FOUR NEW SPECIES OF *DIOSCOREA* FROM AMAZONIAN PERU[1]

By Franklin Ayala F.[2]

Abstract

Four new species of *Dioscorea* from northeastern Peru are described: *D. revillae* F. Ayala, *D. tamshiyacuensis* F. Ayala, *D. claytonii* F. Ayala, and *D. schunkei* F. Ayala & T. Clayton.

During a recent study of the genus *Dioscorea* L. in northeastern Peru (Ayala, 1979) the following four new species were discovered.

Dioscorea revillae F. Ayala, sp. nov.—Fig. 1.

Herba sinistrorsum volubilis ca. 1.7 mm vix crassa lineis 10 vel plus proxime nodos praedita; folia 7–10 cm longa, 3.5–4.0 cm lata, alternata, ovata vel ovata-lanceolata, apice acuta, basi acuta, margine integro; venae laterales 5 eis externissimis bifidis; petiolus gracilis basi dilatatus, 0.3–0.5 mm crassus, 4–4.8 cm longus; inflorescentia spiciformis axillaris, ramis nullis, 17–20 cm longa; flores luteo-virides solitarii, 2–3 mm longi, ca. 3.2 mm in diametro, bracteis duabus basi floris utriusque locatis; sepala oblonga, ca. 2.3 mm longa, ca. 0.8 mm lata, apice involuta apiculata, basi acuta; stamina 6, filamentis cuneatis vel crassis; antherae subglobosae, longitudinaliter dehiscentes.

Herbaceous vine; stem sinistrorse, 1.7 mm thick, somewhat tetragonal, with 10 or more transverse lines close to the nodes; leaves 7–10 cm long, 3.5–4.0 cm wide, alternate, ovate to ovate-lanceolate, acute at the base and apex, the margin entire, the nerves 5, the most external bifid; petiole slender, dilated at the base, 0.3–0.5 mm thick, 4–4.8 cm long; inflorescence a spike, axillary, unbranched, 17–20 cm long; flowers yellowish green, solitary, 2.3 mm long, 3.2 mm in diameter, with 2 bracts at the base of each flower; sepals oblong, 2.3 mm long, 0.8 mm wide, the apex involute, apiculate, acute at the base; stamens 6, longitudinally dehiscent, the anthers subglobose, the filament cuneate and thick.

Type: Peru. Loreto: Provincia Maynas, Distrito Iquitos, boca del Río Nanay, 1 Nov. 1976, *Juan Revilla 1730* (AMAZ, holotype; F, MO, USM, isotypes).

This species is related to *Dioscorea paraguayensis* R. Knuth which was placed by Knuth (1924: 72) in subgenus *Helmia* (Knuth) Benth., section *Sphaerantha* Uline. It differs in having 5 nerves rather than 7. The petiole of *D. paraguayensis* is 2.5 cm long and the rachis of the inflorescence is 7 cm long and branched, while the petiole of the new species is 4.8 cm long with the rachis reaching 20 cm in length and unbranched.

Dioscorea tamshiyacuensis F. Ayala, sp. nov.—Fig. 2.

Herba volubilis caule gracili, 0.2–0.4 mm crasso, inermi, glabro, sinistrorsum volubili lenticellis violaceis ornato; folia integra glabra, elliptico-oblonga ad oblongo-lanceolata, acuminata, basi rotun-

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[2] Director, Herbarium Amazonense (AMAZ), Universidad Nacional de la Amazonia Peruana, Aptdo. 421 Iquitos, Peru.

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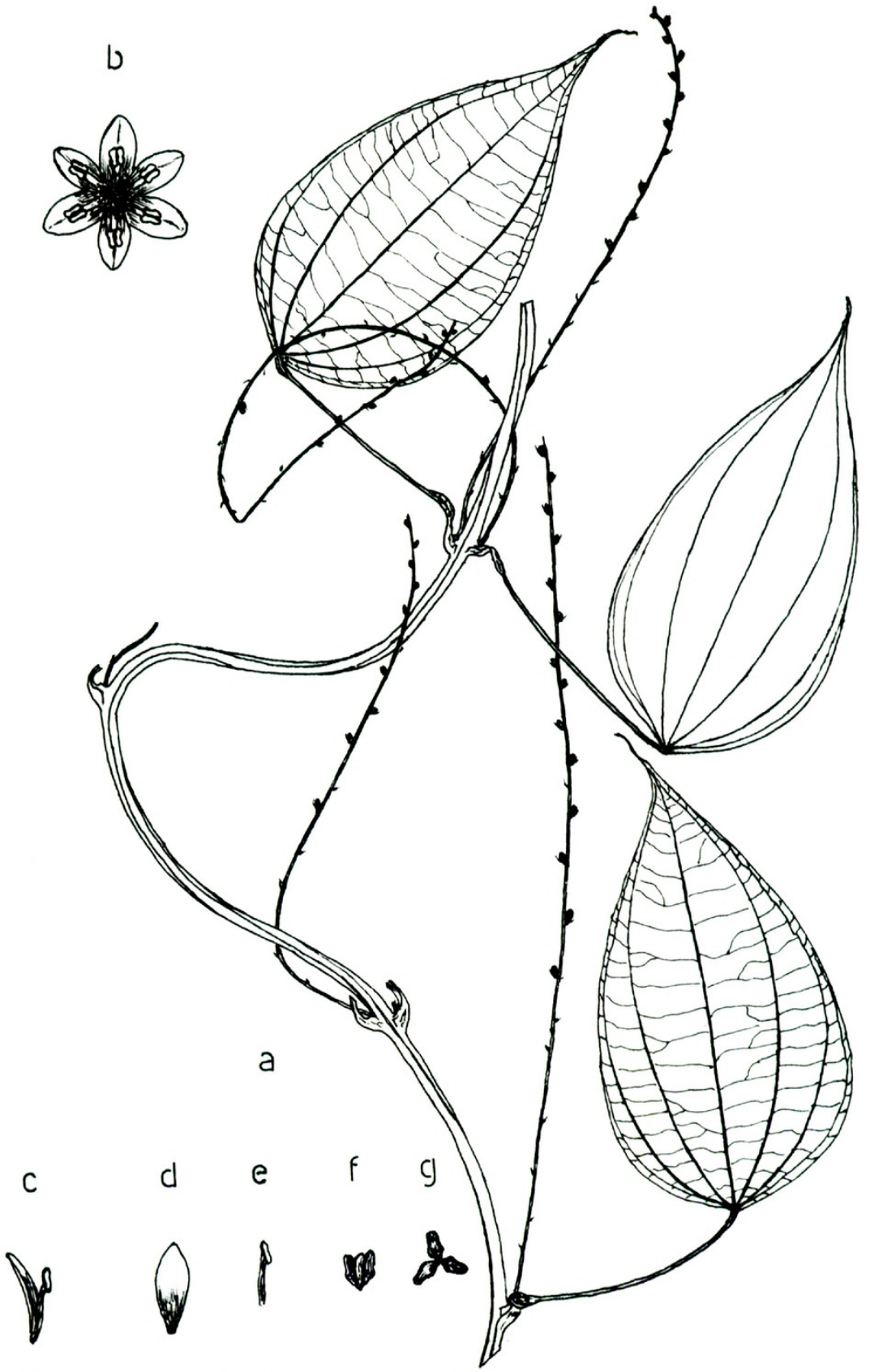

FIGURE 1. *Dioscorea revillae* F. Ayala.—A. Habit (×9/10).—B. Flower (×14).—C. Stamen adnate at base of petal (×14).—D. Petal (×14).—E. Stamen (×14).—F.–G. Torus (×14). [After *Revilla 1730* (AMAZ).]

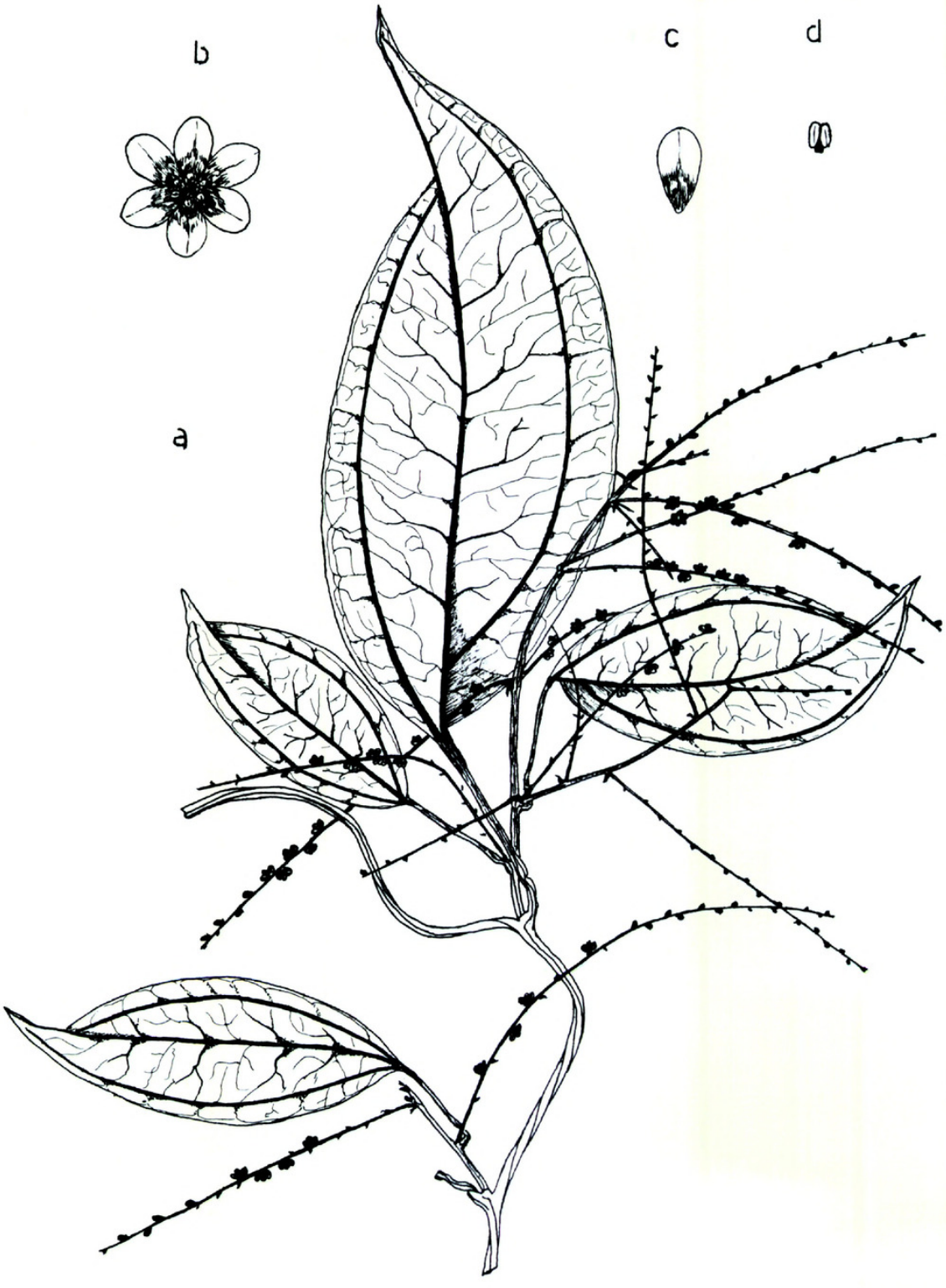

FIGURE 2. *Dioscorea tamshiyacuensis* F. Ayala.—A. Habit (×4/5).—B. Flower (×5²/5).—C. Petal (×12).—D. Stamen (×15¹/5). [After *Ayala 564* (AMAZ).]

data, 9–11 cm longa, 4–5 cm lata, nervis 3, violaceis; petiolus 2–3 cm longus; inflorescentia spiciformis, fasciculata, rhachi diminuto-alata 12–20 cm longa; flores sessiles, 0.15–0.20 cm longi, 0.12–0.15 cm lati; sepala viridia ovato-lanceolata, 0.8–2 mm longa, 0.6–1 mm lata; petala violacea, ovata, introrsum volubilia, 1.0–2.5 mm longa, 1.0–1.2 mm lata; perianthium campanulato-rotundatum; stamina

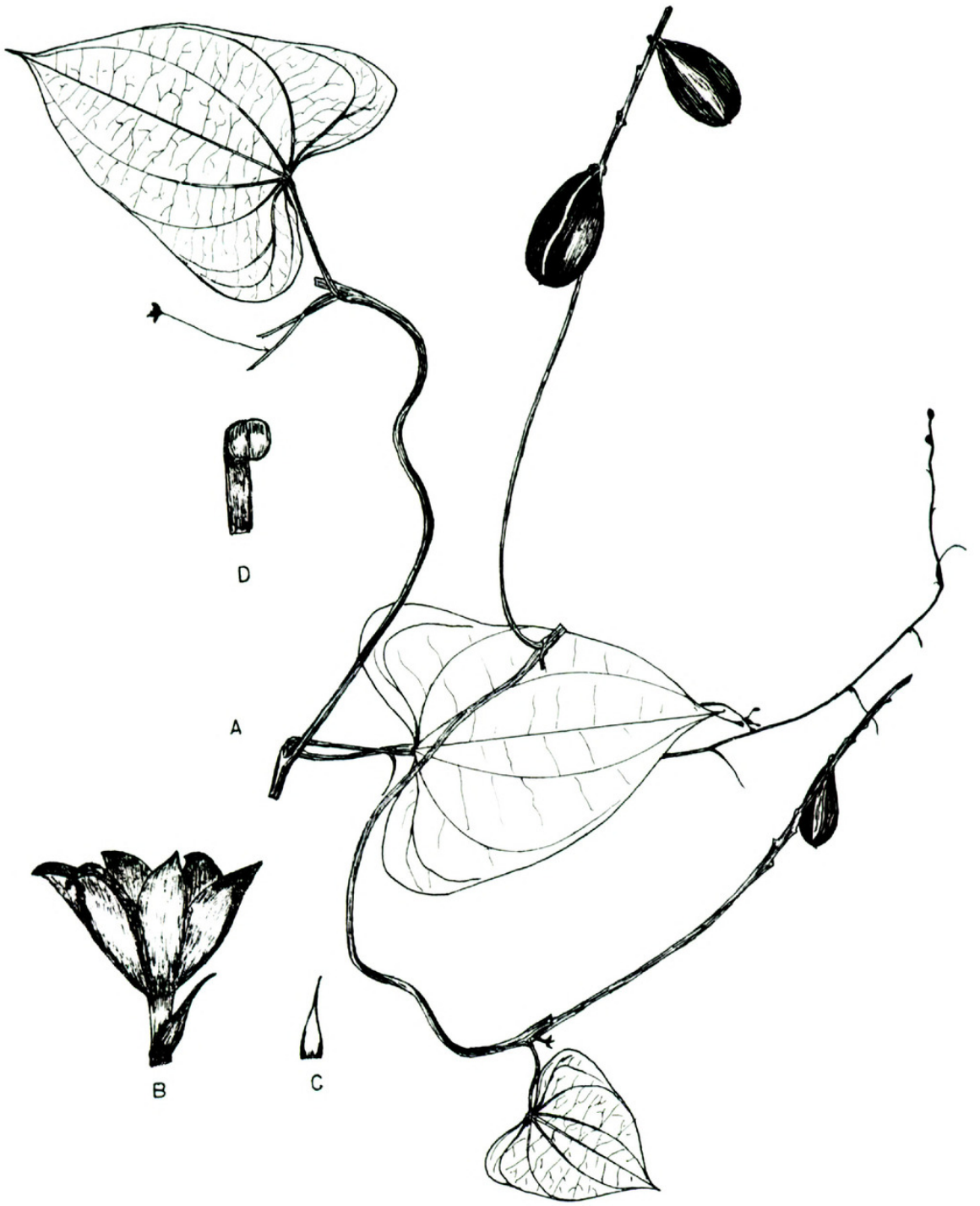

FIGURE 3. *Dioscorea claytonii* F. Ayala.—A. Habit (×¾).—B. Flower (×7½).—C. Bract (×4½).—D. Stamen (×15). [After *Klug 4345* (MO).]

6, antheris luteis, filamentis brevibus; flores bracteis duabus praediti, bractea utraque 0.1 mm longa, lanceolata vel ovato-lanceolata; radix lignosa.

Herbaceous vine; roots woody; stems slender, 0.3–0.4 mm thick, unarmed, glabrous, sinistrorse, with violet lenticels; leaves entire, glabrous, 9–11 cm long, 4–5 cm wide, elliptic-oblong to oblong-lanceolate, the apex acuminate, the base rounded, the nerves 3, violet; petiole 2–3 cm long; inflorescence a spike, fascic-

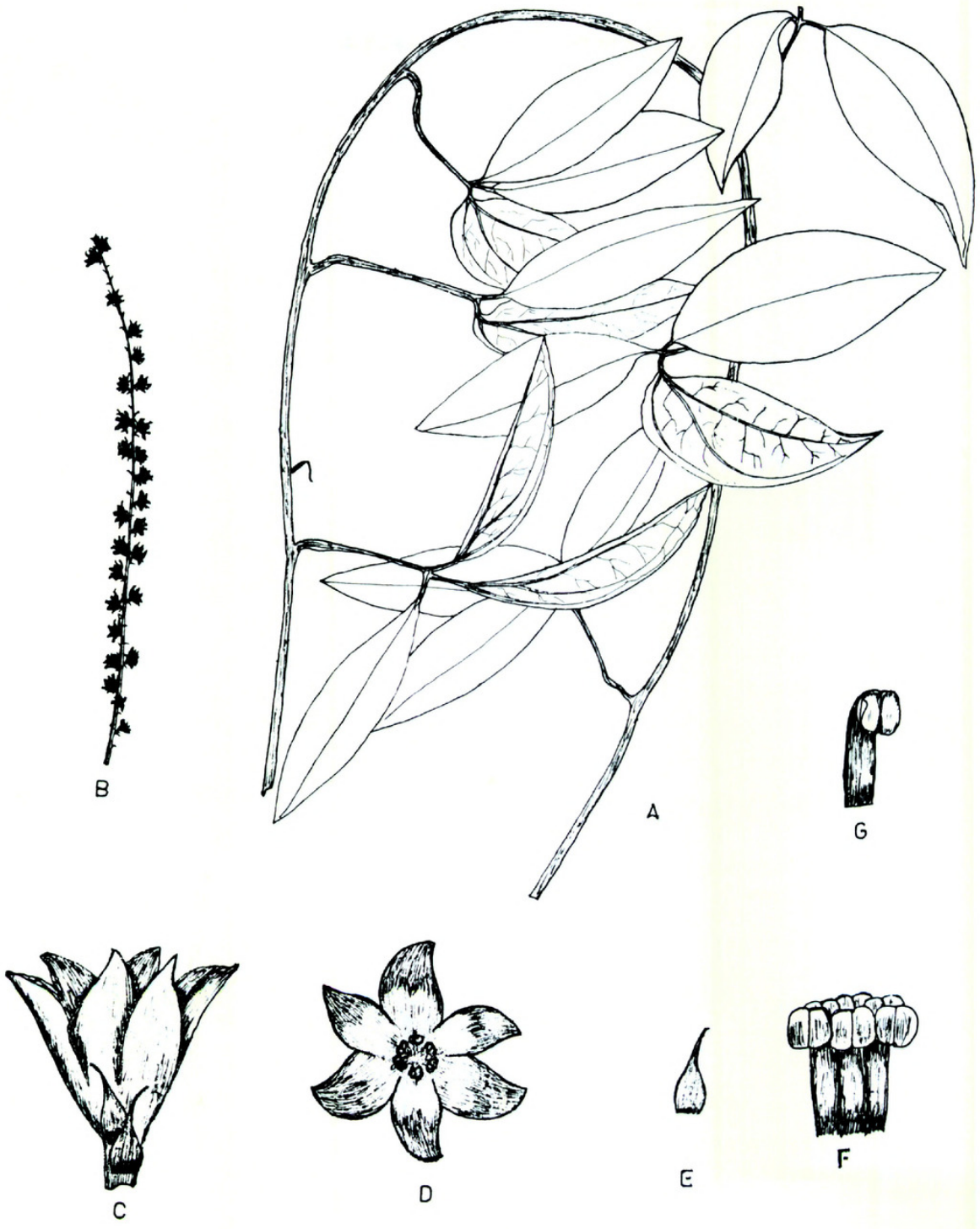

FIGURE 4. *Dioscorea schunkei* F. Ayala & T. Clayton.—A. Habit (×¾).—B. Inflorescence (×¾).—C.–D. Flower (×7½).—E. Bract (×4½).—F.–G. Stamen (×13). [After *Schunke 3825* (MO).]

ulate, the rachis minutely winged, 12–20 cm long; flowers sessile, 1.5–2.0 cm long, 1.2–1.5 cm wide, with 2 bracts at the base of each flower, the bracts 0.1 mm long, lanceolate to ovate-lanceolate; sepals green, ovate-lanceolate, 0.8–2 mm long, 0.6–1 mm wide; petals violet, ovate, introrse, 1–2.5 mm long, 1–1.2 mm wide; perianth campanulate-rotate; stamens 6, the anthers yellowish, the filaments short.

TYPE: PERU. LORETO: Provincia Maynas, Tamshiyacu, 8 Mar. 1974, *F. Ayala 564* (MO, holotype; AMAZ, isotype).

This species is related to *D. apurimacensis* R. Knuth which was placed by Knuth (1931: 94) in subgenus *Eudioscorea* Pax, section *Cryptantha* Uline. It differs from *D. apurimacensis* in twining sinistrorsely rather than dextrorsely and in having three nerves rather than five.

Dioscorea claytonii F. Ayala, sp. nov.—FIG. 3.

Herba dextrorsum volubilis, ca. 2.5–3 mm crassa, foliis alternatis, 9–11 cm remotis, cordiformibus, campylodromis; folia basi late cordata, apice acuminata, cuspidata, 2.5–7.5 cm longa, 2.3–5.5 cm lata, nervis 7–9, penultimis bifidis vel ramosis; petiolus glaber, 2–4 cm longus, 0.4 mm latus; inflorescentia axillaris, racemosa, rhachidi 6.5–8.0 cm longa, hirsuta; flores campanulati; perianthium 4 cm longum, 4.2 mm latum, pedicellus 1.2–2.8 cm longus, glaber; stamina fertilia 6, 1 mm longa, filamentis latis, 0.7 mm longis; anthera capitata, 0.3 mm longa; capsulae apice rotundatae, 2.0 cm longae, 1–1.3 cm latae; semina undique ala membranacea cincta, 0.2–0.5 cm longa, 0.2–0.3 cm lata.

Vine; stem dextrorse, 2.5–3 mm thick; leaves alternate, separated by 9–11 cm, cordiform, campylodromus, broadly cordate at the base, the apex acuminate or cuspidate, 2.5–7.5 cm long, 2.3–5.5 cm wide, with 7–9 nerves, the penultimate nerves bifid or branched; petiole glabrous, 2.0–4.0 cm long, 0.4 mm wide; inflorescence an axillary raceme, the rachis 6.5–8 cm long, hirsute; flowers campanulate, the perianth 4 mm long, 4.2 mm wide, the pedicel 1.2–2.8 cm long, glabrous; stamens 6, 1 mm long, the filaments broad, 0.7 mm long, the anthers capitate, 0.3 mm long; capsule apically rounded, 2 cm long, 1–1.3 cm wide, the seeds winged, 0.2–0.5 cm long, 0.2–0.3 cm wide.

TYPE: PERU. SAN MARTÍN: Provincia Mariscal Caceres, Distrito Juan Jui, Alto Río Huallaga, 400–800 m, forest, May 1936, *Klug 4345* (MO, holotype; phototype and fragm., AMAZ).

This species is related to *Dioscorea multispicata* R. Knuth which was described in subgenus *Helmia* (Knuth) Benth., section *Centrostemon* Griseb. (Knuth, 1916). It differs especially in having a long and broad filament rather than a short and thin one.

Dioscorea schunkei F. Ayala & T. Clayton, sp. nov.—FIG. 4.

Herba sinistrorsum volubilis, ca. 7–8 m alta, caule glabro, 2 mm lato; folia glabra, alternata, trifoliata, papyracea, segmentum foliatum oblongo-elliptica, apice acuta, basi attenuate acuta, 4–6 cm longa, 1.8–2.2 cm lata; petiolus 3 cm longus, 1 mm latus. Racemus rhachidi 9 mm longa; flores campanulati 4 mm lati, contorti, involuti; pedicellus 1 mm longus, bracteis duabus basi floris utrique locatis; bractea 1.2–2.5 mm longa, acuminata, caudata; stamina fertilia 6, 1.3 cm longa, 0.2 mm crassa, antheris 0.3 mm longis.

Vine, sinestrorse, 7–8 m high; stem glabrous, 2 mm wide; leaves glabrous, alternate, trifoliate, papyraceous, the leaflets oblong-elliptic, apically acute, acutely attenuate at the base, 4–6 cm long, 1.8–2.2 cm wide, the petiole 3 cm long, 1 mm wide; inflorescence a raceme, the rachis 9 cm long; flowers campanulate, 4 mm wide, contorted, involute, the peduncle 1 mm long with 2 bracts at the base, the bracts 1.2–2.5 mm long, acuminate, caudate; stamens 6, 1.3 mm long, 0.2 mm thick, the anthers 0.3 mm long.

TYPE: PERU, SAN MARTÍN: Provincia Marsical Caceres, Distrito Tocache Nuevo, en bosque alto camino a Shunte, 26 Feb. 1970, *J. Schunke Vigo 3825* (MO, holotype: photocopy and fragm., AMAZ).

This species is related to *Dioscorea trifoliata* H.B.K., placed by Knuth (1924) in section *Trifoliatae*. It differs in having hirsute leaves and six stamens rather than being glabrous and having three stamens.

The species was independently recognized as new by the late Temple Clayton of the University of Minnesota, as indicated by inclusion of his name as co-author.

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