1. Primary stems rhizomatous with abundant rhizoids; outer surface of the exostome teeth regularly thickened, more or less papillose; endostome not adhering to the exostome, basal membrane and cilia present..... 2

1. Primary stems with a few rhizoids; outer surface of exostome teeth often irregularly thickened, smooth; endostome variable, often adhering to the exostome, basal membrane and cilia often absent 5

2. Secondary stems often simple, usually loosely and irregularly branched; costae double, short and weak .... 3. *Garovaglia*

2. Secondary stems frondose, often complanately branched in upper parts of stems; costae single or forked 3

3. Leaf costae short, single (less than 1/4 the leaf length) or double; capsules cylindrical..... 13. *Trachyloma*

3. Leaf costae long, single (more than 3/4 the leaf length); capsules ovoid to spherical 4

4. Pseudoparaphyllia absent; leaves narrowly ovate; median and upper leaf cells unipapillose ..... 6. *Osterwaldiella*

4. Pseudoparaphyllia present; leaves cordate; leaf cells smooth..... 7. *Penzigiella*

5. Leaf costae absent or short, double 6

5. Leaf costae single 9

6. Leaves auriculate at the base; alar and basal cells not differentiated..... 5. *Meteoriella*

6. Leaves without auricles at the base; alar and basal cells differentiated 7

7. Leaves gradually becoming shortly acuminate at the apex..... 11. *Pterobryopsis*

7. Leaves abruptly constricted into a slender apex 8

8. Stems not differentiated into frond and stipe; leaves serrulate at the apex; setae 6–8 mm long..... 2. *Eumyurium*

8. Stems differentiated into frond and stipe; leaves usually entire or only denticulate near the apex; setae 2–3 mm long..... 12. *Symphysodontella*

9. Leaves cordate and auriculate at the base..... 1. *Calyptothecium*

9. Leaves not cordate and not auriculate at the base
..... 10
10. Leaves not or only slightly concave; alar cells not or only slightly differentiated..... 11
10. Leaves distinctly to strongly concave; alar cells clearly differentiated.....
12
11. Leaves ovate-lingulate, acute to obtuse at the apex; endostome filiform..... 4. *Hydrocryphaea*
11. Leaves ovate-lanceolate, long-acuminate at the apex; endostome reduced, adhering to the exostome .....
..... 10. *Pterobryon*
12. Leaves ovate-lanceolate, slenderly long-acuminate at the apex..... 12. *Symphysodontella*
12. Leaves oblong-oval, blunt or shortly apiculate at the apex
..... 13
13. Leaf costae subpercurrent to shortly excurrent; capsules exserted..... 8. *Pireella*
13. Leaf costae extending to the mid-leaf or somewhat beyond; capsules immersed
..... 9. *Pseudopterobryum*