

## 5. GENERAL KEY No 2 to PTEROPSIDA

1. Aquatic plants.
2. Plants floating; leaves small, simple or bilobed . . . . . **Salviniaceae**
2. Plants rooted in earth or on rocks; leaves larger, more divided.
3. Leaves 4-partite; sporocarps attached to stipes . . . . . **Marsileaceae**
3. Leaves not 4-partite; sporangia singly or in sori on lower surface of lamina.
4. Sporangia borne singly, protected by reflexed edges of narrow lamina . . . . . **Adiantum Group**
4. Sporangia grouped in sori, on lower surface of lamina, not protected by reflexed edges.
5. Fern of stream-beds in deep shade; fronds bipinnatifid, sori without indusia **Polypodiaceae**
5. Fern of open swamps; fronds bipinnatifid, sori indusiate . . . . . **Thelypteris Group**
1. Land plants or epiphytes.
6. Stipe containing 3 or more vascular bundles throughout.
7. Rhizome in most cases dorsiventral, stipes jointed to it or to phyllopodia borne by rhizome.
8. Sori of various form (in some cases acrostichoid), not indusiate.
9. Fronds pinnate; pinnae articulate to rachis, veins free . . . . . **Nephrolepis Group**
9. Fronds rarely pinnate; pinnae (if present) not articulate to rachis, or if so veins reticulate.
10. Acrostichoid; spores with perispore; veins free or uniting near margin **Lomariopsis Group**
10. Acrostichoid or not; no perispore; where acrostichoid, veins much anastomosing. **Polypodiaceae**
8. Sori indusiate.
11. Fronds simple.
12. Sori near midrib of frond . . . . . **Nephrolepis Group**
12. Sori at ends of veins, solitary or joining many veins . . . . . **Davallia Group**
11. Fronds more or less branched.
13. Pinnae jointed to rachis . . . . . **Nephrolepis Group**
13. Pinnae not jointed to rachis . . . . . **Davallia Group**
7. Rhizome not dorsiventral, or if so the stipes not jointed to it.
14. Stipes containing numerous bundles in a complex pattern, not a simple ring, in cross section.
15. Rootstock massive, short or tall; if creeping, subterranean.
16. Mangrove plants; distal pinnae acrostichoid, lower ones sterile . . . . . **Pteris Group**
16. Not mangrove plants; not acrostichoid.
17. Stock and stipes containing woody tissue; no stipules at bases of stipes. **Cyatheaceae**
18. Veins free . . . . . **Tectaria Group**
18. Veins anastomosing . . . . . **Tectaria Group**
17. Stock and stipes without woody tissue; stipules present at bases of stipes. **Marattiaceae**
15. Rootstock slender, long-creeping or high-climbing . . . . . **Pteris Group**
14. Stipes containing a simple open ring of bundles.
19. Sporangia on a separate branch attached at base of lamina, or to surface of lamina; no annulus. **Ophioglossaceae**
19. Sporangia not on a separate branch of frond; annulus present.
20. Fronds pinnate or bipinnate, leaflets jointed to rachis.
21. Fronds in close tufts, not spaced on a climbing rhizome; sori separate and indusiate. **Nephrolepis Group**
21. Fronds spaced on a climbing rhizome; sori not indusiate, in most cases acrostichoid. **Lomariopsis Group**
20. Leaflets (if present) not jointed to rachis.
22. Fronds simple, sori oblique, exindusiate . . . . . **Polypodiaceae**
22. Fronds otherwise.
23. Sori elongate, either close to midrib or to edge.
24. Sori close to midrib . . . . . **Blechnum Group**
24. Sori close to edge . . . . . **Nephrolepis Group**
23. Sori not elongate near midrib or edge.
25. Sporangia acrostichoid, edge of lamina in some cases reflexed.
26. Veins of sterile leaflets free.
27. Fronds bipinnate . . . . . **Tectaria Group**
27. Fronds simply pinnate.
28. Rhizome creeping, dorsiventral . . . . . **Lomariopsis Group**
28. Rhizome erect, radially arranged . . . . . **Blechnum Group**
26. Veins of sterile leaflets anastomosing.
29. Rhizome creeping, dorsiventral . . . . . **Lomariopsis Group**
29. Rhizome erect, not dorsiventral . . . . . **Tectaria Group**
25. Sporangia not acrostichoid.
30. Rachis grooved, groove open to admit branches or midribs of leaflets. **Dryopteris Group**

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- 30. Rachis not grooved, its wings (if any) confluent with edges of lamina. **Tectaria Group**
- 6. Stipe containing one vascular bundle, or two at the base joining upwards to form a single strand of various shape.
- 31. Rhizome-apex and bases of stipes hairy or apparently glabrous, not scaly.
- 32. Fronds repeatedly pseudo-dichotomous, a dormant apex between pairs of branches. **Gleicheniaceae**
- 32. Fronds otherwise branched.
- 33. Apices of some or all primary rachis-branches dormant.
- 34. Rachis climbing and twining; sporangia solitary . . . . . **Schizaeaceae**
- 34. Rachis trailing, not twining; several sporangia in a sorus, indusiate . . . **Matoniaceae**
- 33. Apices of primary rachis-branches not dormant (apex of main rachis sometimes periodically dormant).
- 35. Sori at ends of veins, either in cups or protected by two equal or subequal flaps.
- 36. Filmy ferns; lamina one cell thick . . . . . **Hymenophyllaceae**
- 36. Not filmy, lamina thicker.
- 37. Massive rootstock, prostrate or erect and trunk-like, densely covered with long hairs. **Dicksonia Group**
- 37. Slender creeping rhizome; hairs short . . . . . **Dennstaedtia Group**
- 35. Sori otherwise.
- 38. Bases of stipes bearing prominent aerophores; fronds dimorphous, fertile with narrow acrostichoid pinnae . . . . . **Plagiogyria**
- 38. Bases of stipes lacking aerophores; fertile fronds otherwise.
- 39. Sporangia large, round, lacking an annulus, on deeply dissected pinnae **Osmundaceae**
- 39. Sporangia otherwise.
- 40. Sporangia variously arranged on lower surface of fronds, usually along the veins, or in a submarginal groove, not indusiate.
- 41. Sori elongate . . . . . **Adiantum Group**
- 41. Sori small and round, or acrostichoid . . . . . **Polypodiaceae**
- 40. Sporangia arranged otherwise.
- 42. Annulus almost apical; fronds simple or branched dichotomously; sporangia on special appendages . . . . . **Schizaeaceae**
- 42. Annulus and frond otherwise.
- 43. Fronds pedately branched; sori superficial, indusiate . . . . . **Matoniaceae**
- 43. Fronds pinnately branched; sori at ends of veins, indusiate or not. **Dennstaedtia Group**
- 31. Rhizome-apex and bases of stipes scaly.
- 44. Sporangia on surface of reflexed marginal lobes . . . . . **Adiantum Group**
- 44. Sporangia not on such lobes.
- 45. Sori elongate along the veins of the lower surface.
- 46. Sori indusiate.
- 47. Scales clathrate; the 2 vascular bundles at base of stipe uniting upwards to an X-shape. **Asplenium Group**
- 47. Scales not clathrate; the 2 vascular bundles at base of stipe uniting upwards to a U-shape.
- 48. Unicellular slender hairs lacking . . . . . **Athyrium Group**
- 48. Unicellular slender hairs on frond and on scales . . . . . **Thelypteris Group**
- 46. Sori not indusiate.
- 49. Fronds simple; sori in grooves (or rarely superficial); epiphytes or rock-plants. **Vittaria Group**
- 49. Fronds usually not simple; sori not in grooves; not epiphytes or rock-plants.
- 50. Sori not occupying whole length of veins.
- 51. Lower surface of lamina not covered with powder . . . . . **Athyrium Group**
- 51. Lower surface of lamina covered with powder . . . . . **Adiantum Group**
- 50. Sori occupying whole length of veins.
- 52. Slender unicellular hairs lacking on lamina and scales . . . . . **Adiantum Group**
- 52. Slender unicellular hairs present on lamina and scales . . . . . **Thelypteris Group**
- 45. Sori not elongate along the veins of the lower surface (in some cases elongate along a sub-marginal vein).
- 53. Sori in marginal or submarginal grooves, or superficial and forming continuous lines parallel to midrib.
- 54. Scales clathrate . . . . . **Vittaria Group**
- 54. Scales not clathrate . . . . . **Grammitidaceae**
- 53. Sori otherwise.
- 55. Sori at ends of veins (uniting several veins or not) protected by reflexed edge of lamina.
- 56. Rachis grooved on upper surface, groove opening to admit groove of midrib of pinna. **Pteris Group**

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- 56. Rachis not grooved in this way . . . . . **Adiantum Group**
- 55. Sori not at ends of veins or not so protected.
- 57. Lower surface of frond more or less covered with white or yellow powder.  
**Adiantum Group**
- 57. Lower surface of frond not so covered.
- 58. Sori submarginal, at ends of veins, in small projecting cups, or protected by an indusium attached on the side remote from the margin.
- 59. Sori in cups projecting from margin . . . . . **Dennstaedtia Group**
- 59. Sori not in such cups.
- 60. Sori always solitary at ends of single veins; scales of rhizome bearing papillae on marginal cells; rhizome not protostelic . . . . . **Davallia Group**
- 60. Sori often uniting ends of several veins; scales lacking papillae; rhizome protostelic.  
**Lindsaea Group**
- 58. Sori otherwise.
- 61. Main rachis of fronds periodic in growth; thicket-forming ferns . . . . . **Gleicheniaceae**
- 61. Main rachis of fronds continuous in growth; not thicket-forming ferns.
- 62. Small epiphytes (occasionally on rocks); sori superficial or immersed in pockets in substance of the lamina, not indusiate . . . . . **Grammitidaceae**
- 62. Not epiphytes; sori in most cases indusiate.
- 63. Hairs on fronds unicellular (in rare cases very long hairs may consist of more than one cell).
- 64. Scales confined to swollen basal part of stipe; no superficial hairs or glands on scales.  
**Tectaria Group**
- 64. Scales not so confined, bearing superficial unicellular hairs or glands.  
**Thelypteris Group**
- 63. Hairs on fronds multicellular, cells short . . . . . **Athyrium Group**