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| --- | --- | --- | --- | --- | --- |
| Calibration | Evidence | Age (Ma) | Geological Time | Prior distribution and settings | References |
| A | Crown of family *Parmeliaceae*  | *Anzia electra* Rikkinen & Poinar is a lichenized fungus that was found in Baltic amber | 55–35 | Early Oligocene to Late Eocene  | Exponential (mean= 45, offset= 40; initial: 43) | Rikkinen and Poinar 2002; Lücking and Nelsen 2018 |
| B | *Cyphelium-Calicium* clade | *Calicium* sp. fossil |  |  | Exponential (mean= 40, offset= 35; initial: 37) | Rikkinen 2003; Pérez-Ortega et al. 2016 |
| C | Crown of class *Coniocybomycetes* | *Chaenotheca* sp. fossil from Baltic amber |  |  | Exponential (mean= 98.9, offset= 35; initial: 70) | Rikkinen 2003; Pérez-Ortega et al. 2016 |
| D | Crown of family *Aspergillaceae* | *Aspergillus collembolorum* Dörfelt & A.R. Schmidt was found overgrowing a springtail (suborder Entomobryomorpha) in Baltic amber |  |  | Exponential (mean= 40, offset= 35; initial: 37) | Dörfelt and Schmidt 2005; Lutzoni et al. 2018; Samarakoon et al. 2019 |
| E | Common ancestor of *Capnodiales* | *Metacapnodium succinum* (Dörfelt, A.R. Schmidt & J. Wunderl.) Rikkinen, Dörfelt, A.R.Schmidt & J. Wunderl. | ~100 (minimum age of 100 Mya for the crown age of*Capnodiales*) |  | truncated normal distributionmean = 100, standard deviation = 150, confidence interval= 400; truncated upper = infinit; lower: 100 | Schmidt et al. 2014; Samarakoon et al. 2019 |
| F | Crown of *Pezizomycotina* | *Paleopyrenomycites devonicus* fossil |  |  | Exponential (mean= 67.8, offset= 400; initial: 400) | Taylor et al. 2005; Prieto and Wedin 2013; Beimforde et al. 2014; Pérez-Ortega et al. 2016; Samarakoon et al. 2019 |

**References:**

Beimforde C, Feldberg K, Nylinder S, et al (2014) Estimating the Phanerozoic history of the Ascomycota lineages: Combining fossil and molecular data. Mol Phylogenetics Evol 78:386–398. https://doi.org/10.1016/j.ympev.2014.04.024

Dörfelt H, Schmidt AR (2005) A fossil *Aspergillus* from Baltic amber. Mycol Res 109:956-960. https://doi.org/10.1017/S0953756205003497

Lücking R, Nelsen MP (2018) Ediacarans, Protolichens, and Lichen-Derived *Penicillium*. In: Transformative Paleobotany. Elsevier, pp 551–590

Lutzoni F, Nowak MD, Alfaro ME, et al (2018) Contemporaneous radiations of fungi and plants linked to symbiosis. Nat Commun 9:5451. https://doi.org/10.1038/s41467-018-07849-9

Pérez-Ortega S, Garrido-Benavent I, Grube M, et al (2016) Hidden diversity of marine borderline lichens and a new order of fungi: Collemopsidiales (Dothideomyceta). Fungal Divers 80:285–300. https://doi.org/10.1007/s13225-016-0361-1

Prieto M, Wedin M (2013) Dating the diversification of the major lineages of Ascomycota (Fungi). PLOS ONE 8:e65576. https://doi.org/10.1371/journal.pone.0065576

Rikkinen J (2003) Calicioid lichens from European Tertiary amber. Mycologia 95:1032-1036. https://doi.org/10.1080/15572536.2004.11833019

Rikkinen J, Poinar GO (2002) Fossilised *Anzia* (Lecanorales, lichen-forming Ascomycota) from European tertiary amber. Mycol Res 106:984-990. https://doi.org/10.1017/S0953756202005907

Samarakoon MC, Hyde KD, Hongsanan S, et al (2019) Divergence time calibrations for ancient lineages of Ascomycota classification based on a modern review of estimations. Fungal Divers 96:285–346. https://doi.org/10.1007/s13225-019-00423-8

Schmidt AR, Beimforde C, Seyfullah LJ, et al (2014) Amber fossils of sooty moulds. Rev Palaeobot Palynol 200:53-64. https://doi.org/10.1016/j.revpalbo.2013.07.002

Taylor TN, Hass H, Kerp H, et al (2005) Perithecial ascomycetes from the 400 million year old Rhynie chert: an example of ancestral polymorphism. Mycologia 97:269–285. https://doi.org/10.1080/15572536.2006.11832862