

## ANDREAEACEAE

(N. G. Hodgetts)

A monogeneric family in the class Andreaeopsida.

**Andreaea** Hedw. (Fig. XX).

Fourteen species are recorded from sub-Saharan Africa. There are about 50 species worldwide (Murray 1988). A key was provided to the costate species by Schultze-Motel (1970).

**Plants** mostly small to medium sized, forming readily-disintegrating tufts or mats, dark brown, reddish-brown or black, stem and branch tips green or yellowish green. **Stems** erect to somewhat spreading, few to several branched; in cross-section cells thick-walled, outer 2--4 rows of cells small, inner cells larger, central strand absent. **Leaves** loosely erect to appressed, occasionally contorted when dry, erect-spreading when wet, oblong-lanceolate to subulate, broadly oblong-ovate to panduriform, or broadly elliptical, to 3 mm long, concave, slightly clasping stem, often channeled above, apex narrowly to broadly acute or acuminate, or broadly obtuse and apiculate, base subauriculate or not; margins plane, erect to enrolled or reflexed to recurved, entire or crenulate by bulging cell walls; ecostate or costate, if costa present then single, either short and broad (1/2 or more leaf width at base) or filling acumen; laminal cells thick-walled, often sinuose and porose, upper and median cells  $\pm$  hexagonal or quadrate to shortly rectangular, smooth to papillose; lower and basal cells shortly to longly rectangular. **Autoicous** or dioicous. **Perichaetia** terminal, leaves differentiated, large, 2 or more times longer than stem leaves, often sheathing the pseudopodium. **Pseudopodium** (seta-like structure)  $\pm$  short to elongate, to 5 mm long. **Capsule** erect, ovoid to cylindrical, 0.5--2.0 mm long, splitting nearly the full length of the capsule by 4 slits or valves; true peristome and operculum absent. **Calyptra** mitrate-campanulate. **Spores** spherical, papillose.

**HABITAT.** On acidic rocks, in open exposed sites or in streams; confined to montane areas, 1400--5000 m.

**DISCUSSION.** *Andreaea*, a characteristic component of the tropical alpine life zone, is recognised by its black to reddish-black gametophytes, with costate or ecostate leaves exhibiting thick-walled and often sinuose laminal cells, which are frequently papillose on the distal abaxial surface; when fertile the pseudopodium and 4-valved capsule are diagnostic. *Andreaea* requires a critical revision in Africa: B. Murray is currently preparing a worldwide revision of the genus. Until this is available, useful references include Demaret (1943), De Sloover (1977), Hodgetts *et al.* (1999) and Magill (1981).

**LITERATURE.** **Demaret, F. 1943.** Le genre *Andreaea* en Afrique centrale et orientale. Bulletin du Jardin Botanique de l'État à Bruxelles 17: 33-48. **De Sloover, J.L. 1977.** Note de bryologie africaine IX. *Andreaea*, *Racomitrium*, *Gymnostomiella*, *Thuidium*. Bulletin du Jardin Botanique National de Belgique 47: 155-181. **Hodgetts, N.G., Matcham, H.W. & Duckett, J.G. 1999.** Bryophytes collected in Lesotho, the Natal Drakensberg and the Orange Free State, southern Africa. Journal of Bryology 21: 133-155. **Magill, R.E. 1981.** - see general refs. **Murray, B.M. 1988.** The genus *Andreaea* in Britain and Ireland. Journal of Bryology 15: 17-82. **Schultze-Motel, W. 1970.** Monographie der Laubmoosgattung *Andreaea*. 1. Die costaten Arten. Willdenowia 6: 25-110.