Key to genera (with sporophytes)

1. Plants with umbrella-like branches.....3. *Microdendron*

1. Plants without umbrella-like branches.....2

2. Capsules oblate-ovoid.....2. *Lyellia*

2. Capsules globose, cylindrical, or cylindrical with several obtuse keels..... 3

3. Leaf margins bi-toothed; capsules cylindrical, slightly curved.....1. *Atrichum*

3. Leaf margins entire or single-toothed; capsules thickly cylindrical, not curved.....4

4. Leaf ventral lamellae in less than 10 rows; costa slender; calyptrae almost smooth..... 4. *Oligotrichum*

4. Leaf ventral lamellae usually in more than 15 rows; costa rather broad; calyptrae densely ciliate..... 5

5. Capsules oblong-cylindrical to cylindrical, not angled.....5. *Pogonatum*

5. Capsules cubic or prismatic, clearly angled.....6

6. Mouths of capsules closed by fleshy membrane.....6. *Polytrichastrum*

6. Mouths of capsules closed by thin membrane.....7. *Polytrichum*

Key to genera (without sporophytes)

1. Plants with umbrella-like branches above.....3. *Microdendron*

1. Plants without umbrella-like branches above.....2

2. Ventral lamellae of leaves only on narrow costa, less than 10 rows.....3

2. Ventral lamellae of leaves on rather broad costa, more than 15 rows.....4

3. Leaves thin, delicate, usually crisped when dry, leaves almost equal width throughout, undulate, with spines numerous on the back.....1. *Atrichum*

3. Leaves rather thick, only slightly twisted when dry, leaves clearly broader below the midleaf, not undulate, only with a few spines on the back..... 4. *Oligotrichum*

4. Lamellae usually 6 or more cells high.....5

4. Lamellae 1–6 cells high.....6

5. Leaf apices aristate or narrow; leaf margins involute, marginal cells linear; apical cells of lamellae usually not papillose .....7. *Polytrichum*

5. Leaf apices not aristate, mostly lanceolate; leaf margins not involute, marginal cells shorter; apical cells of lamellae smooth or papillose.....6. *Polytrichastrum*

6. Leaves crisped; marginal teeth single; marginal cells of lamellae single..... 2. *Lyellia*

6. Leaves usually twisted only, rarely crisped; marginal teeth double or single; marginal cells of lamellae twin or single, rarely differentiated..... 5. *Pogonatum*