1974.

French Guiana: Saül: S. Mori & J. J. de Granville 8780 (plateau la Dourne), M. Fournet s.n. (frts. collected on the

ground).

Mori and de Granville 8780 probably from the same plant as de Granville 2704. Seeds of this collection germinated many months after they were sown at N. Y. Botanical Garden. The drupe was not known to us and is described below.

Drupe (Fournet s.n.) obliquely pyriform 7 x 5 cm, not or scarcely compressed, the leathery exocarp 4--5 mm thick, the succulent mesocarp traversed by fibers adherent to the endocarp. Endocarp as described in the protologue of the species.

Species not described because of absence of sufficient material

Eight species and 1 subspecies are left undescribed because of lack of fertile or sufficient material. In order to facilitate their collection, the known localities are listed here. For descriptions of their vegetative parts the reader is referred to the papers where they were mentioned.

18. Sciadotenia sp.

Peru: Loreto: down river from Yurimaguas.

Mathias & Taylor 3933 (o with inflorescence - axes, carpophores but no drupes) (See Mem. N. Y. Bot. Gard. 22: 25. 1971).

19. Sciadotenia sp.

Brazil: Pará: Serra do Cachimbo, Cuiabá - Santarem highway, km 1300, terra firme, Prance 25705 (sterile) (See Phytologia 39: 285. 1978).

31. Abuta sp.

Brazil: basin of Rio Negro, Maturaca on Rio Cauaburi, R. E. Schultes 24577 (INPA) (sterile) (See Mem. N. Y. Bot. Gard. 22: 52. 1971).

32. Abuta sp.

Colombia: Chocó: Gentry & Forero 7203 (MO, NY) - hills behind Bahia Solano (Puerto Mutis) alt. 0-250 m, tropical wet forest (See Phytologia 33: 333. 1976); Gentry & Fallen 17731 - Rio San Juan, just below Tadó, +100 m (See Phytologia 39: 289. 1978). Both collections are sterile.

33. Abuta sp.

Colombia: Chocó: vicin. of Unguia, +50 m, Gentry 16723

(NY) (sterile) (See Phytologia 39: 289. 1978).

5h. Anomospermum reticulatum ssp. (?)

Peru: Huánuco: southwestern slope of the Río Llulla Pichis watershed, on the ascent of Cerros del Sira (in rain forest, +1290 m), Frank Wolfe 12339 (F), 12340 (F). Both collections are sterile (See Phytologia 25: 44. 1972).

10. Anomospermum sp.

Colombia: Valle: costa del Pacífico, Río Cajambre, silva, alt. 5-80 m, Cuatrecasas 17528 (F) (sterile) (See Phytologia: 33: 335. 1976).

6. Caryomene sp.

Surinam: Brokopongo Dct.: 8 km of village Brownsweeg, Van Donselaar 2211 (U, NY-fragment) (sterile) (See Mem. N. Y. Bot. Gard. 22: 61. 1971).

7. Caryomene sp.

French Guiana: Saül, M. Fournet 25 (frts. collected on the ground).

Fournet states on the label: "a vine 40-50 cm in diam." This is the first record of this genus in French Guiana.

Bibliography

(In order to conserve space, I am citing only the papers which are not cited in Supplements VII-XII).

1. Cava, Michael P., et al. Splendidine. A new Oxoaporphine alkaloid from Abuta rufescens Aublet. Submitted to Can. Jour. Chemistry.
2. Krukoff, B. A. and R. C. Barneby. Supplementary notes on American Menispermaceae XIII. Neotropical Triclisieae and Anomospermeae. Phytologia 39: 283-293. 1978.

List of Exsiccatae

The first list of Exsiccatae covering our papers on Menispermaceae including Supplement VIII was published in Mem. N. Y. Bot. Gard. 22: 1-89. 1971, the second list covering Supplements IX, X and XI in Phytologia 33: 337-340. 1976, and the third covering Supplements XII and XIII in Phytologia 39: 292-293. 1978. The present list covers Supplement XIV. The number in parenthesis corresponds with the species - number of this and other papers (Supplements VIII to XIII). Only numbered collections and those of which the dates of collection are recorded have been listed. If a collector gathered his collection together with others, only his name is cited in this list. Collections with Dr. Prance's numbers are cited under Prance.

Anderson, W. R., 10861 (AN8)

Barquero M., H., 202/1970 (frts.) (AN5d), s.n. 1970 (o) (AN5d), s.n./1970 (o) (AN5d), s.n./1971 (o) (AN5d), s.n./Sept. 20, 1977 (o) (AN5d), s.n./Sept. 20, 1977 (o) (AN5d), s.n./Oct. 26, 1977 (AN5d), s.n./Nov. 1977) (seedling raised at NYBG) (AN5d).

Boeke, Jef.D., 1002 (A6).

Breedlove, D. E., 23348 (A26).

Calzada, Juan I., 678 (A25), 1077 (A25), 2844 (A7).

Castaneda, Romero R., 2837 (A4).

Coelho, D., 737 (A5).

Croizat, Leon, 399A (A27).

D'Arcy, W. G., 11246 (AN-5d).

Folsom, Jim, 1313 (AN5d).

Forero, Luis, E., 666 (CU1).

Foster, Robin, 2318 (A24).

Fournet, M., 19 (A11), 20 (A1), s.n. (Oct. 1978) (E1).

Fróes, R., 12151 (AN8), 12477/221 (C5), 22859 (A5).

Gentry, Al., 19070 (O1), 20243 (AN1).

Hartshorn, Gary S., 1116 (A25).

Herb. Jard. Bot. Rio, 148538 (A14).

Krukoff, B. A., 7565 (AN8), 7567 (AN8).

Lima, A. S., s.n. (11/17-1944) (A27).

Lofgren, Alb., 3112 (CH2).

Mathias, M., 3526 (AN8), 5090 (AN8), 5127 (C5), 5130 (C5).
Molina, Antonio, 30600 (A25).
Monteiro, O.P., 114 (S9), 789 (AN4a).

Nascimento, O. C., 272 (A4).

Oldeman, R. A. A., 42 (CU3), 115 (A27).

Pereira, E., 9469 (S16).

Plowman, T., 6611 (A27), 6759 (A9), 7327 (CH2).

Prance, G. T., 18681 (A4), 22127 (C5), 24137 (C1), 25506 (S7).

Ramos, J., 336 (AN5a).

Revilla, J., 1501 (CU1)

Rosa, N. A., 2233 (A1).

Schunke, V., José, 6607 (O1), 10202 (A1), 1970/21 (C5), 1970/
26 (C5).

Silva, Marlene, da, s.n. (Aug. 18, 1971) (A27)

Soejarto, D. D., 3943 (O1)

Sucre, D., 2074 (CH2).

Zavortink, T. J., 2294 (C5).



Krukoff, B. A. 1979. "Supplementary notes on American Menispermaceae---XIV. Neotropical Triclisieae and Anomospermeae." *Phytologia* 41, 239–255. <https://doi.org/10.5962/bhl.part.20783>.

View This Item Online: <https://www.biodiversitylibrary.org/item/47696>

DOI: <https://doi.org/10.5962/bhl.part.20783>

Permalink: <https://www.biodiversitylibrary.org/partpdf/20783>

Holding Institution

New York Botanical Garden, LuEsther T. Mertz Library

Sponsored by

The LuEsther T Mertz Library, the New York Botanical Garden

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: Phytologia

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.