GENERAL CHARACTERS OF THE FAMILIES AND OTHER HIGHER TAXA OF FERNS

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| FAMILY | vascular system | indument | sorus position | indusium | sporangial stalk | sporangium maturation |
| Osmundaceae | dictyostelic | hairs | abaxial or unclear | absent | short, stout | simple |
| Hymenophyllaceae | protostele | hairs  | marginal | present | short-stalked | gradate |
| Gleicheniaceae  | usually a protostele | hairs and/or scales | abaxial | absent | stalk various | simple |
| Matoniaceae | polycyclic stele  | hairs | abaxial | present | short, massive | simple |
| Dipteridaceae *Dipteris* | solenostele | bristles and hairs | abaxial | absent | short and massive | simple or mixed |
| Dipteridaceae *Cheiropleuria* | protostele | hairs | abaxial | absent | 4-seriate | mixed |
| Schizaeales | various | hairs (rarely scales) | abaxial or unclear | absent or present | sessile or with a short, thick stalk | simple |
| Marsileaceae | solenostele | hairs | “abaxial” | present | sessile | unclear |
| Salviniaceae | protostele | hairs | “abaxial” | present | sessile, short or long | unclear |
| Plagiogyriaceae | dictyostelic | no indument | abaxial | absent | long, 6-seriate | mixed |
| Cyatheaceae, Dicksoniaceae | often dictyostelic | hairs and/or scales | abaxial or marginal (or adaxial) | absent or present | short, 4-seriate | gradate |
| Polypodiales | often dictyostelic | hairs and/or scales | abaxial or marginal | primitively present – sometimes lost | long, 3-seriate | mixed |

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| FAMILY | annulus | spores | common habitat | geography | special features | earliest fossils |
| Osmundaceae | unorganized | trilete |  | World-wide | Tetrahedral  | Permian |
| Hymenophyllaceae | oblique | monolete or trilete | tropical epiphytes | Pantropical | often one-cell-thick leaves | Triassic |
| Gleicheniaceae | oblique, nearly complete bow | trilete | tropical disturbances | Pantropical | false-forking leaves | Triassic |
| Matoniaceae | oblique, incomplete | trilete |  | Malesia |  | at least Jurassic |
| Dipteridaceae *Dipteris* | slightly oblique, complete | monolete | disturbance colonizers | India and China to Australia and Fiji | forked leaves | upper Triassic |
| Dipteridaceae *Cheiropleuria* | nearly vertical, interrupted | trilete |  | Indo-China and Honshu to Eastern Malesia | bilobed leaf | none? |
| Schizaeales | tranverse, apical, complete | trilete |  | tropical and southern warm-temperate |  | Mesozoic |
| Marsileaceae | absent | trilete | seasonal aquatic |  | pinnae 4,2, or 0 |  |
| Salviniaceae | absent | trilete | aquatic | tropical, subtropical | no roots, transformed leaves instead; *Anabaena* symbiont | Cretaceous |
| Plagiogyriaceae | slightly oblique, complete | trilete |  |  |  | none |
| Cyatheaceae, Dicksoniaceae | almost vertical, complete | trilete |  | Tropical subtropical | arborescent | Triassic |
| Polypodiales | vertical, interrupted by stalk | trilete or monolete |  |  |  | Cretaceous |

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