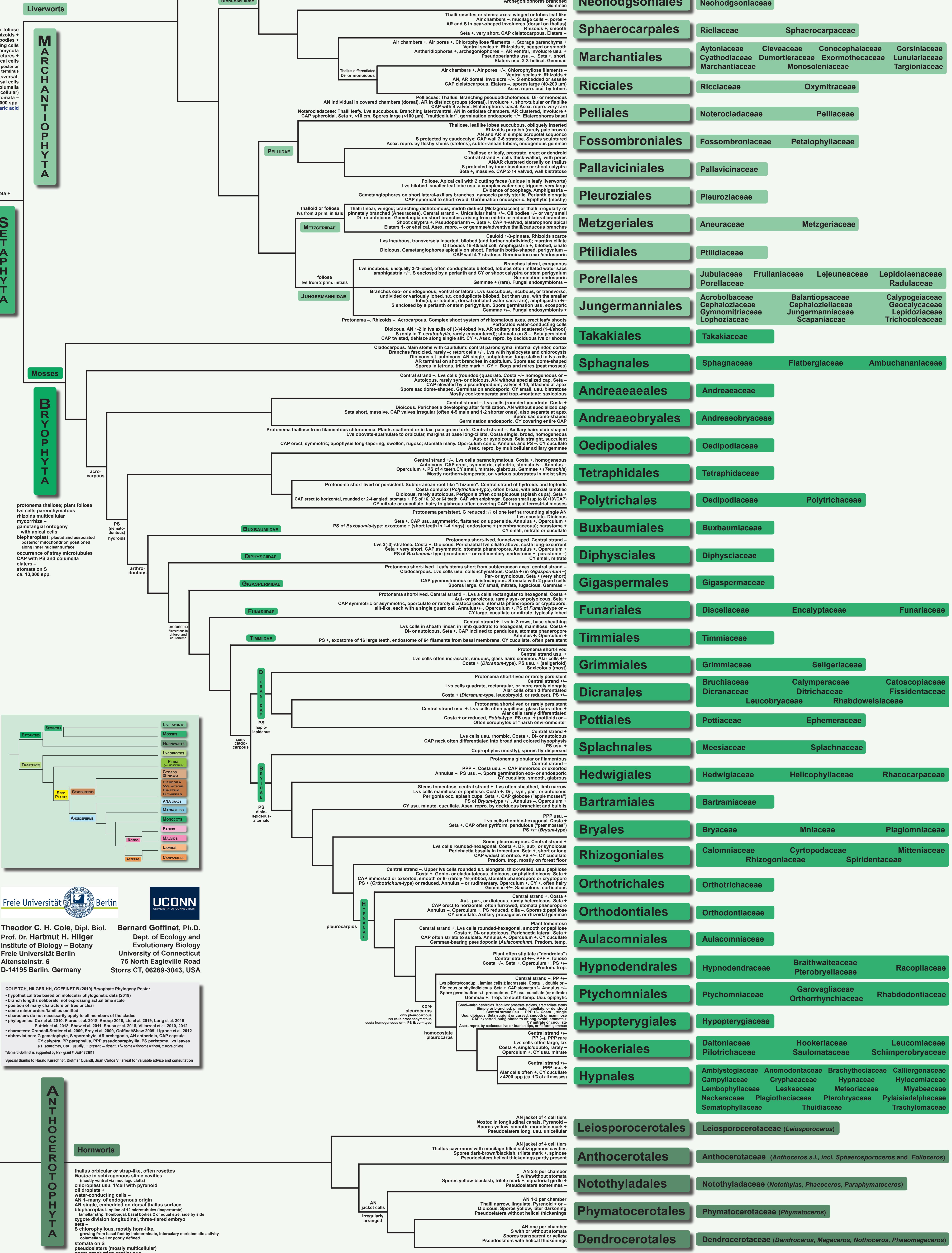


BRYOPHYTE PHYLOGENY POSTER

Systematics and Characteristics of Nonvascular Land Plants (Mosses, Liverworts, Hornworts)



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COLE TH, HILGER HH, GOFFINET B (2010) Bryophyte Phylogeny Poster
• hypothetical tree based on molecular phylogenetic data (2010)
• branch lengths do not represent actual time scale
• position of many characters on tree unclear
• some minor order/families omitted
• characters and abbreviations apply to all members of the clades
• phylogenies: Cox et al. 2010, Flores et al. 2015, Knoop 2010, Liu et al. 2019, Long et al. 2016
• characters: - = absent, + = present, ++ = well supported, --- = unknown, ? = questionable
• abbreviations: G gametophyte, S sporophyte, AR archegonia, AN antheridia, CAP capsule
CY calyptra, PP parapophysis, PPP pseudoparapophysis, PS peristome, lvs leaves
s.t. sometimes, used, usually, + present, - absent, +/- some without, < 2 mm or less
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ANTHOCEROTOPHYTA

thallus orbicular or strap-like, often rosettes Nostoc in schizogamous slime cavities (mostly ventral via mucilage clefts) chitinous wall, 1-cell with pyrenoid oil droplets + water-conducting cells AR single, embedded on dorsal thallus surface blepharoplast: spine of 12 microtubules (imperforate), inner membrane with 2 rows of 2 of each size, side by side zygote division longitudinal, three-tiered embryo sets - S chlorophyllous, mostly horn-like, growing from basal foot by indeterminate, intercalary meristematic activity, columnella well or poorly defined stomata - Pseudoelectrodes (mostly multicellular) spore production continuous lignans +, flavonoids - ca. 200 spp

Vascular Plants see Tracheophyte and Angiosperm Phylogeny Posters

Treubiales Treubiaceae

Haplomitriales Haplomitriaceae

Blasiales Blasiaceae

Neohodgsoniales Neohodgsoniaceae

Sphaerocarpales Riellaceae Sphaerocarpaceae

Marchantiales Aytoniaceae Cleveaceae Conocephalaceae Exormothecaceae Corsiniaceae Cyathodiaceae Dumortieraceae Monosoleniaceae Lunulariacae Targioniaceae

Ricciales Ricciaceae Oxymitraceae

Pelliaceles Noterocladiaceae Pelliaceae

Fossombroniales Fossombroniaceae Petalophyllaceae

Pallaviciniales Pallavicinaceae

Pleuroziales Pleuroziaceae

Metzgeriales Aneuraceae Metzgeriaceae

Ptilidiiales Ptilidiaceae

Porellales Jubulaceae Frullaniaceae Lejeuneaceae Lepidolaenaceae Radulaceae

Jungermanniales Acrobolbitaceae Cephaloziaceae Gymnomitriaceae Lophoziaeae Scapaniaceae Calypogeiacae Geocalycaceae Lepidoziaceae Tricholeaceae

Takakiiales Takakiaceae

Sphagnales Sphagnaceae Flatbergiaceae Ambuchananiaceae

Andreaeales Andreaeaceae

Andreaeobryales Andreaeobryaceae

Oedipodiiales Oedipodiaceae

Tetraphidales Tetraphidaceae

Polytrichales Oedipodiaceae Polytrichaceae

Buxbaumiales Buxbaumiaceae

Diphysciales Diphysciaceae

Gigaspermales Gigaspermaceae

Funariales Disceliaceae Encalyptaceae Funariaceae

Timmiales Timmiaceae

Grimmiales Grimmiaceae Seligeriaceae

Dicrales Bruchiaceae Dicranaceae Ditrichaceae Leucobryaceae Rhabdoweisiaceae

Pottiales Pottiaceae Ephemeraceae

Splachniales Meesiaceae Splachnaceae

Hedwigiales Hedwigiaaceae Helicophyllaceae Rhacocarpaceae

Bartramiiales Bartramiaceae

Bryales Bryaceae Mniaeae Plagiomiaceae

Rhizogoniales Calomniaceae Cyrtopodaceae Rhizogoniaceae Spiridentaceae

Orthotrichales Orthotrichaceae

Orthodontiales Orthodontiaceae

Aulacomniales Aulacomniaceae

Hypnodendrales Hypnodendraceae Braithwaiteaceae Pterobryellaceae Racopilaceae

Ptychomniales Ptychomniaceae Garovagliaceae Orthorrhynchiaceae Rhabdotiaceae

Hypopterygiiales Hypopterygiaceae

Hookeriales Daltoniaceae Hookeriaceae Saulomataceae Leucomiaceae Schimperobryaceae

Hypnales Amblystegiaceae Anomodontaceae Brachytheciaceae Calliergonaceae

Cypriaceae Lembophylaceae Leskeaceae Hypnaceae Hylomniaceae

Neckeraceae Plagiotheciaceae Pterobryaceae Miyabeaceae

Sematophyllaceae Thuidiaceae Pylaisiadelphaceae Trachylomaceae

Leiosporocerotales Leiosporocerotaceae (Leiosporoceros)

Anthocerotales Anthocerotaceae (Anthoceros s.l., incl. Sphaerosporoceros and Folioscarios)

Notothyladales Notothyladaceae (Notothylas, Phaeoceros, Paraphymatoceros)

Phymatocerotales Phymatocerotaceae (Phymatoceros)

Dendrocerotales Dendrocerotaceae (Dendroceros, Megaceros, Notothylas, Phaeomegaceros)