



FIGURE 5. Distribution maps of *Pholidostachys amazonensis*, *P. dactyloides*, *P. occidentalis*, and *P. panamensis*.

3. *Pholidostachys occidentalis* Henderson, *sp. nov.* (Appendix IV, Plates 2–8)

It differs from other species in its branched inflorescences and compressed, obovoid fruits with a pronounced longitudinal ridge on one side.

Type:—ECUADOR. Pichincha: Road from Santo Domingo to Quevedo, 12 km S of Santo Domingo, 0°17'S 79°15'W, 300 m, 24 July 1985, *H. Balslev, A. Henderson & F. Skov 60678* (holotype QCA *n.v.*, isotypes AAU!, K!, NY!).

Stems 5.4(2.5–11.0) m long, 10.4(7.0–15.0) cm diameter, solitary. **Leaves** 15(12–20) per stem; sheaths 25.3(16.0–40.0) cm long; petioles 51.7(45.0–60.0) cm long; rachises 192.0(150.0–234.0) cm long, 16.3(7.8–24.4) mm diameter; pinnae 12(8–13) per side of rachis; basal pinna 47.4(34.0–83.0) cm, long, 3.9(1.4–10.0) cm wide, forming an angle of 54(34–67)° with the rachis; apical pinna 42.9(34.0–54.0) cm long, 18.5(10.0–25.5) cm wide, forming an angle of 25(18–29)° with the rachis. **Inflorescences** branched 1 order, with an elongate peduncle, short rachis, and several rachillae, these pendulous at anthesis; prophylls and peduncular bracts woody, not covering rachillae at anthesis; prophylls 62.0 cm long; peduncular bracts 59.0 cm long, inserted 7.8(4.0–11.5) cm above the prophyll; peduncles 114.1(72.0–171.0) cm long, 10.1(6.3–12.5) mm diameter; rachilla 8(6–11), 50.8(33.0–64.0) cm long, 7.4(6.3–8.6) mm diameter; proximal lips of flower pits regularly shaped, rounded, not covering pits before anthesis, recurved; **fruits** compressed, obovoid in lateral

view with an asymmetric base, ellipsoid in frontal view, with a pronounced longitudinal ridge on one side and several lesser ridges on opposite side, 17.0(16.2–18.0) mm long, 9.3(8.5–9.8) mm diameter.

Distribution and habitat. From 3°43'S–6°45'N and 76°02'–79°46'W in western Colombia and western Ecuador at 854(300–1600) m elevation in lowland or montane rainforest (Fig. 5).

Taxonomic notes. Borchsenius *et al.* (1998) were the first to point out the differences between populations of *Pholidostachys synanthera* from west and east of the Andes. The western population, here recognized at the specific level as *P. occidentalis*, has inflorescences that are branched to 1 order and have elongate peduncles, short rachises, and several rachillae that are pendulous at anthesis (Fig. 1B) (versus *P. synanthera* with inflorescences that are branched 1–2 orders and have well-developed peduncles and rachises, and several rachillae that are spreading at anthesis). The fruits of the two species also differ. *Pholidostachys occidentalis* has compressed fruits, obovoid in lateral view with an asymmetric base, ellipsoid in frontal view, with a pronounced longitudinal ridge on one side and several lesser ridges on the opposite side (Fig. 4B). *Pholidostachys synanthera* has scarcely compressed fruits that are ellipsoid with obscure longitudinal ridges (Fig. 4F).

Subspecific variation. *Pholidostachys occidentalis* occurs in scattered localities from southwestern Ecuador to northwestern Colombia, but there are too few specimens to test for differences amongst these populations. Like *P. dactyloides*, this species has an unusually wide range in elevation.

4. *Pholidostachys panamensis* Henderson, *sp. nov.* (Appendix IV, Plates 9–14)

It differs from other species in its spicate inflorescences and widely obovoid fruits without pronounced longitudinal ridges.

Type:—PANAMA. Coclé: Continental Divide above El Copé, 8°38'N, 80°39'W, 650–750 m, 27 November 1985, G. de Nevers, A. Henderson, H. Herrera, G. McPherson & L. Brako 6371 (holotype NY!, isotype MO!).

Stems 1.1(0.1–3.0) m long, 7.4(4.0–11.0) cm diameter, solitary. **Leaves** 12(8–19) per stem; sheaths 21.5(15.0–27.0) cm long; petioles 102.1(36.0–150.0) cm long; rachises 126.1(72.0–155.0) cm long, 8.8(6.1–11.1) mm diameter; pinnae 6(5–8) per side of rachis; basal pinna 52.8(28.5–78.0) cm, long, 5.2(0.7–10.0) cm wide, angle with the rachis no data; apical pinna 42.4(32.5–49.5) cm long, 18.0(10.0–27.0) cm wide, forming an angle of 17(10–28)° with the rachis. **Inflorescences** spicate, with a short peduncle, absent rachis, and 1 rachilla, this erect at anthesis; prophylls and peduncular bracts fibrous, covering all or part of the rachilla at anthesis; prophylls 15.2(11.5–18.5) cm long; peduncular bracts 20.2(19.0–22.5) cm long, inserted 3.3(2.0–5.0) cm above the prophyll; peduncles 4.6(3.5–6.2) cm long, 10.0(8.2–13.5) mm diameter; rachilla 1, 13.6(11.5–15.5) cm long, 10.0(8.2–12.1) mm diameter; proximal lips of flower pits regularly shaped, rounded, completely covering pits before anthesis and not recurved; **fruits** widely obovoid, without pronounced longitudinal ridges, 28.6(22.5–32.1) mm long, 20.8(18.1–24.5) mm diameter.

Distribution and habitat. From 8°34'–9°25'N and 78°48'–80°56'W in Panama at 483(60–768) m elevation in lowland rainforest (Fig. 5).

Taxonomic notes. *Pholidostachys panamensis* differs from other species in its spicate inflorescences and widely obovoid fruits (Fig. 4C). See notes on *Pholidostachys kalbreyeri* under Excluded Names.

Subspecific variation. There are two separate populations of *Pholidostachys panamensis*, occurring 170 km apart in Panama. Although sample size is small, the western population, on the eastern end of the Central Cordillera, has shorter stems, shorter petioles, and shorter and thinner basal pinnae than the eastern population, on the western end of the Serranía de San Blas. The western population also occurs at a higher mean elevation—722(695–768) m versus 303(60–450) m.

de Nevers (1995) reported that some specimens have bifid inflorescences, but no such specimens have been seen in the present study.

5. *Pholidostachys pulchra* Wendl. ex Burret (1930: 130). *Calypstrogyne pulchra* (Wendl. ex Burret) Wessels