

OLEANDRACEAE

条蕨科 tiao jue ke

Zhang Xianchun (张宪春)¹; Peter H. Hovenkamp²

Plants terrestrial, epilithic, or epiphytic. Rhizome long, creeping, erect, or scandent; scales blackish brown, thick, spreading or appressed, imbricate, peltate at base, margin often long ciliate. Fronds distant or clustered; stipe articulate to raised phyllopodia; lamina simple, entire, lanceolate to linear-lanceolate, herbaceous, papery, or leathery, margin cartilaginous, glabrous or pubescent; costa prominent, raised adaxially, often with small scales on abaxial surface; veins simple or forked, free. Sori in a single often irregular row on either side of costa; indusia persistent, red-brown, reniform or orbicular-reniform, membranous or papery. Spores monoletate, with broad, winglike, echinulate folds, cristate or echinate to erose.

One genus and 15–20 species: pantropical, mainly from tropical Asia and the Pacific islands, a few in Africa and South America; five species in China.

See the revision by Hovenkamp and B. C. Ho (*PhytoKeys* 11: 1–37. 2012).

Ching Ren-chang, Fu Shu-hsia, Wang Chu-hao & Shing Gung-hsia. 1959. Oleandraceae. *In*: Ching Ren-chang, ed., *Fl. Reipubl. Popularis Sin.* 2: 319–325, 378–379; Wu Shiewhung. 1999. Oleandraceae. *In*: Wu Shiewhung, ed., *Fl. Reipubl. Popularis Sin.* 6(1): 154–160.

1. OLEANDRA Cavanilles, *Anales Hist. Nat.* 1: 115. 1799.

条蕨属 tiao jue shu

Neuronia D. Don.

Morphological characters and geographic distribution are the same as those of the family.

- 1a. Rhizome with stiff, erect or suberect lateral branches, bearing spreading whorls of 5–10 fronds, forming thickets 1. *O. neriiformis*
- 1b. Rhizome creeping; fronds erect, scattered or in small clusters of 3–5.
- 2a. Rhizome not entirely covered with scales; scales with recurved apex; stipes dark brown 2. *O. wallichii*
- 2b. Rhizome entirely covered with overlapping scales; stipes stramineous.
- 3a. Rhizome scales spreading, narrowly triangular with a relatively wide apex, brown, central part of acumen not thickened; roots branching and with root hairs along their entire length; lamina glabrous on adaxial surface and margin 3. *O. undulata*
- 3b. Rhizome scales appressed to spreading, narrowly ovate-lanceolate with long narrow acumen with thickened central part; roots usually with glabrous, unbranched part (“rhizophore”); lamina hairy or glabrous.
- 4a. Phyllopodia very short, 1–2(–5) mm, mostly immersed in scales 4. *O. musifolia*
- 4b. Phyllopodia 2–6 cm 5. *O. cumingii*

1. *Oleandra neriiformis* Cavanilles, *Anales Hist. Nat.* 2: 115. 1799 [“*neriformis*”].

轮叶条蕨 lun ye tiao jue

Aspidium pistillare Swartz; *O. pistillaris* (Swartz) C. Christensen.

Rhizome very long, with creeping part and stiff, erect or suberect, scandent branches forming thickets, growth monopodial after forming fronds, 5–7 mm in diam., white waxy under scales; roots very long, stiff, borne on all sides of creeping parts of rhizome; scales strongly appressed, narrowly triangular, 6–7 × ca. 1 mm, base subacute, margin ciliate but often quickly eroding, leaving entire scales on older parts of rhizome, apex acuminate. Fronds on erect parts in horizontal or ascending whorls; stipes and phyllopodia 0.3–2.5 cm, stramineous, phyllopodia ca. 2 mm; lamina linear-lanceolate, 10–40 × 1.5–3.5

cm, thinly papery, both surfaces glabrous, base cuneate to rounded, margin not undulate and glabrous, apex acuminate; costa sparsely scaly abaxially, glabrous adaxially. Sori close to costa; indusia orbicular-reniform, glabrous or sparsely pubescent.

Rocky slopes, forests; ca. 1600 m. Xizang [Bhutan, Cambodia, India, Indonesia, Malaysia, Myanmar, Nepal, Philippines, Papua New Guinea, Thailand; Pacific islands].

2. *Oleandra wallichii* (Hooker) C. Presl, *Tent. Pterid.* 78. 1836.

高山条蕨 gao shan tiao jue

Aspidium wallichii Hooker, *Exot. Fl.* 1: t. 5. 1823; *Neuronia asplenioides* D. Don, nom. illeg. superfl.

Plants epilithic or epiphytic; rhizome long creeping, freely branching, branches often opposite, 3–4 mm in diam., white

¹ State Key Laboratory of Systematic and Evolutionary Botany, Institute of Botany, Chinese Academy of Sciences, 20 Nanxincun, Xiangshan, Beijing 100093, People’s Republic of China.

² Naturalis Biodiversity Center, Section NHN, Leiden University, P.O. Box 9514, 2300 RA Leiden, Netherlands.

waxy under scales; roots restricted to ventral side; scales 3–4 × ca. 1 mm, dark brown to blackish at attachment, contracted into a brown, often recurved acumen, margin ciliate, apex long and narrow. Fronds scattered or in small tufts; phyllopodia 1–2 mm, hardly emerging from rhizome scales; stipe dark brown, 1.5–3(–8) cm; lamina greenish brown when dry, lanceolate, 20–40 × 2–5 cm, herbaceous, both surfaces hairy, more densely so abaxially and on veins, base cuneate to rounded, margin not undulate and densely ciliate, apex apiculate-caudate; costa raised on both sides, abaxially with small, brown, lanceolate scales, adaxially narrowly grooved; veins simple or forked at base. Sori very close to costa; indusia red-brown, orbicular-reniform, glabrous or hairy on surface, margin, or both margin and surface.

Forests; (800–)1700–2700 m. Guangxi, Sichuan, Taiwan, Xizang, Yunnan [Bhutan, N India, N Myanmar, Nepal, Thailand, Vietnam].

3. *Oleandra undulata* (Willdenow) Ching, Lingnan Sci. J. 12: 565. 1933.

波边条蕨 *bo bian tiao jue*

Polypodium undulatum Willdenow, Sp. Pl., ed. 4, 5: 155. 1810.

Plants terrestrial or epilithic; rhizome long creeping, growth monopodial, 4–5 mm in diam., not white waxy; roots restricted to ventral side, branched and hairy throughout their length; scales dark brown at middle, apex and margin red-brown, spreading, narrowly ovate-lanceolate, ca. 6 × 1 mm, base rounded, margin ciliate, apex acuminate. Fronds erect, scattered or in tufts; stipe and phyllopodia together 10–15(–20) cm, stramineous, phyllopodia to 2–12 cm; lamina brown when dry, lanceolate or broadly lanceolate, 15–25 × 2–4.5 cm, thickly papery, abaxially with long hairs, adaxially glabrous, base cuneate, rarely more gradually narrowed, to broadly cuneate or rounded, apex acuminate, margin slightly undulate and glabrous; costa raised on both sides, narrowly grooved adaxially; veins simple or forked at base, rarely forked medially. Sori to 2–5 mm from costa; indusia pubescent.

Sunny slopes; below 1000 m. Yunnan [India, Laos, Myanmar, Thailand, Vietnam].

4. *Oleandra musifolia* (Blume) C. Presl, Epimel. Bot. 42. 1851.

光叶条蕨 *guang ye tiao jue*

Aspidium musifolium Blume, Enum. Pl. Javae 2: 141. 1828; *Oleandra hainanensis* Ching; *O. whangii* Ching.

Plants terrestrial or epilithic; rhizome stiff, long creeping, growth sympodial, continuing mostly from lateral branches

below each tuft of fronds, 4–5 mm in diam., white waxy under scales; roots long, stiff, restricted to ventral side, usually with unbranched glabrous part (rhizophore); scales strongly appressed, dark brown at middle, pale brown at apex and margin, narrowly ovate-lanceolate, 3–5 × 0.5–1.5 mm, base rounded or subacute, margin ciliate, apex long acuminate. Fronds erect, mostly in tufts of 2–4; phyllopodia very short, 1–2 mm, sometimes up to 5 mm, immersed in scales; stipe stramineous, 1–2.5 cm; lamina green or brown when dry, linear-lanceolate, 12–43 × 1.8–3.5 cm, herbaceous, abaxially sparsely hairy, adaxially pubescent or glabrous, base cuneate to rounded, margin slightly wavy, not undulate, and glabrous, apex long acuminate or caudate; costa raised on both sides, sparsely scaly abaxially, slightly grooved adaxially; veins simple or forked at base, rarely forked medially. Sori 2–4 mm from costa; indusia brown, margin pale brown, orbicular-reniform, glabrous.

Dense forests, often on rocky cliffs; 300–1800 m. Guangxi, Hainan, Yunnan [Indonesia, Malaysia, Sri Lanka, Thailand, Vietnam].

5. *Oleandra cumingii* J. Smith in Hooker, J. Bot. 3: 413. 1841.

华南条蕨 *hua nan tiao jue*

Oleandra cantonensis Ching; *O. chinensis* Hance; *O. guangxiensis* S. L. Mo & Y. C. Zhong; *O. intermedia* Ching; *O. yunnanensis* Ching.

Plants terrestrial or epilithic; rhizome creeping, monopodial, 3–4 mm in diam., sometimes white waxy; roots restricted to ventral side, mostly with short unbranched glabrous part (“rhizophore”); scales appressed, dark brown in basal part, lighter toward apex, narrowly triangular, 4–7 × ca. 1 mm, margin ciliate. Fronds erect, scattered or in tufts; stipe and phyllopodia together 2.5–7 cm, stramineous, phyllopodia 2–6 cm; lamina greenish brown when dry, lanceolate, to 34 × 2–3.5 cm, herbaceous, both surfaces and margin glabrous to densely long hairy, abaxially more often pubescent, more densely so on costa and veins, hairs to 2 mm, lamina attenuate to both ends, base cuneate, margin not undulate, apex shortly acuminate; costa slightly raised on both sides, narrowly grooved adaxially; veins simple or forked at base, rarely forked at middle. Sori very close to costa or up to 6 mm distant, in an irregular single line; indusia dark brown, reniform or orbicular-reniform, glabrous or hairy.

Rocky cliffs. Guangdong, Hainan, Yunnan [Indonesia, Laos, Malaysia, Philippines, Thailand].

Plants of *Oleandra cumingii* from Hainan differ in a number of characters: the lamina is wider, to 4.5 cm, less gradually narrowed at base, and the plants are more consistently glabrous than typical plants.