

## ANOMODONTACEAE

(Brian J. O'Shea)

**Plants** small to medium sized, forming mats, often coarsely so, dark green to yellowish-brown. **Stems** undifferentiated and foliate, or primary stems creeping, leaves reduced and scale-like, with secondary stems spreading to erect, mostly short, terete; flagellate branches occasional. **Leaves** crowded, erect to appressed when dry, erect to wide-spreading, complanate or terete when wet, broadly ovate, ovate-lanceolate, ovate-ligulate or -oblong, apex obtuse-rounded to narrowly, tips fragile or not, base broadly decurrent or not; margins plane to recurved, crenulate to coarsely toothed; costa single, strong below, mostly 2/3 lamina length to ending below leaf acumen; laminal cells subquadrate to rhombic or hexagonal, thin- to thick-walled, smooth or pluripapillose; basal cells adjoining costa oblong, smooth, thick-walled. **Dioicous**. **Perichaetia** lateral, leaves differentiated. **Seta** elongate. **Capsule** erect, urn cylindrical to ovoid or ovoid-cylindrical, smooth to faintly wrinkled when dry; annulus absent or well developed in 1-2 rows, deciduous in fragments. **Operculum** conic-rostrate. **Peristome** double, exostome teeth 16, short or well developed, papillose or cross-striate to smooth below; endostome finely papillose, represented only by a low membrane, segments somewhat to notably rudimentary and adhering to exostome, or narrow, keeled, perforate or not, cilia absent or rudimentary. **Calyptra** cucullate, smooth and naked or with a few erect hairs. **Spores** spherical, appearing smooth to finely papillose.

DISCUSSION. The Anomodontaceae contain five genera and about 25 species with only two genera in sub-Saharan Africa, containing three species. Members of this family have previously been aligned with the Thuidiaceae, and still are treated as such by some authors.

LITERATURE. **Granzow-de la Cerda, I. 1992.** Análisis cladístico de la familia Anomodontaceae. *Tropical Bryology*, 6: 95-104. **Granzow-de la Cerda, I. 1997.** Revision and phylogeny of *Anomodon* and *Herpetineuron* (Anomodontaceae, Musci). *Contributions from the University of Michigan Herbarium*, 21: 205-275 [keys, illustrations, maps].

1. Leaves entire to crenulate by projected papillose cell walls; laminal cells pluripapillose, costa  $\pm$  straight ..... *Anomodon*  
1. Leaves irregularly serrate; laminal cells smooth, costa often flexuose towards apex  
..... *Herpetineuron*

### **Anomodon** Hook. & Tayl. (Fig. XX) -

Two species in sub-Saharan Africa (*A. pseudotristis* (Müll.Hal.) Kindb. and *A. tristis* (Ces. in De Not.) Sull. & Lesq.) (O'Shea 2000); a genus of about 18 species mostly associated with the north temperate regions.

**Plants** slender, forming loose to dense mats, dark green to yellowish-brown. **Primary stems** creeping, leaves reduced and scale-like. **Secondary stems** spreading to erect-ascending, mostly short, terete; flagellate branches occasional. **Leaves** crowded, erect-appressed to loosely erect when dry, erect to wide-spreading, somewhat complanate when wet, ovate-ligulate, apex obtuse-rounded; margins plane to revolute, crenulate; costa short and weak to extending beyond mid-leaf; laminal cells rounded-hexagonal, thin-walled, pluripapillose, papillae few to several over cell lumen; basal cells adjoining costa oblong, smooth, thick-walled. **Perichaetial** leaves differentiated, elongate, sheathing at base, cells elongate, smooth. **Seta** to 25--30 mm long. **Capsule** erect, symmetric, oblong-ovate, to 1 mm long, smooth to faintly wrinkled when dry; annulus well developed in 1-2 rows, deciduous in fragments. **Operculum** conic-rostrate, oblique. **Peristome** with exostome teeth smooth below, papillose above; endostome without segments or cilia. **Calyptra** papillate with a few erect hairs. **Spores** to 22 $\mu$ m, finely papillose.

**HABITAT.** On soil, rocks, base and trunk of trees; montane forests, often associated with calcareous sites, 350-1800 m.

**DISCUSSION.** Characteristics of the genus include the spreading to ascending secondary stems, absence of paraphyllia, leaves ligulate to gradually acuminate from an ovate base, entire or crenulate margins, laminal cells pluripapillose, isodiametric. The African species were previously assigned to *Haplohymenium*, but Granzow-de la Cerda (1992, 1997) has demonstrated that *Haplohymenium* is derived within *Anomodon*, and treated it as a section within that genus. It is known in Africa from Kenya, Tanzania, South Africa and the Mascarenes (Réunion, Rodrigues and Mauritius), and is well distributed around the Indian Ocean, in E Asia and the SW Pacific. Collections named *A. tristis* may be mis-identifications, as all the specimens so named seen by the author have been *A. pseudotristis* (O'Shea 2000), with the only exception of genuine material found recently in Réunion. The species differ in that the shoots of *A. tristis* are about twice the width of those of *A. pseudotristis*, and have many leaves with broken tips, particularly towards the base of the stem.

**LITERATURE.** Granzow-de la Cerda, I. 1992, 1997 - see family ref. O'Shea, B.J. 2000. Taxonomic notes on *Anomodon* (Anomodontaceae, Bryopsida) in Africa. *Journal of Bryology* 22: 241-242.

### **Herpetineuron** (Müll.Hal.) Cardot (Fig. XX)

One species in Africa, *H. tocoae* (Sull. & Lesq.) Cardot, recorded from Guinea, Central African Republic, Ethiopia, Tanzania, Malawi, South Africa and Madagascar (also the southeastern United States south to southern Brazil and S Asia down to New Caledonia, and N to Japan); a genus of two species, rather widespread, at high elevations in the tropics.

**Plants** medium sized. **Primary stems** creeping, leaves scale-like. **Secondary stems** erect, irregularly branched, often arcuate or circinate, attenuated branches usually present; in cross-section outer 2-3 rows of cells thick-walled, inner cells larger, firm-walled, central strand present. **Leaves** erect when dry, erect-spreading when moist, oblong-ovate to ovate short-lanceolate, to 2.5 mm long, concave to weakly keeled, indistinctly biplicate or not, apex narrowly acute, margins plane or recurved at base, distal 1/3 coarsely serrate; costa strong below, flexuose or straight distally; laminal cells rather thick-walled, subquadrate, smooth. **Perichaetial** leaves erect, subulate from a sheathing base. **Seta** to 15 mm long. **Capsule** with urn ovoid-cylindrical, to 3 mm long; stomata at urn base, superficial; annulus well developed. **Operculum** conic, rostrate. **Peristome** double, exostome teeth densely papillose, perforate; endostome basal membrane high, segments stoutly linear. **Calyptra** smooth and naked. **Spores** finely papillose.

**HABITAT.** On soil, rocks, logs and tree trunks; open montane forests, at elevations from 700-2000 m.

**DISCUSSION.** The genus is characterized by brownish-green, erect secondary stems with attenuate branches usually present, the tips of stems often arched over to one side, leaves with a narrowly acute apex and irregularly serrate margins, the costa snake-like towards the tip, and smooth laminal cells. Sporophytes are uncommon. Reproduction is likely by the flagellate-attenuate branches.

**LITERATURE.** Granzow-de la Cerda, I. 1992, 1997 - see family ref.