



# Supplementary Materials for

## A synthesis of the Devonian wildfire record: Implications for paleogeography, fossil flora, and paleoclimate

By

Man Lu <[mlu8@crimson.ua.edu](mailto:mlu8@crimson.ua.edu)>, Takehito Ikejiri\*  
<[ikejiri1859@gmail.com](mailto:ikejiri1859@gmail.com)>, and YueHan Lu <[yuehan.lu@ua.edu](mailto:yuehan.lu@ua.edu)>

\*Corresponding authors.

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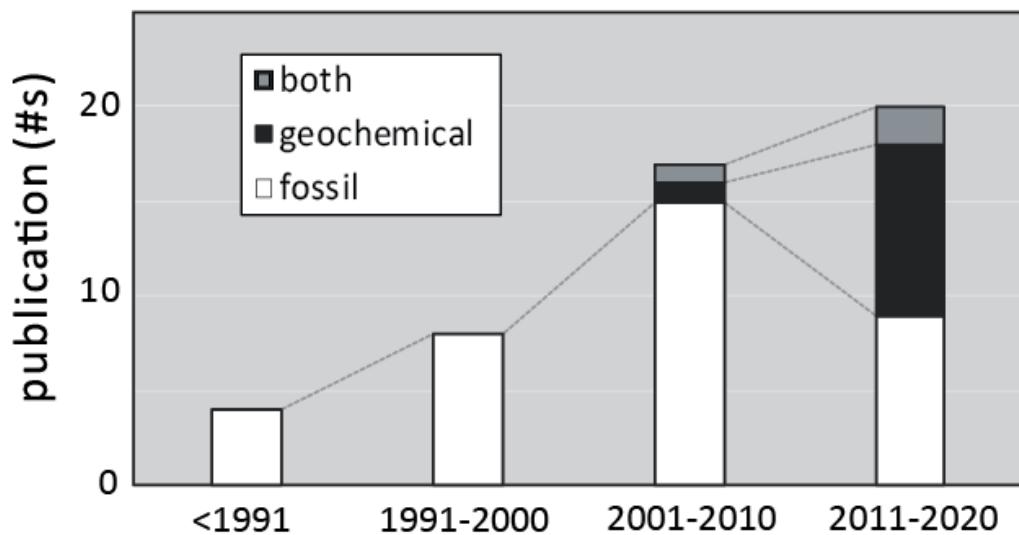
## I. Devonian Wildfire Data

**Table S1.** A summary of Silurian–Devonian wildfire occurrences in 10 paleogeographic regions across the 10 Devonian time bins.

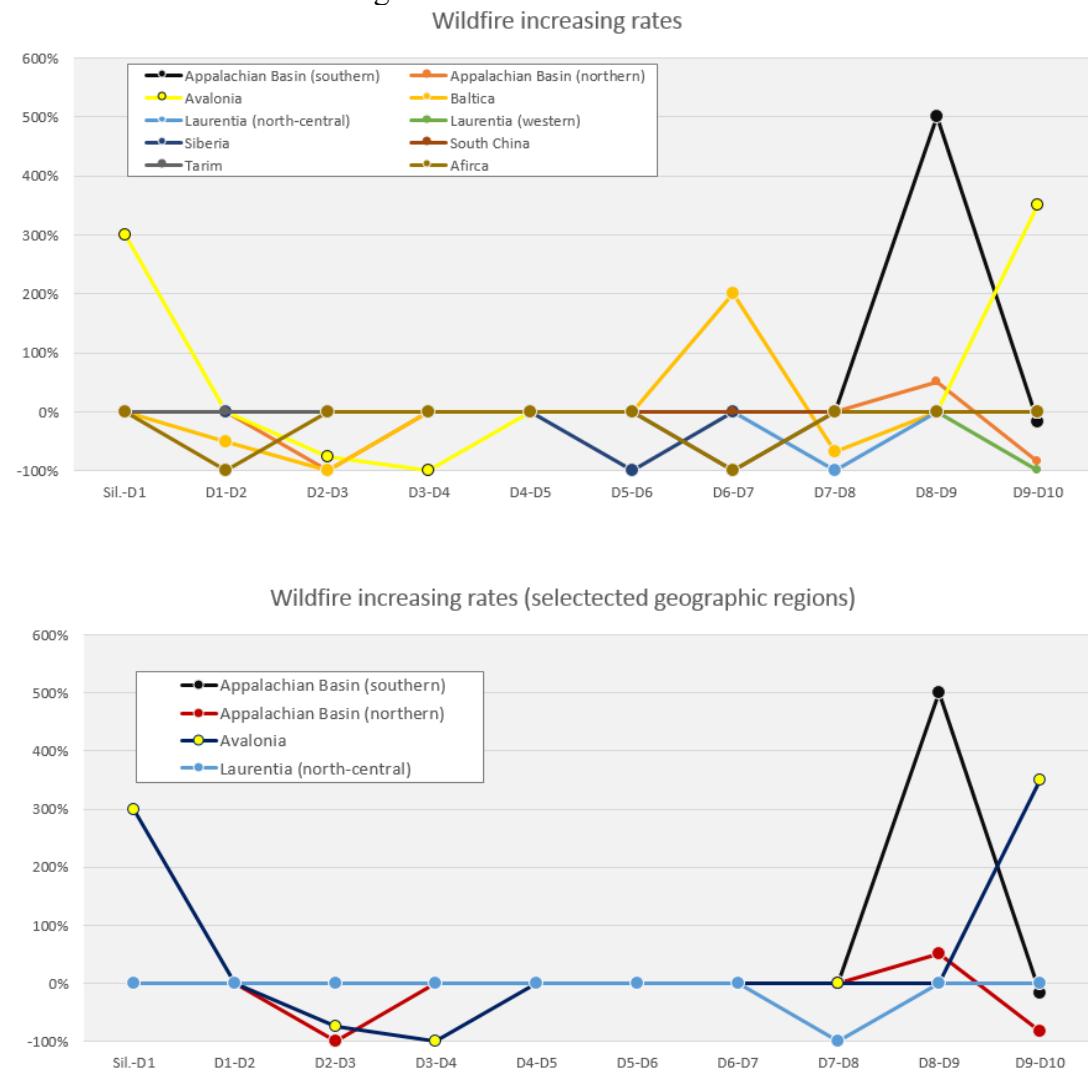
	Sil.	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	Mean	95% CI lower - upper		
Euramerica I	<b>Appalachian Basin (southern)</b>	0	0	0	0	0	0	0	1	6	5	1.2	-1.1	3.5	
Euramerica II	<b>Appalachian Basin (northern)</b>	0	0?	1	1	0	0	0	4	6	1	1.3	-0.8	3.5	
Euramerica III	<b>Avalonia</b>	1	4	1	2	0	0	0	2	2	9	2.0	-0.8	4.8	
Euramerica IV	<b>Baltica</b>	0	2	0	0	0	0	3	1	2	1	0.9	-0.2	2.0	
Euramerica V	<b>Laurentia (north-central)</b>	0	0	0	0	0	1	1	0	0	0	0.3	-0.3	0.6	
Euramerica VI	<b>Laurentia (western)</b>	0	0	0	H	0	0	?	0	1	1	0	-0.2	0.7	
Siberia	<b>South of Siberia*</b>	0?	0	0	0	0	0	1?	0	0	0	0.1	-0.2	0.4	
South China	<b>South China</b>	0	0	0	0	0	0	0	0	0	0	NA	NA	NA	
NW China	<b>Tarim</b>	0	H	0	H?	0	0	1	0	0	0	0.1	-0.2	0.5	
Gondwana	<b>Africa &amp; Australia</b>	0	1	0	0	0	0	0	2	0	0	0.4	-0.3	1.1	
<b>Total</b>		1	7	2	3	0	1	3	5	9	15	18	6.3	0.2	12.4
<b>Entire Euramerica</b>		1	6	2	3	0	1	1	3	9	15	17	5.7	-0.4	11.8
<b>(Eastern Euramerica)</b>		1	6	0	0	0	0	0	3	8	14	17	5.3	-0.7	11.3
<b>Outside of Euramerica</b>		0	3	1	0	0	0	2	2	0	0	1	0.9	-0.2	2.0
<b>Mean (total)</b>		0.1	1.0	0.2	0.4	NA	0.1	0.4	0.6	1.0	1.7	2.0			
<b>95% CI lower</b>		-0.2	-0.5	-0.2	-0.4	NA	-0.2	-0.1	-0.6	-0.3	-0.9	-1.1			
<b>95% CI upper</b>		0.5	2.5	0.7	1.2	NA	0.4	0.9	1.7	2.3	4.2	5.1			

\* Possibly, in the Magnitogorsk Island Arc.

**Figure S1.** The publication record of Silurian–Devonian wildfire studies through years. Two types of paleowildfire evidence (fossil charcoals and geochemical/biomarkers) are counted separately. The raw data for the graph is based on the two reference of the main text and Supplementary Table S2 below.



**Figure S2.** Increasing rates of the Silurian–Devonian wildfire occurrences. Top: global; bottom: selected Euramerican regions.



**Table S2.** A summary of 65 occurrences in the Silurian–Devonian wildfire record. The age is based on the 10-time bins (Table 2 in the main text). **A:** Data were extracted from the literature, and 64 out of the 69 were used for the series of statistical analyses for this study. **B:** Excluded entries are listed in the bottom (see explanation in the main text).

\* **Abbreviations** for ‘evidence type’ of fossil charcoals (**FC**) include; **Inert**: inertinites (mostly microscopic size) from rock layers (coal, shale, sandstone, etc.) and **Fossil**: fossil charcoals (meso- and macroscopic sizes) associated with plant fossils.

\*\***Abbreviations** for ‘Paleogeography’: **Eur**: Euramerica; **AppB**: Appalachian Basin; **Laur**: Laurentia;

\*\*\***Abbreviations** for ‘Rock type’: **C**: coal bearing layer; **LS**: limestone; **SH**: shale or mudstone; **SLT**: siltstone; **SS**: sandstone.

#### A. Wildfire evidence used for data analyses.

Age	Wildfire evidence type*	Paleogeography** (paleolatitude)	Present location	Formation	Rock type***	Depositional environments	References
<b>SILURIAN</b>							
Silurian (Pridoli)	FC-Fossil	Eura: Avalonia (26°S)	UK (Shropshire)	Downton Castle	SLT	marine	Rogerson et al. 2002; Glasspool et al. 2004
<b>EARLY DEVONIAN</b>							
D1: Lochkovian	FC-Fossil	Eura: Avalonia (26°S)	UK (Shropshire)	Ditton	SLT	terrestrial	Edwards & Axe 2004; Glasspool et al. 2006
D1: Lochkovian	FC-Fossil	Eura: Avalonia (26°S)	UK (South Wales)	Ditton (Panylan Mudstone)	SS	terrestrial	Burgess & Edwards 1988
D1: Lochkovian	FC-Fossil	Eura: Avalonia (26°S)	UK (Shropshire)	Ditton	SLT	terrestrial	Burgess & Edwards 1988
D1: Lochkovian	FC-Fossil	Eura: Avalonia (26°S)	UK (Herefordshire)	Rushall Beds	SS	marine	Burgess & Edwards 1988
D1: Lochkovian	Biomarker	NW Gondwana (48°S)	Tunisia	Tadrart	SH & SS	marine	Romero-Sarmiento et al. 2011
D1: Lochkovian	FC-Fossil	Eura: Baltica (17°S)	Ukraine	Borschiv	SLT	marine	Filiplak & Szaniawski 2016
D1: Lochkovian	FC-Fossil	Eura: Baltica (17°S)	Ukraine	Chortkiv	SLT	marine	Filiplak & Szaniawski 2016
D2: early Pragian	FC-Fossil	Eura: Baltica (17°S)	Ukraine	Ivanye (upper)	SLT	marine	Filiplak & Szaniawski 2016
D2: Pragian	FC-Fossil	Eura: Avalonia (36°S)	Canada (NB)	Val d'Amour	SH (C)	terrestrial	Kennedy et al. 2013
D3: Pragian	FC-Inert.	Eura: Avalonia (36°S)	Canada (NB)	Campbellton	SH (C)	terrestrial	Kennedy et al. 2013
D3: Pragian	FC-Inert.	Eura: Avalonia (21°N)	Germany (NW) in Bad Münstereifel	Unspecified	Unspecified	terrestrial?	Wollenweber et al. 2006; Diessel et al. 2010
D3: Emsian	FC-Inert.	Eura: northern AppB (36°S)	Canada (QC)	York River	SS (C)	terrestrial	Glasspool & Scott 2010
<b>MIDDLE DEVONIAN</b>							
D5: Eifelian	FC-Inert.	Eura: northcentral Laur (5°N)	Canada (NU-NT)	Weatherall	SH (C)	marine	Goodarzi & Goodbody 1990; Goodarzi and Gentzis 2018
D6: Givetian	FC-Inert.	Eura: northcentral Laur (5°N)	Canada (NU-NT)	Hecla Bay	SS (C)	marine	Goodarzi & Goodbody 1990; Fowler et al. 1991; Goodarzi and Gentzis 2018
D6: Givetian	FC-Inert.	South of Siberia (in/near Magnitogorsk Island Arc) (21°N)	Russia (SW Siberia)	Barzas coal	SH & SS (C)	terrestrial	Ammosov 1964; Volkova 1994
D6: Givetian	FC-Inert.	South China (2°S)	SW China (Yunnan)	Haikou	SH & SS (C)	terrestrial	Dai et al. 2006

Time bin & age	Wildfire evidence types	Paleogeography* (continent & region)	Present location	Formation	Rock type**	Depositional environments	References
<b>LATE DEVONIAN I</b>							
D7: early Frasnian	FC-Inert.	Eura: Baltica (5°N)	Norway	Mimer Valley	SH & SS (C)	terrestrial	Wollenweber et al. 2006; Diessel 2010
D7: early Frasnian	FC-Inert.	Eura: Baltica (10°S)	NW Russia	Tsil'ma Formation	SS (C)	terrestrial	Shumilov 2015; Tel'nova et al. 2019
D7: early Frasnian	FC-Inert.	Eura: Baltica (14°S)	NW Russia	Ust'-Chirk	SS (C)	terrestrial	Shumilov 2015; Tel'nova et al. 2019
D7: early Frasnian	FC-Inert.	Eura: northern Laur (5°N)	Canada (NU-NT)	Weatherall and Hecla Bay	SH & SS (C)	Terrestrial(?)	Goodarzi & Goodbody 1990; Fowler et al. 1991; Gentzis & Goodarzi 2018
D7: early Frasnian	Biomarker	Gondwana (eastern) (25°S)	W Australia	Sadler	SH (w/ LS)	marine	Tulipani et al. 2015
D7: early Frasnian	Biomarker	Gondwana (eastern) (28°S)	W Australia	Gogo	SH (w/ LS)	marine	Tulipani et al. 2015
D8: late Frasnian	FC-Inert.	Siberia (15°N)	Russia (SW Siberia)	Barzas coal	SH & SS (C)	terrestrial	Volkova 1994; Kennedy et al 2013
D8: late Frasnian	FC-Inert.	Eura: northern AppB (32°S)	USA (NY; Walnut Creek Bank)	Hanover	SH	marine	Liu et al. 2020
D8: late Frasnian	FC-Inert.	Eura: northern AppB (32°S)	USA (NY; Irish Gulf)	Hanover (upper-most)	SH	marine	Liu et al. 2020
D8: late Frasnian	FC-Inert.	Eura: northern AppB (32°S)	USA (NY; West Valley)	Hanover	SH	marine	Liu et al. 2020
D8: late Frasnian	FC-Inert.	Eura: northern AppB (32°S)	USA (NY; Beaver Meadow Creek)	Hanover	SH	marine	Liu et al. 2020
D8: late Frasnian	FC-Inert. & Biomarker	Eura: southern AppB (34°S)	USA (TN)	Chattanooga Shale	SH	marine	Lu 2020
D8: late Frasnian	Biomarker	Eura: Avalonia (16°S)	Belgium (Sinsin Section)	Neuville	SH (w/ LS)	marine	Kaiho et al. 2013
D8: late Frasnian	Biomarker	Eura: Avalonia (16°S)	Belgium (Hony Section)	Neuville	SH (w/ LS)	marine	Kaiho et al. 2013
D8: late Frasnian	Biomarker	Eura: western Laur (30°S)	USA (OK)	Woodford	SH	marine	Jones 2017

Time bin & age	Wildfire evidence types	Paleogeography* (continent & region)	Present location	Formation	Rock type**	Depositional environments	References
<b>LATE DEVONIAN II</b>							
D9: early Famennian	FC-Inert.	Eura: northern AppB (30°S)	USA (NY; Walnut Creek Bank)	Dunkirk (basal-most)	SH	marine	Liu et al. 2020
D9: early Famennian	FC-Inert.	Eura: northern AppB (30°S)	USA (NY; Irish Gulf)	Dunkirk (basal-most)	SH	marine	Liu et al. 2020
D9: early Famennian	FC-Inert.	Eura: northern AppB (30°S)	USA (NY; West Valley)	Dunkirk (basal-most)	SH	marine	Liu et al. 2020
D9: early Famennian	FC-Inert.	Eura: northern AppB (30°S)	USA (NY; Beaver Meadow Creek)	Hanover (upper-most)	SH	marine	Liu et al. 2020
D9: early Famennian	FC-Inert.	Eura: northern AppB (30°S)	USA (NY; Joint Creek)	Hanover (upper-most)	SH	marine	Liu et al. 2020
D9: early Famennian	FC-Inert.	Eura: northern AppB (30°S)	USA (NY; Joint Creek)	Dunkirk (basal-most)	SH	marine	Liu et al. 2020
D9: early Famennian	FC-Inert. & Biomarker	Eura: S. AppB (35°S)	USA (AL)	Chattanooga Shale (Upper Mbr)	SH	marine	Lu et al. 2019
D9: early Famennian	FC-Inert. & Biomarker	Eura: S. AppB (34°S)	USA (TN)	Chattanooga Shale (Upper Mbr)	SH	marine	Lu 2020
D9: early Famennian	FC-Inert.	Eura: S. AppB (34°S)	USA (KY; D6 core)	New Albany Shale (Huron Mbr)	SH	marine	Rimmer et al. 2004
D9: early Famennian	FC-Inert.	Eura: S. AppB (33°S)	USA (KY; D4 core)	New Albany Shale (Huron Mbr)	SH	marine	Rimmer et al. 2015
D9: early Famennian	FC-Inert.	Eura: Illinois Basin (33°S)	USA (IN-KY; IRQ core)	New Albany Shale (Clegg Creel Mbr)	SH	marine	Rimmer et al. 2015
D9: early Famennian	FC-Inert.	Eura: Illinois Basin (33°S)	USA (OH; OHLO2 core)	Ohio Shale (Huron Shale Mbr)	SH	marine	Rimmer et al. 2015
D9: early Famennian	Biomarker	Eura: Avalonia (18°S)	Belgium (Sinsin Section)	Famenne Shale	SH (w/ LS)	marine	Kaiho et al. 2013
D9: early Famennian	Biomarker	Eura: Avalonia (18°S)	Belgium (Hony Section)	Famenne Shale	SH (w/ LS)	marine	Kaiho et al. 2013
D9: early Famennian	Biomarker	Eura: western Laur (25°S)	USA (OK)	Woodford	SH	marine	Jones 2017
D10: late Famennian	FC-Inert.	Eura: S. AppB (30°S)	USA (KY; D6 core)	New Albany Shale (Cleveland Shale Mbr)	SH	marine	Rimmer et al. 2004
D10: late Famennian	FC-Inert.	Eura: S. AppB (30°S)	USA (KY; D4 core)	New Albany Shale (Cleveland Shale-Three Lick mbrs)	SH	marine	Rimmer et al. 2015
D10: late Famennian	FC-Inert.	Eura: S. AppB (30°S)	USA (WV; Elkins)	New Albany (Creek Greek Mbr)	SH	marine	Rimmer et al. 2015
D10: late Famennian	FC-Fossil	Eura: northern AppB (28°S)	USA (PA; Red Hill)	Catskill (Duncannon Mbr)	SS, SLT & SH	terrestrial	Cressler 2001, 2006; Cressler et al. 2010; Rimmer et al. 2015
D10: late Famennian	FC-Inert.	Eura: Illinois Basin (28°S)	USA (OH; OHLO2 core)	Ohio Shale (Chagin Shale - Cleveland Shale mbrs)	SH	marine	Rimmer et al. 2015
D10: late Famennian	FC-Inert.	Eura: Illinois Basin (30°S)	USA (IN-KY; IRQ core)	New Albany Shale (Clegg Creel Mbr)	SH	marine	Rimmer et al. 2015

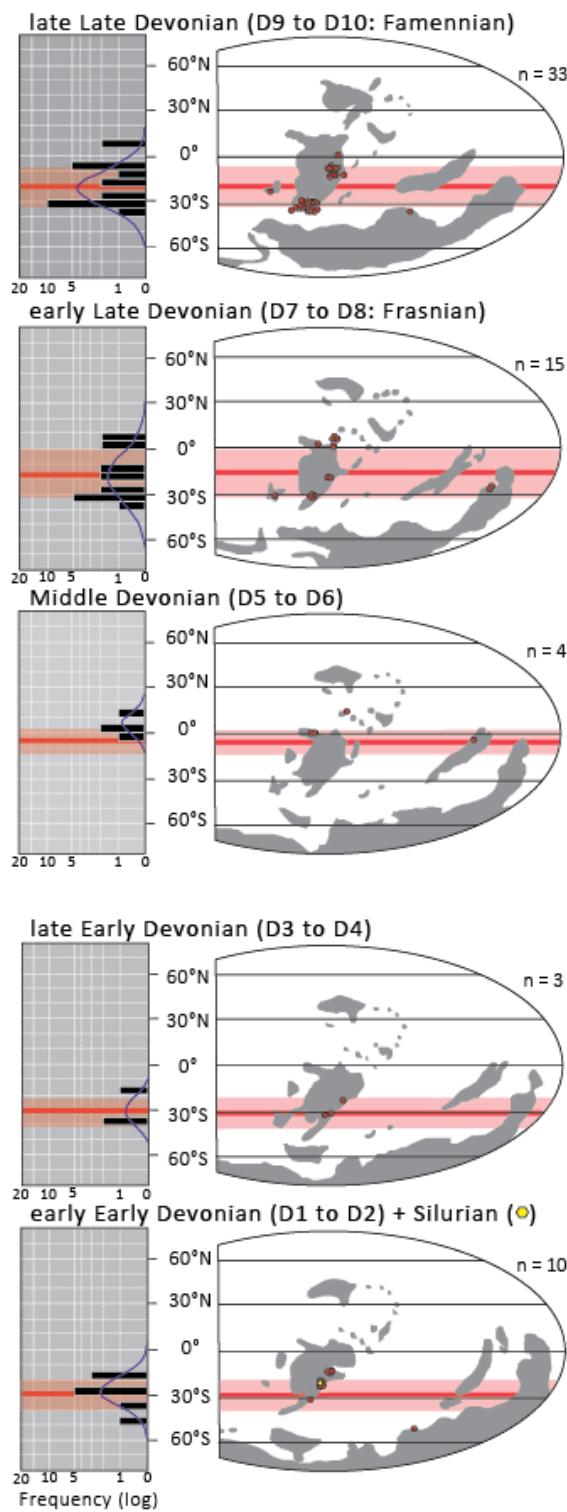
D10: late Famennian	FC-Inert.	Eura: Baltica (15°S)	NW Russia	Barzas	SLT	terrestrial	Volkova 1994; Kennedy et al. 2013
D10: late Famennian	FC-Inert.	Eura: Baltica (6°N)	N Norway	Roedvika (Tunheim Mbr.)	SS (C)	terrestrial	Scott & Glasspool 2006; Glasspool et al. 2015
D10: late Famennian	FC-Inert. & Biomarker	Eura: Avalonia (5°S)	Poland	Hangenberg Black Shale	SH	marine	Marynowski & Filipiak 2007;
D10: late Famennian	FC-Fossil	Eura: Avalonia (10°S)	Germany (NW)	Hangenberg Sandstone	SS	marine	Marynowski et al. 2012
D10: late Famennian	FC-Fossil	Eura: Avalonia (10°S)	Germany (NW)	Knoppenbissen	SLT	terrestrial	Rowe & Jones 2000
D10: late Famennian	FC-Fossil	Eura: Avalonia (5°S)	Belgium (Val-Dieu Quarry)	Evieux	SS	terrestrial	Fairon-Demaret & Hartkopf-Fröder 2004
D10: late Famennian	FC-Fossil	Eura: Avalonia (5°S)	Belgium (Trooz Quarry)	Evieux	SS	terrestrial	Prestianni et al. 2010
D10: late Famennian	FC-Fossil	Eura: Avalonia (5°S)	Belgium (Arbre Quarry)	Evieux	SS	terrestrial	Prestianni et al. 2010
D10: late Famennian	Biomarker	Eura: Avalonia (5°S)	Poland (Gorzyława)	Sapolno Calcareous Shale	SH	marine	Matyja et al. 2015
D10: late Famennian	Biomarker	Eura: Avalonia (5°S)	Poland (Chmielnd)	Sapolno Calcareous Shale	SH	marine	Matyja et al. 2015
D10: late Famennian	Biomarker	Eura: Avalonia (5°S)	Poland (Rzeczenica)	Sapolno Calcareous Shale	SH	marine	Matyja et al. 2015
D10: late Famennian	Biomarker	central Gondwana (35°S)	Libya	Aouinet Ouenine	SH	marine	Riboulleau et al. 2018



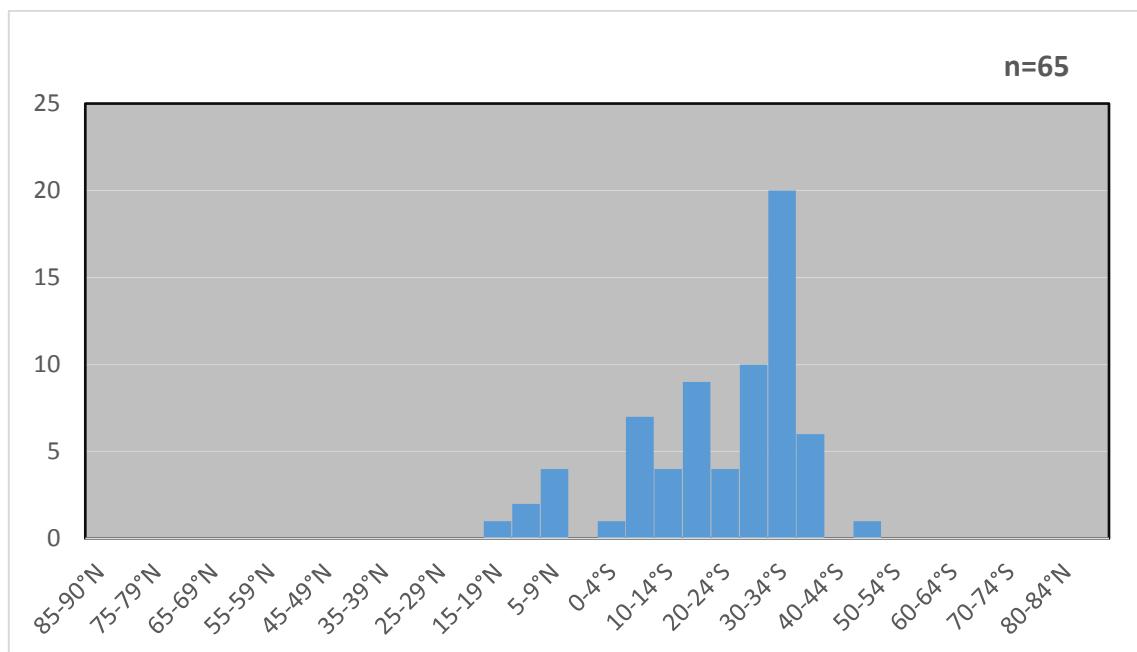
**B. Ambiguous evidence excluded from this study.**

Time bin & age	Wildfire evidence types	Paleogeography (continent & region)	Country	Formation	Rock Type**	Depositional environments	References
D2: Pragian	FC-inert.?	Eura: Avalonia	Germany (BY)	Moldanubian(?)	gneiss	marine (deep)	Pflug & Prössl 1989, 1991
D6: Givetian	Biomarker?	Tarim	NW China (Xinjiang)	Hujiesite	SH & SS	marine	Song et al. 2015
D7: early Frasnian	FC-ineret.?	Eura: northern Laur	Canada (north-central)	Beverley Inlet	SS	terrestrial (delta plain?)	Goodarzi et al. 1989; Fowler et al. 1991;

**Figure S3.** Paleogeographic distribution of Silurian–Devonian wildfire sites. The 10 Devonian time intervals (D1 to D10) are split into five maps. All maps are redrawn based on Scotese (2014) and Torsvik and Cocks (2016). Solid red line indicates a mean of paleolatitudes and dark red zone for standard deviation in each time interval. Graphs show the frequency (i.e., black bars) in each 5 degree interval (as seen in Figure 3 and Supplementary Figure S4) with a log transformed scale.



**Figure S4.** Paleolatitudinal distribution of Silurian–Devonian wildfires based on the total of 65 occurrences. Raw data are listed in Supplementary Table S2.



**Table S3.** Relative surface area of key paleogeographic areas and the frequency of Late Devonian wildfire occurrences (from Devonian 7 to 10\*\*). The values of paleowildfire density (fire/area) are used in Figure 4 (main text).

Paleogeographic area	proportional surface area*	Fire #s (D7-D10)	Log (fire# +1)	Fire/area (log)	Rank
Entire Eurameirca	1	45			
Acadian	0.76594	23	1.3802	1.8020	4
Avalonia	0.71145	13	1.1461	1.6110	4
Baltica	0.85520	6	0.8451	0.9882	3
Laurentia (north-central)	0.93193	1	0.3010	0.3230	2
Laurentia (western)	0.68337	2	0.4771	0.6982	3
Siberia	0.91427	0	0	0	1
South China	0.90890	0	0	0	1
Tarim	0.52151	0	0	0	1
Gondwana	1.12867	3	0.6021	0.5334	2

\*Relative to the entire Euramerica.

\*\*Data of wildfire counts from Table 6 (main text).

## References for Silurian–Devonian wildfires

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## II. Devonian Vascular Plant Data

**Table S4.** Species count and relative taxonomic abundance of vascular plants in the eastern Euramerica.

### Species counts (#s)

Species counts	Silurian	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
<b>Pa:</b> Paratracheophytes	<9	21	8	6	4	1	1	2	2	0	0
<b>Ly-1:</b> stem & basal lycopodiopsids	<2	8	28	19	10	3	4	1	0	1	2
<b>Ly-2:</b> derived Lycopodiopsida	0	1	7	7	11	4	15	6	6	6	14
<b>Eup:</b> basal euphyllophytes	<1	3	9	12	13	4	9	1	1	1	2
<b>Lig:</b> basal lignophytes	0	0	0	0	2	5	15	18	16	20	34
<b>P–M:</b> Pteridophyta/Moniliophyta	0	0	5	8	5	11	20	4	6	13	15
<b>Subtotal</b>	<13	33	57	52	45	28	64	32	31	41	67

### Relative abundance (%)

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
<b>Pa:</b> Paratracheophytes	63.6%	14.0%	11.5%	8.9%	3.6%	1.6%	6.3%	6.5%	0.0%	0.0%
<b>Ly-1:</b> stem & basal lycopodiopsids	24.2%	49.1%	36.5%	22.2%	10.7%	6.3%	3.1%	0.0%	2.4%	3.0%
<b>Ly-2:</b> derived Lycopodiopsida			3.0%	12.3%	13.5%	24.4%	14.3%	23.4%	18.8%	19.4%
<b>Eup:</b> basal euphyllophytes		9.1%	15.8%	23.1%	28.9%	14.3%	14.1%	3.1%	3.2%	2.4%
<b>Lig:</b> basal lignophytes	0.0%	0.0%	0.0%	4.4%	17.9%	23.4%	56.3%	51.6%	48.8%	50.7%
<b>P–M:</b> Pteridophyta/Moniliophyta			0.0%	8.8%	15.4%	11.1%	39.3%	31.3%	12.5%	19.4%
										31.7%

**Table S5.** Origination and extinction rates of Devonian vascular plant species from the eastern Euramerica. Bold numbers indicate significantly high value based on the upper 95 CI.

**A. All vascular plants**

	Silurian	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
<b>myL:</b> Duration in million years		8.40	3.20	7.15	7.15	5.60	5.00	5.25	5.25	6.65	6.65
<b>Ntot:</b> total occurrence w/ singletons	<13	35	59	48	51	38	<b>63</b>	30	27	32	<b>72</b>
<b>Nbt:</b> total occurrence w/o singletons	<10	17	23	26	22	11	17	20	20	29	<b>45</b>
<b>NF:</b> first appearance (w/o singletons)		8	12	9	2	6	8	12	2	<b>20</b>	<b>18</b>
<b>NL:</b> last appearance (w/o singletons)		7	6	6	17	1	11	3	11	0	<b>28</b>
<b>NF</b> (with singletons)		23	48	31	29	31	51	23	9	22	44
<b>NL</b> (with singletons)		25	41	26	47	25	55	12	18	5	49
<b>Po:</b> Proportional origination		1.35	2.09	1.19	1.32	<b>2.82</b>	3.00	1.15	0.45	0.76	0.98
<b>Pe:</b> Proportional extinction		1.47	1.78	1.00	2.14	2.27	<b>3.24</b>	0.60	0.90	0.17	1.09
<b>Pomy:</b> Po/myL		0.16	0.65	0.17	0.18	<b>0.50</b>	<b>0.60</b>	0.22	0.09	0.11	0.15
<b>Pemy:</b> Pe/myL		0.18	<b>0.56</b>	0.14	0.30	0.41	<b>0.65</b>	0.11	0.17	0.03	0.16
<i>p</i> : per-capita origination rate		0.05	<b>0.18</b>	0.00	0.11	0.15	<b>0.23</b>	-0.10	-0.02	-0.26	0.01
<i>q</i> : per-capita extinction rate		0.04	<b>0.23</b>	0.02	0.04	0.19	<b>0.22</b>	0.03	-0.15	-0.04	0.00
<b>Standing diversity</b> – w/ singletons	NA	24	44.5	28.5	38	28	<b>53</b>	17.5	13.5	13.5	<b>46.5</b>
<b>Origination (%)</b> – w/ singletons		47.06%	52.17%	34.62%	9.09%	54.55%	47.06%	60.00%	10.00%	<b>68.97%</b>	40.00%
<b>Extinction (%)</b> – w/ singletons		30.30%	41.18%	26.09%	23.08%	77.27%	9.09%	<b>64.71%</b>	15.00%	55.00%	0.00%
<b>Standing diversity</b> – w/o singletons		7.5	9	7.5	9.5	3.5	9.5	7.5	6.5	10	<b>23</b>
<b>Origination (%)</b> – w/o singletons		65.71%	81.36%	64.58%	56.86%	81.58%	80.95%	76.67%	33.33%	68.75%	61.11%
<b>Extinction (%)</b> – w/o singletons		75.8%	71.43%	69.49%	54.17%	<b>92.16%</b>	65.79%	<b>87.30%</b>	40.00%	66.67%	15.63%

**B. Lignophytes: including spermatophytes**

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
<b>NF:</b> first appearance	0	0	0	2	7	12	<b>17</b>	4	11	<b>21</b>
<b>NL:</b> last appearance	0	0	0	2	4	11	8	9	2	<b>26</b>
<b>Standing diversity</b> (w/ singletons)	0	0	0	2	5.5	11.5	12.5	6.5	6.5	<b>23.5</b>
<b>Ntot:</b> total occurrence	0	0	0	2	7	15	20	17	20	<b>40</b>
<b>Origination (%)</b>	NA	NA	NA	100.0%	100.0%	80.0%	85.0%	23.5%	55.0%	52.5%
<b>Extinction (%)</b>	NA	NA	NA	100.0%	57.1%	73.3%	40.0%	52.9%	10.0%	65.0%

**Table S6.** Devonian vascular plant taxa from the eastern Euramerica. Abbreviations for higher taxonomic groups: **Pa**: Paratracheophytes (basal tracheophytes); **Ly-1**: stem lycopodiopsida; **Ly-2**: basal and derived lycopodiopsids; **Eup**: basal euphylophytes; **Lig**: lignophytes including basal spermatophytes; **P-M**: Pteridophyta/Monilophyta (see definitions in Table 2 and a cladogram in Figure 5). When data are directly used from the Paleobiology Database (PBDB), reference numbers are cited.

**DEVONIAN 1: Lochkovian (Early Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Incertae sedis	<i>Grisellatheca</i>	<i>salopensis</i>	Avalonia	UK	Freshwater West	Edwards et al. 2001; Edwards & Richardson 2004
Pa	Cooksonioid	<i>Concavatheca</i>	<i>banksii</i>	Avalonia	UK	Freshwater West	Habgood et al. 2002
Pa	Cooksonioid	<i>Cooksonia</i>	<i>caledonica</i>	Avalonia	UK	Dundee; Freshwater West	Lang 1937; Edwards, 1970; 1975; Edwards et al. 1994; Fanning et al. 1992; Morris et al. 2011
Pa	Cooksonioid	<i>Cooksonia</i>	<i>cambrensis</i>	Avalonia	UK	Senni	Edwards & Richardson 2004
Pa	Cooksonioid	<i>Cooksonia</i>	<i>downtonensis</i>	Baltica	Czech	Pozary	Kříž 1992; PBDB 14045
Pa	Cooksonioid	<i>Cooksonia</i>	<i>hemisphaerica</i>	Avalonia	UK	Freshwater West	Lang 1937; Edwards et al. 1985; Fanning et al. 1992; Edwards et al. 1996; Edwards & Richardson 2004; Morris & Edwards 2014
Pa	Cooksonioid	<i>Cooksonia</i>	<i>pertoni</i>	Avalonia	UK	Freshwater West	Edwards et al. 1981; Edwards 1996; Morris & Edwards 2014
Pa	Cooksonioid	<i>Cooksonia</i>	sp.	Baltica	Czech	Pridoli Schichten; Pozary	Obhrel 1968; PBDB 14043, 14045, 14131
Pa	Cooksonioid	<i>Paracooksonia</i>	<i>ambitispora</i>	Avalonia	UK	Freshwater West	Morris et al. 2011
Pa	Cooksonioid	<i>Paracooksonia</i>	<i>apiculispora</i>	Avalonia	UK	Freshwater West	Morris et al. 2011
Pa	Rhyniopsida	<i>Fusiformitheca</i>	<i>fanningiae</i>	Avalonia	UK	Freshwater West	Edwards et al. 2001; Edwards & Richardson 2004
Pa	Rhyniopsida	<i>Monnowella</i>	<i>bennettii</i>	Avalonia	UK	Freshwater West	Morris & Edwards 2014
Pa	Rhyniopsida	<i>Resilitheca</i>	<i>salopensis</i>	Avalonia	UK	Freshwater West	Edwards et al. 1994
Pa	Rhyniopsida	<i>Salopella</i>	<i>allenii</i>	Avalonia	UK	Senni; Freshwater West	Edwards & Richardson 2004; Morris et al. 2011; Morris & Edwards 2014
Pa	Rhyniopsida	<i>Salopella</i>	<i>marcensis</i>	Avalonia	UK	Freshwater West	Fanning et al. 1992
Pa	Rhyniopsida	<i>Salopella</i>	sp.	Avalonia	UK	Freshwater West	Fanning et al. 1992
Pa	Rhyniopsida	<i>Sporathylacium</i>	<i>salopense</i>	Avalonia	UK	Freshwater West	Edwards et al. 2001
Pa	Rhyniopsida	<i>Uskiella</i>	<i>reticulata</i>	Avalonia	UK	Freshwater West	Fanning et al. 1992
Pa	Rhyniopsida	<i>Uskiella</i>	<i>spargens</i>	Avalonia	UK	Freshwater West	Fanning et al. 1992

Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>decheniana</i>	Avalonia	Belgium	Bois d'Ausse	Leclercq 1942; Høeg 1942; Taylor 1986
Pa	Rhyniopsida	<i>Taenioocrada(?)</i>	<i>spitzbergensis</i>	Baltica	Norway	Fraenkelryggen	Høeg 1942; Taylor 1986; Orlova et al. 2016
Pa	Rhyniopsida	<i>Taenioocrada</i>	sp.	Avalonia	Spain	Nogueras	Montero & Dieguez 2010
Pa	Incertae sedis	<i>Tarrantia</i>	<i>salopensis</i>	Avalonia	UK	Freshwater West	Fanning et al. 1992; Edwards et al. 2001; Wellmans et al. 2000; Edwards & Richardson 2004; Morris et al. 2011
Pa	Incertae sedis	<i>Tortilicaulis</i>	<i>offaeus</i>	Avalonia	UK	Freshwater West	Edwards 1996; Morris & Edwards 2014
Pa	Incertae sedis	<i>Tortilicaulis</i>	<i>transwalliensis</i>	Avalonia	UK	Freshwater West	Fanning et al. 1992
Pa	<i>Incatae sedis</i>	<i>Tortilicaulis</i>	sp.	Avalonia	UK	Senni	Edwards & Richardson 2004
Eup	Psilophytopsida	<i>Psilophytites</i>	<i>gileppensis</i>	Avalonia	Belgium	Bois d'Ausse	Gerrienne 1992a
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>rectissimum</i>	Baltica	Norway	?	Høeg 1945
Eup	Psilophytopsida	cf. <i>Psilophyton</i>	<i>princeps</i>	Avalonia	Belgium	?	Stockmans 1940; PBDB 23545
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>wyomingense</i>	Euramerica (west)	USA (WY)	Beartooth Butte	Dorf 1934; Caruso et al. 2012
Ly-1	stem Zosterophy.	cf. <i>Renalia</i>	sp.	Avalonia	UK	Freshwater West	Edwards & Richardson 2004
Ly-1	Zosterophyllopsida	<i>Craswallia</i>	<i>haeagensis</i>	Avalonia	UK	Freshwater West	Morris & Edwards 2014
Ly-1	Zosterophyllopsida	<i>Gosslingia</i>	<i>breconensis</i>	Avalonia	Belgium	Bois d'Ausse	Steemans & Gerrienne 1984; PBDB 34965
Ly-1	Zosterophyllopsida	cf. <i>Gosslingia</i>	sp.	Baltica	Norway	Fraenkelryggen	Høeg 1942; PBDB 20839
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>fertile</i>	Avalonia	Belgium	Bois d'Ausse	Leclercq 1942; Gerrienne 1996a
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>fertile</i>	Avalonia	UK	Dundee; Senni; Freshwater West; Llandstadwell	Edwards 1972; Edwards et al. 2001; Edwards & Richardson 2004
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>llanoveranum</i>	Avalonia	UK	Llandstadwell	Croft & Lang 1942; Wellman et al. 1998
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>myretonianum</i>	Avalonia	UK	Dundee	Edwards 1975
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	spp.	Avalonia	Belgium	Bois d'Ausse	Leclercq 1942
Ly-1	Zosterophyllopsida?	cf. <i>Yarravia</i>	sp.	Avalonia	UK	Freshwater West	Edwards & Richardson 2004
Ly-1	Zosterophyllopsida	<i>Gosslingia</i>	<i>americana</i>	Euramerica (west)	USA (WY)	Beartooth Butte	Tanner 1984
Ly-1	Zosterophyllopsida	cf. <i>Sawdonia</i>	<i>ornata</i>	E. Laurentia	Canada (QC)	Compton	Hueber et al. 1990; Lavoie 2004
Ly-1	Zosterophyllopsida	<i>Thrinkophyton</i>	<i>formosum</i>	Avalonia	UK	Senni	Kenrick & Edwards 1988
Ly-1	Zosterophyllopsida	<i>Deheubarthia</i>	<i>splendens</i>	Avalonia	UK	Freshwater West; Senni; Llandstadwell	Edwards et al. 1985, 1989
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Belgium	?	Stockmans 1940; PBDB 23535
Ly-2	Drepanophycales	<i>Drepanophycus</i>	sp.	Avalonia	Spain	Nogueras	Montero & Dieguez 2010
Ly-2	Drepanophycales	<i>Sengelia</i>	<i>radicans</i>	Euramerica (west)	USA (WY)	Beartooth Butte	

## DEVONIAN 2: Pragian (Early Devonian)

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Cooksonioid	<i>Cooksonia</i>	sp.	N. Laurentia	Canada (NU)	Bathurst Island	Kotyk 1998
Pa	Rhyniopsida	<i>Huvenia</i>	<i>kleui</i>	Avalonia	Germany	Wahnbach	Hass & Remy 1991
Pa	Rhyniopsida	<i>Sennicaulis</i>	<i>hippocrepiformis</i>	Avalonia	UK	Senni	Edwards 1981
Pa	Rhyniopsida	<i>Rhynia</i>	<i>gwynne-vaughanii</i>	Avalonia	UK	Dryden Shale	Kidston & Lang 1917
Pa	Rhyniopsida	<i>Uskiella</i>	<i>spargens</i>	Avalonia	UK	Senni; Mill Bay	Shute & Edwards 1989; Edwards & Richardson 2004
Pa	Rhyniopsida	<i>Stockmansella</i> ( <i>Taeniocrada</i> )	<i>langii</i>	Avalonia	Germany	Rurberg Schichten	Schweitzer 1987
Pa	Rhyniopsida	<i>Stockmansella</i> ( <i>Taeniocrada</i> )	<i>langii</i>	Avalonia	Germany	Wahnbach	Schweitzer 1980, 1983, 2003; Stets & Schäfer 2009
Pa	Rhyniopsida	<i>Taeniocrada</i>	<i>decheniana</i>	Avalonia	Germany	Augustenthal(?)	Stets & Schäfer 2009
Pa	Rhyniopsida	<i>Taeniocrada</i>	<i>decheniana</i>	Avalonia	Germany	Wahnbach	Stets & Schäfer 2009
Pa	Rhyniopsida	<i>Taeniocrada</i>	<i>dubia</i>	Avalonia	Germany	Rurberg-Schichten; Wahnbach	Schweitzer 1987; Schultka 2003; Fairon-Demaret 1979; Kräusel & Weyland 1930, 1935
Pa	Rhyniopsida	<i>Taeniocrada</i>	<i>dubia</i>	Avalonia	Belgium	Bois d'Ausse	Stockmans 1940; PBDB 22860
Pa	Rhyniopsida	<i>Taeniocrada</i>	<i>longisporangiata</i>	Avalonia	Germany	Augustenthal(?); Wahnbach	Schweitzer 1980
Pa	Rhyniopsida	<i>Taeniocrada</i>	sp.	Avalonia	Germany	Rurberg-Schichten	Stets & Schäfer 2009
Pa	Rhyniopsida	<i>Taeniocrada</i>	sp.	Avalonia	Belgium	Acoz	Schweitzer 1987; Schultka 2003
Pa	incertae sedis	<i>Sartilmania</i>	<i>jabachensis</i>	Avalonia	Germany	Wahnbach	Kräusel & Weyland 1935; Hao & Xue 2013
Pa	incertae sedis	<i>Aphyllopteris</i>	<i>robusta</i>	Avalonia	Belgium	Bois d'Ausse	Stockman 1940; PBDB 22860
Eup	Psilophyopsida	<i>Dawsonites</i>	<i>arcuatus</i>	Avalonia	UK	Senni	Croft & Lang 1942; Chaloner et al. 1978
Eup	Psilophyopsida	<i>Dawsonites</i>	<i>arcuatus</i>	Avalonia	Belgium	Bois d'Ausse	Stockmans 1940; Gerrienne 1990; PBDB 22860, 10592
Eup	Psilophyopsida	<i>Dawsonites</i>	<i>magnus</i>	Avalonia	Belgium	Acoz	Gerrienne 1992b
Eup	Psilophyopsida	<i>Hostinella</i>	<i>racheneuri</i>	Avalonia	Belgium	Bois d'Ausse	Stockman 1940
Eup	<u>Psilophyopsida</u>	<i>Hostinella</i>	<i>wahnbachensis</i>	Avalonia	Germany	Wahnbach or Kürrenberg Sandstone	Kräusel & Weyland 1935
Eup	Psilophyopsida	<i>Hostinella</i>	spp.	Baltica	Norway	Wood Bay Series	Høeg 1942
Eup	Psilophyopsida	<i>Hostinella</i>	<i>heardii</i>	Avalonia	UK	Senni	Edwards 1980
Eup	Psilophyopsida	<i>Hostinella</i>	<i>strictissima</i>	Baltica	Norway	Wood Bay Series	Høeg 1942
Eup	Psilophyopsida	<i>Platyphyllum</i>	<i>fissipartitum</i>	Avalonia	Germany	Wahnbach or Kürrenberg Sandstone	Schweitzer 1987; Stets & Schäfer 2009
Eup	Psilophyopsida	(= <i>Flabellofolium</i> ?)	<i>Psilophyton</i>	<i>dapsile</i>	Avalonia	Rurberg Schichten	Schultka 2003

Eup	Psilophytopsida	cf. <i>Psilophyton</i>	<i>princeps</i>	Avalonia	UK	Senni	Edwards et al. 1989
Eup	Psilophytopsida	<i>Psilophyton</i>	sp.	Baltica	Norway	Wood Bay	Høeg 1942
Eup	Psilophytopsida	<i>Psilophyton</i>	sp.	Avalonia	France	Chalonnes	Strullu-Derrien et al 2010
Eup	Psilophytopsida?	<i>Thursophyton</i>	<i>vahlbergianum</i>	Avalonia	Germany	?	Kräusel & Weyland 1930; Schweitzer 1980
Eup	Psilophytopsida?	<i>Armoricaphyton</i>	<i>chateupannense</i>	Avalonia	France	Chalonnes	Strullu-Derrien et al. 2014; Gerrienne & Gensel 2016
Eup	Zosterophyllopsida	<i>Barinophyton</i>	sp.	Baltica	Norway	Wood Bay	Høeg 1942
Ly-1	Zosterophyllopsida	<i>Barinophyton</i> ( <i>Pectinophyton</i> )	<i>norvegicum</i>	Baltica	Norway	Wood Bay Series	Høeg 1935, 1942
Ly-1	Zosterophyllopsida	<i>Bathurstia</i> (?)	sp.	N. Laurentia	Canada (NU)	Bathurst Island	Hueber 1972a; Kotyk 1998; Kotyk & Basinger 2000
Ly-1	Zosterophyllopsida	<i>Deheubarthia</i>	<i>splendens</i>	Avalonia	UK	Mill Bay; Senni	Croft & Lang 1942; Edwards et al. 1989
Ly-1	Zosterophyllopsida	<i>Distichophytum</i>	<i>mucronatum</i>	Baltica	Norway	Wood Bay Series	Høeg 1942
Ly-1	Zosterophyllopsida	<i>Distichophytum</i>	sp.	N. Laurentia	Canada (NU)	Bathurst Island	Kotyk 1998; Kotyk et al. 2002
Ly-1	Zosterophyllopsida	<i>Gosslingia</i>	<i>breconensis</i>	Avalonia	UK	Mill Bay; Senni	Croft & Lang 1942; Kenrick & Edwards 1988; Edwards & Richardson 2004; Wellman et al. 1998
Ly-1	Zosterophyllopsida	<i>Gosslingia</i>	<i>breconensis</i>	Avalonia	Belgium	Bois d'Ausse	Gerrienne 1990, 1993
Ly-1	Zosterophyllopsida	<i>Gosslingia</i>	<i>cordiformis</i>	Avalonia	Germany	Rauhflaser Group	Schweitzer 1979
Ly-1	Zosterophyllopsida	<i>Hicklingia</i>	sp.	Avalonia	Germany	Wahnbach	Schweitzer 1987; Hao & Xue 2013
Ly-1	Zosterophyllopsida	<i>Krithodeophyton</i>	<i>croftii</i>	Avalonia	UK	Senni	Edwards 1968
Ly-1	Zosterophyllopsida	<i>Nothia</i>	<i>aphylla</i>	Avalonia	UK	Rhynie Chert (Dryden Flags)	Kidstone & Lang 1917, Kerp et al. 2001; Kenrick & Strullu-Derrien; 2014
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> (= <i>Ensivalia</i> )	<i>deblondii</i>	Avalonia	Belgium	Acoz	Gerrienne 1990; PBDB 10592
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>ornata</i>	N. Laurentia	Canada (NU)	Bathurst Island; Stuart Bay	Hueber 1972a; Gensel & Berry 2016
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>ornata</i>	Avalonia	Germany	Wahnbach	Schweitzer 1979
Ly-1	Zosterophyllopsida	<i>Tarella</i>	<i>trowenii</i>	Avalonia	UK	Senni	Edward & Kenrick 1986
Ly-1	Zosterophyllopsida	<i>Thrinkophyton</i>	<i>formosum</i>	Avalonia	UK	Senni	Kenrick & Edwards 1988
Ly-1	Zosterophyllopsida	<i>Trichopherophyton</i>	<i>teuchansii</i>	Avalonia	UK	Rhynie Chert (Dryden Flags)	Lyon & Edwards 1991
Ly-1	Zosterophyllopsida	<i>Ventarura</i>	<i>lyonii</i>	Avalonia	UK	Rhynie Chert (Dryden Flags)	Powell et al. 1999
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>arcticum</i>	N. Laurentia	Canada (NU)	Bathurst Island	Kotyk 1998
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i> ?	<i>australianum</i>	Avalonia	UK	Senni	Croft & Lang 1942

Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>deciduum</i>	Avalonia	Germany	Wahnbach	Hao & Xue 2013
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>fertile</i>	Avalonia	UK	Mill Bay, Senni	Edwards & Richardson 2004; Cascales-Miñana & Meyer-Berthaud 2015
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>llanoveranum</i>	Avalonia	UK	Senni	Croft & Lang 1942; Kenrick & Edwards 1988
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>longum</i>	Baltica	Norway	Wood Bay Series	Høeg 1942
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>reflexum</i>	N. Laurentia	Canada (NU)	Bathurst Island	Kotyk 1998
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>rhenanum</i>	Avalonia	Germany	Pflanzenschiefer or Augustenthal(?)	Kräusel & Weyland 1935; Schweitzer 1979; Stets & Schafer 2009
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>newspeciesb</i>	N. Laurentia	Canada (NU)	Bathurst Island, Stuart Bay	Kotyk 1998
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	sp.	Avalonia	UK	Mill Bay, Senni	Kenrick & Edwards 1988; Edwards & Richardson 2004
Ly-1	Drepanophycales	<i>Asteroxylon</i>	<i>mackiei</i>	Avalonia	UK	Rhynie Chert or Windyfield Chert (Dryden Flags)	Kerp et al. 2013; Kidston & Lang 1920; Kidstone & Lang 1917
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>gaspianus</i>	N. Laurentia	Canada (NU)	Bathurst Island beds	Grierson & Hueber 1967; Gensel et al. 2001; Gensel & Kasper 2005
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	N. Laurentia	Canada (NU)	Bathurst Island	Li et al. 2000; Gensel et al. 2001; Gensel & Kasper 2005;
P-M	Equisetophyta	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Belgium	Bios d'Ausse	Stockmans 1940; Gerrienne 1993
P-M	Equisetophyta	<i>Estinnophyton</i>	<i>wahnbachense</i>	Avalonia	Germany	Wahnbach; Pflanzenschiefer(?)	Fairon-Demaret 1979; Stets & Schafer 2009
P-M	Equisetophyta	<i>Estinnophyton</i>	<i>wahnbachense</i>	Avalonia	Germany	Odenspiel	Fairon-Demaret 1979

**DEVONIAN 3: early Emsian (Early Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Rhyniopsida	<i>Huvenia</i>	<i>elongata</i>	Avalonia	Germany	Nellenkopfchen	Schultka 1991
Pa	Rhyniopsida	<i>Huvenia</i>	<i>elongata</i>	Avalonia	Germany	Klerf	Poschmann & Gossmann 2013
Pa	Rhyniopsida	<i>Stockmansella</i> ( <i>Taenioocrada</i> )	<i>langii</i>	Avalonia	Belgium	Wépion	Stockmans 1940; PBDB 23523
Pa	Rhyniopsida	<i>Stockmansella</i> ( <i>Taenioocrada</i> )	<i>langii</i>	Avalonia	Germany	Odenspiel Beds	Schweitzer 1979; Barrett 2016
Pa	Rhyniopsida	<i>Stockmansella</i> ( <i>Taenioocrada</i> )	<i>langii?</i>	Avalonia	Luxembourg	Schuttbourg	Delsate et al. 2003
Pa	Rhyniopsida	<i>Stockmansella</i> ( <i>Taenioocrada</i> )	<i>dubia</i>	Avalonia	Belgium	Wépion	Stockmans 1940; PBDB 23536
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>dubia</i>	E. Laurentia	Canada (NB)	Battery Point	Hotton et al. 2001; Gensel et al. 2001; Gerrienne & Gómez 2011; Cascales-Miñana & Meyer-Berthaud 2015
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>decheniana</i>	Avalonia	France	Gres de Matrighem-Vinchy	Danzé-Corsin 1955; PBDB 28207
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>decheniana</i>	Avalonia	Germany	Odenspiel	Schweitzer 1987, Stets & Schafer 2009
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>longisporangiata</i>	Avalonia	Germany	Nellenkopfchen	Poschmann et al. 2012; Poschmann & Gossmann 2013
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>longisporangiata</i>	Avalonia	Germany	Klerf	Poschmann & Gossmann 2013
Pa	Rhyniopsida	<i>Taenioocrada</i>	sp.	Avalonia	Belgium	Wépion	Stockmans 1940
Pa	Incertae sedis	<i>Aphyllopteris</i>	<i>robusta</i>	Avalonia	France	Gres de Matrighem-Vinchy	Danzé-Corsin 1955; PBDB 28238
Pa	Incertae sedis	<i>Aphylloperis</i>	sp.	Baltica	Norway	Lerbekk	PBDB 21190
Eup	Psilophytopsida	<i>Dawsonites</i>	<i>arcuatus</i>	Avalonia	Belgium	Wépion	PBDB 23559, 23562, 24038
Eup	Psilophytopsida	<i>Dawsonites</i>	<i>arcuatus</i>	Baltica	Norway	Lerbekk	Halle 1916; Schweitzer & Heumann 1993
Eup	Psilophytopsida	<i>Dawsonites</i>	<i>arcuatus</i>	Avalonia	France	Gres de Matrighem-Vinchy	Danzé-Corsin 1955; PBDB 28207
Eup	Psilophytopsida	<i>Dawsonites</i>	cf. <i>arcuatus</i>	Avalonia	France	Gres de Matrighem-Vinchy	Danzé-Corsin 1955; PBDB 28038
Eup	Psilophytopsida	<i>Hostinella</i>	<i>hyrcynica</i> (= <i>hercynica</i> ?)	Avalonia	Germany	Kahleberg Sandstone	Mägdefrau 1938
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>arcticum</i>	Baltica	Norway	Lerbekk	Halle 1916
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>arcuatum</i>	Avalonia	Germany	Nellenkopfchen	Schaarschmidt 1974; PBDB 27129
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>arcuatum</i>	Avalonia	Germany	Bensberg	Schweitzer 1980
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>arcuatum</i>	Avalonia	Germany	Külbach Beds	Schweitzer 1980

Eup	Psilophytsida	<i>Psilophyton</i>	<i>arcuatum</i>	Avalonia	Germany	Klerf	Poschmann & Franke 2006
Eup	Psilophytsida	<i>Psilophyton</i>	<i>burnotense</i>	Avalonia	Belgium	Wépion	Stockmans 1940; Gerrienne, 1983
Eup	Psilophytsida	<i>Psilophyton</i>	<i>crenulatum</i>	Avalonia	Belgium	Wépion	Gerrienne 1983; PBDB 24038
Eup	Psilophytsida	<i>Psilophyton</i>	<i>forbesii</i>	Avalonia	Belgium	Wépion	Gerrienne 1983; PBDB 24038
Eup	Psilophytsida	<i>Psilophyton</i>	<i>forbesii</i>	Baltica	Norway	Lerbekk	Schweitzer & Heumann 1993
Eup	Psilophytsida	<i>Psilophyton</i>	<i>genseliae</i>	Avalonia	Belgium	Wépion	Gerrienne 1983
Eup	Psilophytsida	<i>Psilophyton</i>	<i>goldschmidtii</i>	Avalonia	Belgium	Wépion	PBDB 23200, 23523, 23536, 23562, 23564, 23565
Eup	Psilophytsida	( <i>Margophyton</i> ?)	<i>Psilophyton</i>	<i>goldschmidtii</i>	Avalonia	France	Grès de Matringhem-Vinchy
Eup	Psilophytsida	( <i>Margophyton</i> ?)	<i>Psilophyton</i>	<i>goldschmidtii</i>	Avalonia	France	Sainte-Anne
Eup	Psilophytsida	( <i>Margophyton</i> ?)	<i>Psilophytites</i>	sp.	Avalonia	Luxembourg	Ducassou et al. 2009
Eup	Psilophytsida					Schutzbourg	Delsate et al. 2003
Eup	Psilophytsida		<i>Psilophyton</i>	sp.	Avalonia	Quartzophyllade E1b	Filipiak 2011; Filipiak & Zatoń 2010
Eup	Psilophytsida		<i>Psilophyton</i>	sp.	Avalonia	Poland	Winna Formation(?)
Eup	Psilophytsida				France	Grès de Matringhem-Vinchy	Danzé-Corsin 1955
Eup	Psilophytsida						Schweitzer 2000
Eup	Psilophytsida						Schweitzer 2000
Ly-1	stem Zosterophyllo.	<i>Tursuidea</i>	<i>paniculata</i>	Avalonia	Germany	Külbach Beds	Schweitzer 1980
Ly-1	stem Zosterophyllo.	<i>Renalia</i>	<i>graberti</i>	Avalonia	Germany	Bensberg	Schweitzer 1987
Ly-1	stem Zosterophyllo.	<i>Renalia</i>	<i>major</i>	Avalonia	Germany	Battery Point	Gensel 1976; Gensel et al. 2013
Ly-1	stem Zosterophyllo.	<i>Renalia</i>	<i>hueberi</i>	E. Laurentia	Canada (QC)	Wépion	Stockmans 1940; PBDB 23559
Ly-1	Zosterophyllopsida	<i>Anisophyton</i>	<i>gothani</i>	Avalonia	Belgium	Külbach Beds	Remy et al. 1986a
Ly-1	Zosterophyllopsida	<i>Anisophyton</i>	<i>potoniei</i>	Avalonia	Germany	Lower Battery Point.	Banks & Davis 1969
Ly-1	Zosterophyllopsida	<i>Crenaticaulis</i>	<i>verruculosus</i>	N. Laurentia	Canada (QC)	Wépion	Gerrienne 1998
Ly-1	Zosterophyllopsida	<i>Deuterophyton</i>	<i>stockmansii</i>	Avalonia	Belgium	Wépion	Gerrienne 1983; PBDB 24038
Ly-1	Zosterophyllopsida	<i>Faironella</i>	<i>valentula</i>	Avalonia	Belgium	Wépion	Gerrienne 1991
Ly-1	Zosterophyllopsida	<i>Gosferia</i>	<i>curvata</i>	Avalonia	Belgium	Wépion	Gerrienne 1983; PBDB 24038
Ly-1	Zosterophyllopsida	<i>Krithodeophyton</i>	sp.	Avalonia	Belgium	Wépion	Gerrienne 1996b
Ly-1	Zosterophyllopsida	<i>Odonax</i>	<i>borealis</i>	Avalonia	Belgium	Külbach; Stadtfeld	Mägdefrau 1938; Schweitzer 1979
Ly-1	Zosterophyllopsida	<i>Rebuchia</i> or <i>Distichophyllum</i>	<i>mucronata</i>	Avalonia	Germany	Wépion	Gerrienne 1993; Kotyk 2002
Ly-1	Zosterophyllopsida	<i>Rebuchia</i> or <i>Distichophyllum</i>	<i>pendula</i>	Avalonia	Belgium		Schweitzer 2000
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>ornata</i>	Avalonia	Germany	Klerf	Schweitzer & Heumann 1993
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>ornata</i>	Baltica	Norway	Lerbekk	Filipiak 2011; Filipiak & Zatoń, 2010
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>ornata</i>	Avalonia	Poland	Winna(?)	Gerrienne 1996b
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> (?)	<i>ornata</i>	Avalonia	Belgium	Wépion	Schweitzer 1983, 2000; Wehrmann et al. 2005; Poschmann & Franke 2006
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>spinosissima</i>	Avalonia	Germany	Klerf	Schweitzer 1983, 1987;
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>spinosissima</i>	Avalonia	Germany	Nellenkopfchen	

						Wehrmann et al. 2005
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>artesianum</i>	Avalonia	France	Grès de Matringhem-Vinchy
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>deciduum</i>	Avalonia	Belgium	Danzé-Corsin 1955; PBDB 28207, 28038
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>fertile</i>	Avalonia	Belgium	Wépion
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>myretonianum</i>	Baltica	Norway	Wépion
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>rhenanum</i>	Avalonia	Germany	Lerbekk
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>spectabile</i>	Avalonia	Germany	Stadtfeld
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	sp.	Avalonia	Belgium	Bensberg
Ly-1	Zosterophyllopsida?	<i>Yarravia</i>	<i>minor</i>	Avalonia	France	Wépion
						Gerienne 1996b
						PBDB 28038, 28207
Ly-1	Zosterophyllopsida	<i>Danziella</i>	<i>artesiana</i>	Avalonia	France	Grès de Matringhem-Vinchy
						Danzé-Corsin 1955; Edwards 2006;
						Cascales-Miñana & Meyer-Berthaud 2015
Ly-2	Drepanophycales	<i>Drepanophycus?</i>	<i>crepini</i>	Avalonia	France	Grès de Matringhem-Vinchy (Sandstone)
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>gaspianus</i>	Avalonia	Belgium	Danzé-Corsin 1955; Edwards 2006
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>opitzii</i>	Avalonia	Germany	Wépion
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Belgium	Hunsrück Slate
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Belgium	Wépion
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Belgium	Acoz
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Luxembourg	Schuttbourg
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	France	Gres de Matringhem-Vinchy (Sandstone)
Ly-2	Drepanophycales	<i>Drepanophycus</i> (= <i>Drepanophycus</i> )	<i>spinaeformis</i>	Avalonia	Poland	Winna
P-M	Cladoxylopsida	<i>Foozia</i>	<i>minuta</i>	Avalonia	Belgium	Wépion
P-M	Cladoxylopsida	<i>Calamophyton</i>	sp.	Avalonia	France	Grès de Matringhem-Vinchy (Sandstone)
						Gerienne 1992b
						Danzé-Corsin 1955; PBDB 28238

## DEVONIAN 4: Late Emsian (Early Devonian)

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Rhyniopsida	<i>Eddianna</i>	<i>gaspiana</i>	E. Laurentia	Canada (QC)	Battery Point	Pfeiler & Tomescu 2018
Pa	Rhyniopsida	<i>Eogaspesiea</i>	<i>gracilis</i>	E. Laurentia	Canada (QC)	Battery Point	Hotton et al. 2001
Pa	Rhyniopsida	<i>Huvenia</i>	sp.	E. Laurentia	Canada (QC)	Battery Point	Pfeiler & Tomescu 2018
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>decheniana</i>	E. Laurentia	Canada (NL)	Billiards Brook	Chorlton & Dallmeyer 1986; Quinn et al. 2004
Pa	Rhyniopsida	<i>Taenioocrada</i>	cf. <i>decheniana</i>	Avalonia	USA (ME)	Fish River Lake	Dorf & Rankin 1962; Andrews et al. 1977; Allen & Castaldo 2006
Pa	Rhyniopsida	<i>Taenioocrada</i>	<i>dubia</i>	E. Laurentia	Canada (NB)	Campbellton	Gensel et al. 1975; Kennedy et al. 2012; Cascales-Miñana & Meyer-Berthaud 2015
Pa	Incertae sedis	<i>Aphylloperis</i>	sp.	Avalonia	Belgium	Burnote	Gerrienne 1993
Pa	Incertae sedis	<i>Sartilmania</i>	<i>jabachensis</i>	Avalonia	Belgium	?	Fairon-Demaret 1986
Eup	Psilophytopsida	? <i>Dawsonites</i>	<i>arcuatus</i>	Avalonia	USA (ME)	Fish River Lake	Kasper & Forbes 1979
Eup	<u>Psilophytopsida</u>	<i>Dawsonites</i>	<i>arcuatus</i>	Avalonia	Luxembourg	Schuttbourge	Delsate et al. 2003
Eup	Psilophytopsida?	<i>Franhueberia</i>	<i>gerriennei</i>	E. Laurentia	Canada (QC)	Battery Point	Hoffman & Tomescu 2013
Eup	Psilophytopsida	<i>Pertica</i>	<i>dalhousii</i>	Avalonia	Canada (NB)	Campbellton	Doran et al. 1978; Gensel & Kasper 2005
Eup	Psilophytopsida	<i>Pertica</i>	<i>quadrifaria</i>	Avalonia	USA (ME)	Trout Valley	Kasper & Andrews 1972; Andrews et al. 1977
Eup	Psilophytopsida	<i>Pertica</i>	<i>varia</i>	E. Laurentia	Canada (QC)	Battery Point	Granoff et al. 1976; Hotton et al. 2001
Eup	<u>Psilophytopsida</u>	<i>Pertica</i>	sp.	E. Laurentia	Canada (QC)	Battery Point	Granoff et al. 1976; Hotton et al. 2001
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>burnotense</i>	Avalonia	Belgium	Burnot	Stockmans 1940; PBDB 23202
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>charientos</i>	Avalonia	Canada (NB)	Campbellton	Gensel 1979
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>conicum</i>	Avalonia	Canada (NB)	Campbellton	Gensel & Kasper 2005
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>crenulatum</i>	Avalonia	Canada (NB)	Campbellton	Doran 1980
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>dapsile</i>	Avalonia	USA (ME)	Trout Valley	Kasper & Andrews 1972; Kasper et al. 1974
Eup	Psilophytopsida	cf. <i>Psilophyton</i>	<i>dapsile</i>	Avalonia	USA (ME)	Fish River Lake	Boone 1970; Kasper & Forbes 1983; Kasper et al. 1988
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>dawsonii</i>	E. Laurentia	Canada (QC)	Battery Point	Gensel 1979; Hartman & Banks 1980; Hotton et al. 2001
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>elegans</i>	Avalonia	Canada (NB)	Campbellton	Dawson 1862
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>forbesii</i>	Avalonia	USA (ME)	Trout Valley	Andrews et al. 1968; Gensel 1979; Hotton et al. 2001

Eup	Psilophyopsida	<i>Psilophyton</i> goldschmidtii ( <i>Margophyton</i> ?)		Avalonia	Belgium	Burnot	Stockmans 1940; PBDB 23569
Eup	Psilophyopsida	<i>Psilophyton</i> microspinosum		Avalonia	USA (ME)	Trout Valley	Kasper et al. 1974
Eup	Psilophyopsida	<i>Psilophyton</i> princeps		E. Laurentia	Canada (QC)	Battery Point	Hueber & Banks 1967; Gensel & Kasper 2005
Eup	Psilophyopsida	<i>Psilophyton</i> princeps		Avalonia	Canada (NB)	Campbellton	Hueber & Banks 1967; Gensel & Kasper 2005
Eup	Psilophyopsida	<i>Psilophyton</i> szafieri		Avalonia	Poland	Zagórze	Zdebska 1986
Eup	Psilophyopsida	<i>Psilophyton</i> wyomingense		W. Laurentia	USA (ME)	Beartooth Butte	Dorf 1934; Tanner 1984; Caruso & Tomescu 2012
Eup	<u>Psilophyopsida</u>	<i>Psilophyton</i> sp.		Avalonia	Canada (NB)	Campbellton	Gensel 1982a
Eup	<u>Psilophyopsida</u>	<i>Psilophyton</i> sp.		Avalonia	USA (ME)	Trout Valley	Andrews et al. 1977; Allen & Castaldo 2006
Eup	<u>Psilophyopsida</u>	<i>Psilophyton</i> sp.		Baltica	Norway	?	Høeg 1945
Eup	Psilophyopsida?	<i>Thursophyton</i> sp.		Avalonia	USA (ME)	Trout Valley	Andrews et al. 1977
Eup	incertae sedis	<i>Oocampsia</i> catheta		Avalonia	Canada (NB)	Campbellton	Andrews et al. 1975; Wellman & Gensel 2004
Eup	incertae sedis	<i>Chaleuria</i> cirrosa		Avalonia	Canada (NB)	Campbellton	Andrews et al. 1974
Eup	incertae sedis	<i>Gothanophyton</i> zimmermanni		Avalonia	Germany	Wahnbach	Schweitzer 1987; Toledo et al. 2018
Ly-1	stem Zosterophyllo	<i>Renalia</i> hueberi		E. Laurentia	Canada (QC)	Battery Point	Gensel 1976; Hotton 2001; Gensel et al. 2013
Ly-1	Zosterophyllopsida	<i>Anisophyton</i> gothani		Avalonia	Germany	?	Remy et al. 1986b
Ly-1	Zosterophyllopsida	<i>Forania</i> plegiospinosa		Avalonia	Canada (NB)	Campbellton	Jensen & Gensel 2013
Ly-1	Zosterophyllopsida	<i>Konioria</i> andrychoviensis		Avalonia	Poland	Zwoleń	Zdebska 1972
Ly-1	Zosterophyllopsida	<i>Oricilla</i> bilinearis		Avalonia	Canada (NB)	Campbellton	Gensel 1982b
Ly-1	Zosterophyllopsida	<i>Rebuchia</i> (or <i>Distichophyllum</i> ?) ovata		W. Laurentia	USA (ME)	Beartooth Butte	Dorf 1933; 1934; Hueber 1972; Cascales-Miñana & Meyer-Berthaud 2015
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> acanthotheca		Avalonia	Canada (NB)	Campbellton	Gensel et al. 1975; Gensel & Berry 2016
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> ornata		E. Laurentia	Canada (QC)	Battery Point	Hueber 1983; Hotton et al. 2001
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> ornata		Avalonia	UK	Teith Sandstone	Lang 1932; Rayner 1983; Cascales-Miñana & Meyer-Berthaud 2015
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> ornata?		Avalonia	UK	Am Binnein Sandstone	Browne et al. 2002
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> wyomingense		W. Laurentia	USA (ME)	Beartooth Butte	Tanner 1984; PBDB 27176
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i> divaricatum		Avalonia	Canada (NB)	Campbellton	Gensel et al. 2013
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i> sp.		Avalonia	UK	Teith Sandstone	PBDB 10719
Ly-1	Zosterophyllopsida	<i>Sawdonia</i> ornata		Avalonia	USA (ME)	Trout Valley	Andrews et al. 1977
Ly-2	Drepanophycales	<i>Asteroxylon</i> elberfeldense		Baltica	Norway	?	Høeg 1945

Ly-2	Drepanophycales	<i>Baragwanathia</i>	<i>abitibiensis</i>	E. Laurentia	Canada (ON)	Sextant	Hueber 1983
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>gaspianus</i>	Avalonia	USA (ME)	Trout Valley	Dorf & Rankin 1962
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>gaspianus</i>	Avalonia	Belgium	Burnot	Stockmans 1940; PBDB 23200
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>crepini</i>	Avalonia	Belgium	Burnot	Stockmans 1940; PBDB 23200
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Poland	Zwolen	Zdebska 1972; Jakubowska 1968, Turmau et al. 2005
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	Belgium	Burnot	Stockmans 1940; PBDB 23569
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Avalonia	UK	Teith Sandstone	Lang 1932
Ly-2	Drepanophycales	<i>Kaulangiophyton</i>	<i>akantha</i>	Avalonia	USA (ME)	Trout Valley	Gensel et al. 1969
Ly-2	Drepanophycales	<i>Sengelia</i>	<i>devonica</i>	W. Laurentia	USA (ME)	Beartooth Butte	Tanner 1984; Carso et al. 2012; Matsunaga et al. 2017
Ly-2	Drepanophycales	<i>Sugambrophyton</i>	<i>pilgeri</i>	Avalonia	Poland	Zwolen	Zdebska 1972
Ly-2	Lycopsida	<i>Leclercqia</i>	<i>andrewsii</i>	Avalonia	Canada (NB)	Campbellton	Gensel & Kasper 2005; Gensel & Albright 2006
Ly-2	Lycopsida	<i>Leclercqia</i>	<i>andrewsii</i>	Avalonia	USA (ME)	Trout Valley	Gensel & Kasper 2005; Kasper & Forbes 1979
Ly-2	Lycopsida	<i>Leclercqia</i>	<i>complexa</i>	W. Laurentia	USA (ME)	Beartooth Butte	Gensel & Kasper, 2005; Tanner 1984
Ly-2	Lycopsida	<i>Leclercqia</i>	<i>complexa</i>	Avalonia	Canada (NB)	Campbellton	Gierson & Bonamo 1979; Banks et al. 1972; Gensel & Albright 2006
Ly-2	Lycopsida	<i>Leclercqia</i>	<i>complexa</i>	Avalonia	USA (ME)	Trout Valley	Kasper & Forbes 1979
Ly-2	Lycopsida	<i>Leclercqia</i>	sp.	Avalonia	USA (ME)	Trout Valley	Kasper & Forbes 1979
P-M	Cladoxylopsida	<i>Hyenia</i>	<i>vogtii (=ramosa)</i>	Baltica	Norway	?	Høeg 1945
P-M	Equisetophyta	<i>Estinnophyton</i>	<i>gracile</i>	Avalonia	Belgium	Burnot	Fairon-Demaret 1978
P-M	Equisetophyta	<i>Estinnophyton</i>	sp.	Avalonia	Belgium	Burnot	Gerrienne 1993; PBDB 23202
P-M	Equisetophyta	<i>Estinnophyton</i>	<i>gracile</i>	Avalonia	Belgium	Burnote	Fairon-Demaret 1978

**DEVONIAN 5: Eifelian (Middle Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Rhyniopsida	<i>Stockmansella</i>	<i>remyi</i>	Avalonia	Germany	Brandenberg	Schultka & Hass 1997
Eup	Psilophytopsida	<i>Hostinella</i>	<i>globosa</i>	Avalonia	UK	Middle Old Red Sandstone	Lang 1926
Eup	Psilophytopsida	<i>Hostinella</i>	<i>pinnata</i>	Avalonia	UK	Middle Old Red Sandstone	Lang 1926
Eup	Psilophytopsida	<i>Hostinella</i>	<i>racemosa</i>	Avalonia	UK	Old Red Sandstone	Lang 1926
Eup	Psilophytopsida	<i>Platiphyllum</i>	<i>buddei</i>	Avalonia	Germany	?	Høeg 1942
Eup	Psilophytopsida	<i>Platiphyllum</i>	<i>peachii</i>	Avalonia	UK	?	Høeg 1942
Eup	<u>Psilophytopsida</u>	<i>Psilophyton</i>	<i>arcticum</i>	Baltica	Norway	Wijde Bay	Høeg 1942
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>elleneae</i>	Baltica	Norway	lower Devonskardet	Høeg 1935
Eup	Psilophytopsida	<i>Psilophyton</i>	sp.	Avalonia	Spain	?	Montero & Dieguez 2010
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>germanicum</i>	Avalonia	Germany	Brandenberg	Krausel & Weyland 1923; PBDB 32209
Lig	Archaeopteridales	<i>Actinopodium</i>	<i>nathorstii</i>	Baltica	Norway	Wijde Bay	Høeg 1942
Lig	Archaeopteridales	<i>Svalbardia</i>	<i>polymorpha</i>	Baltica	Norway	Wijde Bay	Høeg 1942
Lig	Archaeopteridales	<i>Svalbardia</i>	<i>boyi</i>	Avalonia	Germany	?	Carluccio et al. 1966
Lig	Aneurophytales	<i>Rellimia</i>	<i>thomsonii</i>	Avalonia	Belgium	Pepinster	Leclercq & Bonamo 1971
Ly-1	Zosterophyllopsida	<i>Enigmophyton</i>	<i>superbum</i>	Baltica	Norway	?	Høeg 1942; PBDB 21137
Ly-1	Zosterophyllopsida	<i>Hicklingia</i>	<i>edwardii</i>	Avalonia	UK	Middle Old Red Sandstone	Edwards 1976
Ly-1	Zosterophyllopsida	<i>Hicklingia</i>	<i>erecta</i>	Avalonia	Germany	Brandenberg?	Kräusel & Weyland 1929; Fairon-Demaret & Berry 2000
Ly-2	Drepanophycales	<i>Asteroxylon</i>	<i>elberfeldense</i>	Avalonia	UK	?	PBDB 10721
P-M	Cladoxylopsida	<i>Calamophyton</i>	<i>bicephalum</i>	Avalonia	Germany	Pepinster	Leclercq & Bonamo 1971
P-M	Cladoxylopsida	<i>Calamophyton</i>	<i>primaevum</i>	Avalonia	Germany	Mühlenberg	Giesen & Berry 2013
P-M	Cladoxylopsida	<i>Cladoxylon</i>	<i>scoparium</i>	Avalonia	Germany	Brandenberg	PBDB 32202
P-M	Cladoxylopsida	<i>Duisbergia</i>	<i>mirabilis</i>	Avalonia	Germany	Mühlenberg	Giesen & Berry 2013; Dambreville et al. 2018
P-M	Cladoxylopsida	<i>Hyenia</i>	<i>vogtii</i>	Baltica	Norway	Wijde Bay	Høeg 1942
P-M	Cladoxylopsida	<i>Hyenia</i>	<i>sphenophylloides</i>	Baltica	Norway	Wijde Bay	Høeg 1942
P-M	Rhacophytales	<i>Cephalopteris?</i>	<i>praecox</i>	Baltica	Norway	Wijde Bay	Høeg 1942
P-M	Cladoxylopsida	<i>Pseudosporochnus</i>	<i>nodosus</i>	Avalonia	Belgium	?	Leclercq & Bonamo 1971

## DEVONIAN 6: Givetian (Middle Devonian)

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Cooksonioid	<i>Cooksonia</i>	<i>hemisphaerica</i>	W. Laurentia	USA (AZ)	Martin	Teichert & Schop 1958
		<i>Aphylloperis</i>	sp.	W. Laurentia	USA (AZ)	Martin	Teichert & Schop 1958
Eup	<u>Psilophytopsida</u>	<i>Hostinella</i>	sp.	Avalonia	UK	Kiskatom	PBDB 28554
Eup	Psilophytopsida	<i>Dawsonites</i>	<i>roskiliensis</i>	Avalonia	UK	Observatory Sandstone	Chaloner 1972
Eup	Psilophytopsida	<i>Platyphyllum</i>	<i>fuelingii</i>	Avalonia	Germany	?	Høeg 1942
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>bohemicum</i>	Baltica	Czech	Roblin Schichten	Obrhel 1961
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>grande</i>	Appal. Basin	USA (NY)	Bellvale Sandstone	Penhallow 1893
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>kraeuselii</i>	Baltica	Czech	Roblin Schichten	Obrhel 1961
Eup	<u>Psilophytopsida</u>	<i>Psilophyton</i>	<u><i>kraeuselii</i></u>	Baltica	Czech	Kacak Schichten	Obrhel 1961
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>pubescens</i>	Avalonia	Germany	Honseler Schichten	Kräusel & Weyland 1938; Schweitzer & Matten 1982; PBDB 6544
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>spinosum</i>	Baltica	Czech	Srbsko Schichten	Obrhel 1961; PBDB 23715
Lig	Archaeopteridale?	<i>Brabantophyton</i>	<i>runcariense</i>	Avalonia	Belgium	Bois de Bordeaux	Momont et al. 2016
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>furcatum</i>	Avalonia	Belgium	Fromelennes	Stockmans 1968; Berry 2008
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>bohemicum</i>	Baltica	Czech	Kacak Schichten	Obrhel 1961; PBDB 23727
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>bohemicum</i>	Baltica	Czech	Roblin Schichten	Obrhel 1961; PBDB 23720; 23721; 23726
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>bohemicum</i>	Baltica	Czech	Srbsko-Schichten	Obrhel 1961; PBDB 27159
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>bohemicum</i>	Avalonia	Germany	Honseler Schichten	Kräusel & Weyland 1930
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>erianum</i>	Appal. Basin	USA (NY)	Moscow	Matten 1974; Jiang et al. 2013
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>furcatum</i>	Avalonia	Belgium	Fromelennes	Stockmans 1968; Berry 2008
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>germanicum</i>	Baltica	Czech	Kacak Schichten	Obhrel 1961; PBDB 23743
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>germanicum</i>	Avalonia	Germany	Honseler Schichten	Scott 1926; Krausel & Weyland, 1923
Lig	Aneurophytales	<i>Aneurophyton</i>	sp.	N. Appal. Basin	USA (NY)	Bellvale Sandstone	Arnold 1941
Lig	Aneurophytales	<i>Aneurophyton</i>	sp.	N. Appal. Basin	USA (NY)	Moscow	PBDB 28414, 28424
Lig	Aneurophytales	<i>Cairoa</i>	<i>lamanekeii</i>	N. Appal. Basin	USA (NY)	Plattekill	Matten 1973
Lig	Aneurophytales	<i>Reimannia</i>	<i>aldenense</i>	N. Appal. Basin	USA (NY)	Ludlowville	Arnold 1935
Lig	Aneurophytales	<i>Reimannia</i>	<i>aldenense</i>	N. Appal. Basin	USA (NY)	Plattekill	Matten 1973
Lig	Aneurophytales	<i>Rellimia</i>	<i>thomsonii</i>	Avalonia	Belgium	?	Lessuisse & Fairon-Demaret 1980; PBDB 23745
Lig	Aneurophytales	<i>Rellimia</i>	<i>hostimense</i>	Baltica	Czech	Srbsko Schichten	Obrhel 1961
Lig	Aneurophytales	<i>Rellimia</i>	<i>hostimense</i>	Baltica	Czech	Roblin Schichten	Obrhel 1961
Lig	Aneurophytales	<i>Rellimia</i>	<i>hostimense</i>	Baltica	Czech	Kacak Schichten	Obrhel 1961
Lig	Aneurophytales	<i>Rellimia</i>	<i>thomsonii</i>	Avalonia	Germany	Honseler Schichten	Schweitzer & Matten, 1982; Gerrienne et al. 2010; PBDB 6544
Lig	Aneurophytales	<i>Rellimia</i>	<i>thomsonii</i>	Avalonia	UK	Middle Old Red Mountain	Dawson 1871
Lig	Aneurophytales	<i>Rellimia</i>	<i>thomsonii</i>	N. Appal. Basin	USA (NY)	Panther Mountain	Bonamo 1977
Lig	Aneurophytales	<i>Triloboxylon</i>	<i>hallii</i>	N. Appal. Basin	USA (NY)	Ludlowville	Arnold 1935; Scheckler & Banks 1971
Lig	Archaeopteridales	<i>Actinopodium</i>	<i>banksii</i>	N. Appal. Basin	USA (NY)	Kiskatom	Matten 1968

Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>obtusa</i>	Appal. Basin	USA (NY)	Bellvale Sandstone	Arnold 1941
Lig	Archaeopteridales	<i>Callixylon</i>	<i>trifilievi</i> (= <i>C. velinense</i> )	Avalonia	Belgium	Bois de Bordeaux	Orlova & Jurina 2011; Tanrattana et al. 2019
Lig	Archaeopteridales	<i>Callixylon</i>	<i>trifilievi</i>	Avalonia	Belgium	Bois de Bordeaux	Cornet et al. 2012; Tanrattana et al. 2019;
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Avalonia	Belgium	Bois de Bordeaux	Cornet et al. 2012
Lig	Archaeopteridales	<i>Svalbardia</i>	<i>avelinesiana</i>	Avalonia	Belgium	Bois de Bordeaux	Stockmans 1968; Berry 2008
Lig	Archaeopteridales	<i>Svalbardia</i>	<i>scotica</i>	Avalonia	UK	Old Red Sandstone	Chaloner 1972; Allen & Marshall 1986
Lig	Spermatophyta	<i>Ginkgophytopsis</i>	<i>gilkineti</i>	Baltica	Belgium	?	Høeg 1942
Lig	Spermatophyta	<i>Ginkgophytopsis</i>	sp.	W. Laurentia	USA (AZ)	Martin	Teichert & Schop 1958
Lig	Spermatophytes?	<i>Runcaria</i>	<i>heinzelinii</i>	Avalonia	Belgium	Bois de Bordeaux	Stockmans 1968; PBDB 32216
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>brabntiaca</i>	Avalonia	Belgium	Bois de Bordeaux	Stockmans 1968; PBDB 32216
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>brabantica</i>	Avalonia	Belgium	Fromelennes?	Berry 2008, Stockmans 1968
Ly-1	Zosterophyllopsida	<i>Serrulacaulis</i>	<i>furcatus</i>	Avalonia	Belgium	?	Lessuisse & Fairon-Demaret 1980; PBDB 23745
Ly-1	Zosterophyllopsida	<i>Serrulacaulis</i>	<i>furcatus</i>	Avalonia	Belgium	Bois de Bordeaux	Stockmans 1968; Berry 2008
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>bohemicum</i>	Baltica	Czech	Kacak Schichten	Obrhel 1961; PBDB 23735, 23743
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	<i>bohemicum</i>	Baltica	Czech	Srbsko-Schichten	Obrhel 1961; PBDB 27157
Ly-1	Zosterophyllopsida	<i>Zosterophyllum</i>	sp.	Baltica	Czech	Srbsko-Schichten	Obrhel 1961; PBDB 27157
Ly-1	Zosterophyllopsida	<i>Eocladoxylon</i>	<i>thomsoni</i>	Avalonia	Belgium	Fromelennes?	Berry 2008; Stockmans 1968
Ly-1	Zosterophyllopsida	( <i>Protopteridium</i> )	<i>Eocladoxylon</i>	thomsoni	Avalonia	Belgium	Bois de Bordeaux
Ly-1	Zosterophyllopsida	( <i>Protopteridium</i> )	<i>Eocladoxylon</i>	thomsoni	Avalonia	Belgium	Stockmans 1968; PBDB 32215
Ly-2	Lycopsida	<i>Actinoxylon</i>	<i>banksii</i>	Appal. Basin	USA (NY)	Kiskatom - Hamilton Group	Matten 1968
Ly-2	Drepanophycales	<i>Asteroxylon</i>	<i>elberfeldense</i>	Avalonia	Germany	Honseler Schichten	Scott 1926
Ly-2	Lycopsida	<i>Clwydia</i>	<i>vanuxemi</i>	Appal. Basin	USA (NY)	Tully Limestone	Grierson & Banks 1963; Berry & Edwards 1997
Ly-2	Lycopsida	<i>Colpodexylon</i>	<i>trifurcatum</i>	Appal. Basin	USA (NY)	Bellvale Sandstone	Banks 1944; Grierson & Banks, 1963
Ly-2	Lycopsida	<i>Colpodexylon</i>	<i>deatsii</i>	Appal. Basin	USA (NY)	Bellvale Sandstone	Banks 1944
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>colophyllus</i>	Appal. Basin	USA (NY)	Kiskatom	Gierson & Banks 1983
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>crepini</i>	Avalonia	Belgium	Bois de Bordeaux	Stockmans 1968; Schweitzer, 1972
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Appal. Basin	USA (NY)	Kiskatom	Stubblefield & Banks 1978
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Appal. Basin	USA (NY)	Panther Mountain	Stubblefield & Banks 1978
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinosuss</i>	Baltica	Czech	Roblin Schichten	Obhrel 1961
Ly-2	Lycopsida	<i>Clwydia</i>	<i>conferta</i>	Appal. Basin	USA (NY)	Moscow	Grierson & Banks 1963
Ly-2	Lycopsida	<i>Clwydia</i>	<i>vanuxemi</i>	Appal. Basin	USA (NY)	Moscow	Grierson & Banks 1963
Ly-2	Lycopsida	<i>Clwydia</i>	<i>vanuxemi</i>	Appal. Basin	USA (NY)	Ludlowville	Grierson & Banks 1963
Ly-2	Lycopsida	<i>Gilboaphyton</i>	<i>griersonii</i>	Appal. Basin	USA (NY)	Upper Hamilton Group	Berry & Edwards 1997
Ly-2	Lycopsida	<i>Gilboaphyton</i>	<i>oldringiae</i>	Appal. Basin	USA (NY)	Moscow	Berry & Edwards 1997

Ly-2	Lycopsida		<i>Leclercqia</i>	<i>complexa</i>	Appal. Basin	USA (NY)	Panther Mountain	Grierson & Bonamo 1979; Banks et al. 1972
Ly-2	Lycopsida		<i>Leclercqia</i>	<i>scolopendra</i>	W. Laurentia	USA (WA)	?	Benca et al. 2014
Ly-2	Lycopsida		<i>Protolepidodendron</i>	<i>gilboense</i>	Appal. Basin	USA (NY)	Moscow	Grierson & Banks 1963
Ly-2	Lycopsida		<i>Protolepidodendron</i>	<i>primaevum</i>	Appal. Basin	USA (VA)	Romney	Berry 1933
Ly-2	Lycopsida		<i>Protolepidodendron</i>	<i>scharianum</i>	Baltica	Czech	Srbsko Schichten	Obhrel 1961; Jurina 2009
Ly-2	Lycopsida		<i>Protolepidodendron</i>	<i>scharianum</i>	Baltica	Czech	Roblin Schichten	Obhrel 1961; Jurina 2009
Ly-2	Lycopsida		<i>Protolepidodendron</i>	<i>scharianum</i>	Appal. Basin	USA (NY)	Moscow	Grierson & Banks 1963
P-M	Cladoxylopsida		<i>Arachnoxylon</i>	<i>kopfii</i>	Appal. Basin	USA (NY)	Tully Pyrite	Read 1938
P-M	Cladoxylopsida		<i>Cladoxylon</i>	<i>scoparium</i>	Avalonia	Germany	Honseler Schichten; Brandenberg	Scott 1926
P-M	Cladoxylopsida		<i>Cladoxylon</i>	<i>hueberi</i>	Appal. Basin	USA (NY)	Kiskatom	Matten 1974
P-M	Cladoxylopsida		<i>(Pseudosporochnus)</i>	<i>Eospermatopteris</i>	Appal. Basin	USA (NY)	Moscow	Boyer 1995
P-M	Cladoxylopsida			<i>erianus</i>	Appal. Basin	USA (NY)	Kiskatom	Stein 1982
P-M	Cladoxylopsida		<i>Eospermatopteris</i>	<i>sp.</i>	Appal. Basin	USA (NY)	Bellvale Sandstone	Arnold 1941
P-M	Cladoxylopsida			<i>Hyenia</i>	Appal. Basin	USA (NY)	Bois de Bordeaux	Stockmans 1968; PBDB 32215
P-M	Cladoxylopsida		<i>Hyenia</i>	<i>elegans</i>	Avalonia	Belgium	Honseler Schichten	Fairon-Demaret & Berry 2000
P-M	Cladoxylopsida			<i>elegans</i>	Avalonia	Germany	Pepinster	Fairon-Demaret & Li 1993
P-M	Cladoxylopsida		<i>Lorophyton</i>	<i>goense</i>	Avalonia	Belgium	Roblin Schichten	PBDB 23716, 27159
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>chlupaci</i>	Baltica	Czech	Kacak Schichten	PBDB 23737
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>chlupaci</i>	Baltica	Czech	Srbsko-Schichten	PBDB 23743
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>chlupaci</i>	Baltica	Czech	Fromelennes	PBDB 32214
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>krejci</i>	Avalonia	Belgium	Bois de Bordeaux	PBDB 32216
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>krejci</i>	Avalonia	Belgium	Bois de Bordeaux	PBDB 32216
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>nodosus</i>	Avalonia	Belgium	Roblin Schichten	PBDB 23720, 23721
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>verticillatus</i>	Baltica	Czech	Kacak Schichten	PBDB 23727, 23728, 23737, 23739–23743, 27157
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>verticillatus</i>	Baltica	Czech	?	Lessuisse & Fairon-Demaret 1980;
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>sp.</i>	Avalonia	Belgium	Friiesenrath Schichten	PBDB 23746
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>sp.</i>	Avalonia	Germany	Kiskatom	Matten 1974
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>sp.</i>	Appal. Basin	USA (NY)	Ashokan	PBDB 31025
P-M	Cladoxylopsida		<i>Pseudosporochnus</i>	<i>sp.</i>	Appal. Basin	USA (NY)	Fromelennes	Stockmans 1968; Berry 2008
P-M	Cladoxylopsida		<i>Wattieza</i>	<i>givetiana</i>	Avalonia	Belgium	Tully Pyrite	Arnold 1940, 1952
P-M	Cladoxylopsida		<i>Xenocladia</i>	<i>medullosina</i>	Appal. Basin	USA (NY)	Ludlowville	Stein 1982
P-M	Cladoxylopsida		<i>Xenocladia</i>	<i>medullosina</i>	Appal. Basin	USA (NY)	Bois de Bordeaux	Stockmans 1968; PBDB 32216
P-M	Cladoxylopsida		<i>Avelinesia</i>	<i>antiqua</i>	Avalonia	Belgium	Ashokan	Bonamo & Banks 1966
P-M	Cladoxylopsida		<i>Calamophyton</i>	<i>bicephalum</i>	Appal. Basin	USA (NY)	Bois de Bordeaux	Stockmans 1968; Berry 2008
P-M	Cladoxylopsida		<i>Calamophyton</i>	<i>primaevum</i>	Avalonia	Belgium	Honseler Schichten	Krausel & Weyland 1941, Scott, 1926; Leclercq 1969; Schweitzer, 1973
P-M	Cladoxylopsida		<i>Calamophyton</i>	<i>primaevum</i>	Avalonia	Germany	?	Leclercq 1940; Leclercq 1942
P-M	Cladoxylopsida		<i>Calamophyton</i>	<i>renieri</i>	Avalonia	Belgium	Ashokan	PBDB 31025
P-M	Cladoxylopsida		<i>Calamophyton</i>	<i>sp.</i>	Avalonia	Belgium		

P-M	Cladoxylopsida	<i>Hyenia elegans</i>	Avalonia	Germany	Honseler Schichten	Fairon-Demaret & Berry 2000
P-M	Cladoxylopsida?	<i>Ibyka amphikoma</i>	Appal. Basin	USA (NY)	Moscow	Skog & Banks 1973
P-M	Rhacophytales	<i>Protolepidodendropsis pulchra</i>	Baltica	Norway	Planteklofta	Berry & Marshall 2015

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**DEVONIAN 7: Early Frasnian (Late Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Incertae sedis	<i>Aphyllopteris</i>	<i>delawarensis</i>	Appal. Basin	USA (NY)	Delaware River Flags	Arnold 1939
Eup	Psilophytopsida	<i>Platyphyllum</i>	<i>pusillum</i>	Avalonia	Norway	Svalbardia Sandstone	Høeg 1942
Eup	Psilophytopsida	<i>Platyphyllum</i>	<i>williamsoni</i>	Avalonia	Norway	Svalbardia Sandstone	Høeg 1942
Eup	Psilophytopsida	<i>Platyphyllum</i>	sp.	Avalonia	Norway	Svalbardia Sandstone	Høeg 1942
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>germanicum</i>	Appal. Basin	USA (NY)	Delaware River Flags	Serlin & Banks 1978
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>rachides</i>	Appal. Basin	USA (NY)	Oneonta	PBDB 28928
Lig	Aneurophytales	<i>Aneurophyton</i>	sp.	Appal. Basin	USA (NY)	Ithaca	PBDB 28957
Lig	Aneurophytales	<i>Triloboxylon</i>	<i>ashlandicum</i>	Appal. Basin	USA (NY)	Oneonta	Matten & Banks 1966; Scheckler 1975a
Lig	Aneurophytales	<i>Triloboxylon</i>	<i>hallii</i>	Appal. Basin	USA (NY)	Ithaca	PBDB 28967
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>halliana</i>	E. Laurentia	Canada (QC)	Escuminac	Gensel & Barnett-Lawrence 1996; Korzhnev 2014
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>halliana</i>	Appal. Basin	USA (NY)	Katsberg	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>hibernica</i>	Appal. Basin	USA (NY)	Katsberg	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Archaeopteris</i>	cf. <i>jacksoni</i>	E. Laurentia	Canada (QC)	Escuminac	Chaloner & Pettitt 1964
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	N. Laurentia	Canada (AB)	Yahatinda	Scheckler 1978
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	Appal. Basin	USA (NY)	Katsberg	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	Appal. Basin	USA (NY)	Oneonta	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	Appal. Basin	USA (NY)	Stony Clove Sandstone	PBDB 28916
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>obtusa</i>	Appal. Basin	USA (NY)	Katsberg	PBDB
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>sphenophyllifolia</i>	Appal. Basin	USA (NY)	Delaware River Flags	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>sphenophyllifolia</i>	Appal. Basin	USA (NY)	Katsberg	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	N. Laurentia	Canada (AB)	Yahatinda	Scheckler 1978
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	E. Laurentia	Canada (QC)	Escuminac	PBDB 24551
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Katsberg	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Oneonta	PBDB 14278, 28179, 28392, 28399, 28917
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Enfield	PBDB 28192, 28388, 28518, 28840, 28841
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Stony Clove Sandstone	PBDB 28917, 28516, 28521, 28532, 28499 29246, 29249
Lig	Archaeopteridales	<i>Callixylon</i>	<i>oweni</i>	Illinois Basin	USA (IN)	New Albany Shale?	Elkin & Wieland 1914
Lig	Archaeopteridales	<i>Callixylon</i>	<i>petryi</i>	Appal. Basin	USA (NY)	Oneonta	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Callixylon</i>	<i>petryi</i>	Appal. Basin	USA (NY)	Genundewa Limestone	Beck 1953

Lig	Archaeopteridales	<i>Callixylon</i>	<i>petryi</i>	Appal. Basin	USA (NY)	Sherbure Sandstone	Beck 1953
Lig	Archaeopteridales	<i>Callixylon</i>	<i>trifilievi</i>	N. Laurentia	Canada (AB)	Beaverhill Lake	Campbell 1963
Lig	Archaeopteridales	cf. <i>Callixylon</i>	<i>zalesskyi</i>	N. Laurentia	Canada (AB)	Yahatinda	Scheckler 1978
Lig	Archaeopteridales	<i>Callixylon</i>	<i>zalesskyi</i>	N. Laurentia	Canada (AB)	Yahatinda	Scheckler 1978
Lig	Archaeopteridales	<i>Callixylon</i>	<i>zalesskyi</i>	Appal. Basin	USA (NY)	Oneonta	Scheckler 1978; Carluccio et al. 1966
Lig	Archaeopteridales	<i>Callixylon</i>	<i>zalesskyi</i>	Appal. Basin	USA (NY)	Katsberg	Beck 1960; Tanrattana et al. 2019
Lig	Archaeopteridales	<i>Callixylon</i>	<i>schmidtii</i>	Avalonia	Germany	?	Kräusel & Weyland 1937
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (NY)	Genundewa Limestone	Arnold 1930
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (NY)	Katsberg	Carluccio et al. 1966
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (NY)	Stony Clove Sandstone	PBDB 28516, 28532
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (NY)	Oneonta	PBDB 29006
Lig	Archaeopteridales	<i>Eddyia</i>	<i>sullivanensis</i>	Appal. Basin	USA (NY)	Oneonta	Beck 1967; Matten 1981
Lig	Archaeopteridales	<i>Svalbardia</i>	<i>banksii</i>	Appal. Basin	USA (NY)	Oneonta	Matten 1981
Lig	Stenokoleaceae	<i>Stenokoleos</i>	<i>bifidus</i>	Appal. Basin	USA (NY)	Oneonta	Matten & Banks 1969
Ly-1	Zosterophyllopsida	<i>Sawdonia</i>	<i>ornata</i>	Appal. Basin	USA (NY)	Oneonta	Hueber & Grierson 1961
Ly-1	Zosterophyllopsida	<i>Serrulacaulis</i>	<i>furcatus</i>	Appal. Basin	USA (NY)	Oneonta	Hueber & Banks 1979
Ly-2	Drepanophycales	<i>Drepanophycus</i>	<i>spinaeformis</i>	Appal. Basin	USA (NY)	Oneonta	Banks & Grierson 1968; Stubblefield & Banks 1978
Ly-2	Lycopida	<i>Clwydia</i>	<i>conferta</i>	Appal. Basin	USA (NY)	Oneonta	PBDB 20908, 28089, 28399
Ly-2	Lycopida	<i>Clwydia</i> )	<i>vanuxemi</i>	Appal. Basin	USA (NY)	Geneseo Shale	Grierson & Banks 1963
Ly-2	Lycopida	<i>Clwydia</i> )	<i>vanuxemi</i>	Appal. Basin	USA (NY)	Ithaca Sandstone	Grierson & Banks 1963
Ly-2	Lycopida	cf. <i>Lepidosigillaria</i>	<i>whitei</i>	Appal. Basin	USA (NY)	Sonyea	Grierson & Banks 1963
Ly-2	Lycopida	<i>Lepidosigillaria</i>	<i>whitei</i>	Appal. Basin	USA (NY)	?	Berry & Marshall 2015
Ly-2	Lycopida	<i>Colpodexylon</i>	<i>deatsii</i>	Appal. Basin	USA (NY)	Portage	Banks 1944
Ly-2	Lycopida	<i>Colpodexylon</i>	<i>trifurcatum</i>	Appal. Basin	USA (NY)	Portage	Banks 1944
P-M	Cladoxylopsida	<i>Cladoxylon</i> ( <i>Rotoxylon</i> )	<i>dawsoni</i>	Appal. Basin	USA (NY)	Genundewa Limestone	Read 1935
P-M	Cladoxylopsida	<i>Eospermatopteris</i>	sp.	Appal. Basin	USA (NY)	Oneonta	PBDB 28089, 28964, 28927, 28928, 29006, 29022
P-M	Cladoxylopsida	<i>Eospermatopteris</i>	sp.	Appal. Basin	USA (NY)	Stony Clove Sandstone	PBDB 29022
P-M	Cladoxylopsida	<i>Pseudosporochnus</i>	sp.	Appal. Basin	USA (NY)	Oneonta	PBDB 28089, 28206, 28533, 29006, 29139
P-M	Cladoxylopsida	<i>Rhymokalon</i>	<i>trichium</i>	Appal. Basin	USA (NY)	Oneonta	Scheckler 1975b
P-M	Equisetophyta	<i>Prosseria</i>	<i>grandis</i>	Appal. Basin	USA (NY)	Genesee Shale	Read 1953

**DEVONIAN 8: Late Frasnian (Late Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Pa	Rhyniopsida	<i>Taeniocrada</i>	<i>stilesvillensis</i>	Appal. Basin	USA (NY)	West Falls	Taylor 1986; Orlova et al. 2016
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>gasiensis</i>	E. Laurentia	Canada (QC)	Hugh Miller Cliffs	Arnold 1936
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>halliana</i>	Appal. Basin	USA (PA)	Chemung	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>jacksoni</i>	E. Laurentia	Canada (QC)	Hugh Miller Cliffs	Arnold 1936
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	Appal. Basin	USA (PA)	Chemung	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>magnacensis</i>	E. Laurentia	Canada (QC)	?	Dawson 1881
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>minor</i>	Appal. Basin	USA (PA)	Chemung	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>obtusa</i>	E. Laurentia	Canada (QC)	Hugh Miller Cliffs	Arnold 1936
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>rogersi</i>	Appal. Basin	USA (PA)	Chemung	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (PA)	Chemung	PBDB 31175
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	West Falls	PBDB 28951, 29244
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Walton	PBDB 28750, 28767
Lig	Archaeopteridales	<i>Callixylon</i>	<i>newberryi</i>	Appal. Basin	USA (OH)	Olentangy Shale	Baker 1942
Lig	Archaeopteridales	<i>Callixylon</i>	<i>schmidtii</i>	Avalonia	Germany	?	Kräusel & Weyland 1937
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (VA)	Foreknobs	Skog 1983; PBDB 21109
Lig	Spermatophyta	<i>Cordaites</i>	<i>robbii</i>	Avalonia	Canada (NB)	?	Dawson 1861
Lig	Spermatophyta	<i>Cordaites</i>	<i>angustifolia</i>	E. Laurentia	Canada (NB)	Gaspe Sandstone?	Dawson 1881
Lig	Spermatophyta	<i>Cordaites</i>	sp.	Appal. Basin	USA (PA)	lower Catskill	Dawson 1889
Ly-2	Lycopsida	<i>Clwydia</i>	<i>primaeva</i>	Appal. Basin	USA (NY)	West Falls & Middlesex Shale	Arnold 1939
Ly-2	Lycopsida	<i>Clwydia</i> (formerly <i>Archaeosigillaria</i> )	<i>vanuxemi</i>	Appal. Basin	USA (NY)	Cayuta (or Forenobs)	Grierson & Banks 1963
Ly-2	Lycopsida	<i>Lepidosigillaria</i>	<i>whitei</i>	Appal. Basin	USA (NY)	?	Berry & Marshall 2015
Ly-2	Lycopsida	<i>Lepidosigillaria</i>	<i>whitei</i>	Appal. Basin	USA (NY)	Middlesex Shale & West Falls	Grierson & Banks 1963
P-M	Filicopsida	<i>Ellesmeris</i>	<i>sphenopteroides</i>	Laurentia	Canada (Ellesmere Island)	Nordstr & Point	Hill et al. 1997
P-M	Rhacophytales	<i>Cephalopteris</i>	<i>mirabilis</i>	Avalonia	France	?	Hill et al. 1997; Snigirevsky et al. 2007

**DEVONIAN 9: Early Famennian (Late Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Eup	Psilophytopsida	<i>Psilophyton</i>	<i>alcicorne</i>	Avalonia	USA (ME)	Perry	Smith & White 1905
Eup	Psilophytopsida	<i>Platyphyllum</i>	<i>brownianum</i>	Avalonia	USA (ME)	Perry	Høeg 1942
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>hitchcockii</i>	Avalonia	USA (ME)	Perry	Smith & White 1905
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>intermedia</i>	Baltica	Norway	Tarratine(?)	Nathorst, 1902; Schweitzer 2006
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>latifolia</i>	Appal. Basin	USA (PA)	Chadakoin	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	Appal. Basin	Norway	Tarratine(?)	Nathorst 1902; Schweitzer 2006
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>minor</i>	Appal. Basin	USA (PA)	Cherry Ridge	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (PA)	Catskill	Brauer 1980
Lig	Archaeopteridales	<i>Callixylon</i>	<i>erianum</i>	Appal. Basin	USA (NY)	Gowanda Shale	Arnold, 1935
Lig	Archaeopteridales	<i>Callixylon</i>	<i>henkei</i>	Avalonia	Germany	?	Kräusel & Weyland 1929; Tanrattana et al. 2019
Lig	Archaeopteridales	<i>Callixylon</i>	<i>huronense</i>	E. Laurentia	Canada (ON)	Huron Shale	Chitaley & Cai 2001
Lig	Archaeopteridales	<i>Callixylon</i>	<i>newberryi</i>	Michigan Basin	USA (MI)	Antrim Shale	Arnold, 1934
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (PA)	Chadakoin	Arnold 1939
Lig	Spermatophyta	<i>Sphenopteridium</i>	<i>keilhauii</i>	Avalonia	Spain	Nocedo(?)	Montero & Dieguez 2010
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>schimpeliacana</i>	Avalonia	Germany	?	Osborne et al. 2004
Lig	Spermatophyta	<i>Cordaites</i>	<i>robbii</i>	Avalonia	Canada (NB)	?	Dawson 1861
Lig	Spermatophyta	<i>Cordaites</i>	<i>angustifolia</i>	E. Laurentia	Canada (NB)	?	Dawson 1882
Ly-1	Zosterophyllopsida	<i>Barinostrobus</i>	<i>spicatus</i>	Avalonia	USA (ME)	Perry	Dawson 1863
Ly-2	Lycopsida	<i>Leptophloewum</i>	<i>rhombicum</i>	Avalonia	USA (ME)	Perry	Dawson 1862
P-M	Rhacophytales	<i>Cephalopteris</i>	<i>mirabilis</i>	Baltica	Norway	Tarratine	Snigirevsky et al. 2007
P-M	Cladoxylopsida	<i>Hyenia</i>	sp.	Avalonia	Spain	Nocedo(?)	Montero & Dieguez 2010
P-M	Rhacophytales	<i>Proteolepidoden</i>	<i>frickiei</i>	Avalonia	Poland	?	Gothan & Zimmermann 1937; Taylor et al. 2009
P-M	Equisetophyta	cf. <i>Calamites</i>	sp.	Avalonia	Spain	Nocedo(?)	Montero & Dieguez, 2010
P-M	Equisetophyta	<i>Estinnophyton</i>	<i>wahnbachense</i>	Avalonia	Spain	Nocedo(?)	Montero & Dieguez, 2010
P-M	Rhacophytales	<i>Melvillepterus</i>	<i>quadriseriata</i>	N. Laurentia	Canada (Arctic Archipelago)	Parry Islands	Xue & Basinger 2016
P-M	Rhacophytales	<i>Rhacophyton</i>	<i>incertum</i>	Avalonia	USA (ME)	Perry	Kräusel & Weyland 1941; Cornet et al. 1976
P-M	Rhacophytales	<i>Rhacophyton</i>	<i>mirabilis</i>	Baltica	Norway	Tarratine(?)	Schweitzer 2006

**DEVONIAN 10: Late Famennian (Late Devonian)**

Higher taxa 1	Higher taxa 2	Genus	Species	Paleogeographic region	Country	Fm	References
Eup	Psilophyopsida	<i>Platiphyllum</i>	<i>brownianum</i>	Avalonia	USA (ME)	Perry	Høeg 1942
Eup	Psilophyopsida	<i>Platiphyllum</i>	sp.	Avalonia	UK	Shirehampton	Hilton 1999
Eup	Psilophyopsida	<i>Psilophyton</i>	<i>condrusorum</i>	Avalonia	Belgium	Evieux	Stockmans 1948; PDB 32233
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>olnense</i>	Avalonia	Belgium	Evieux	PBDB 32232, 32274, 32278
Lig	Aneurophytales	<i>Aneurophyton</i>	<i>olnense</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986
Lig	Aneurophytales	<i>Reimannia</i>	<i>indianensis</i>	Appal. Basin	USA (IN)	New Albany Shale	Arnold 1935; Read & Campbell 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>gaspensis</i>	E. Laurentia	Canada (QC)	?	Dawson 1882
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>halliana</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986; Phillips et al. 1972
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>hibernica</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>jacksoni</i>	E. Laurentia	Canada (QC)	?	Dawson 1882
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>latifolia</i>	Appal. Basin	USA (PA)	Oswayo Sandstone (Pocono)	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>macilenta</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986; Phillips et al. 1972
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>obtusa</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler 1986
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>roemeriana</i>	Avalonia	Belgium	Evieux	PBDB 32226, 32232–32234, 23334, 32235, 32237, 32272, 32275–32280
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>roemeriana</i>	Avalonia	Belgium	Comblain-au-Pont	PBDB 32236
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>roemeriana</i>	Appal. Basin	USA (PA)	Oswayo Sandstone (Pocono)	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	<i>sphenophyllifolia</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Avalonia	Belgium	?	Fairon-Demaret 1996
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	E. Laurentia	Canada (QC)	?	Dawson 1882
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Cattaraugus	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (NY)	Oswayo	Arnold 1939
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (PA)	Pocono	PBDB 29005
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (WV)	Hampshire	Cornet et al. 1976; PBDB 22757
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (PA)	Catskill	Beck 1971; Brauer 1980;
Lig	Archaeopteridales	<i>Archaeopteris</i> (?)	sp.	Avalonia	Belgium	Evieux	Fairon-Demaret 1996
Lig	Archaeopteridales	<i>Archaeopteris</i>	sp.	Appal. Basin	USA (TN)	Chattanooga Shale	Conant & Swanson 1961
Lig	Archaeopteridales	<i>Callixylon</i>	<i>arnordii</i>	Appal. Basin	USA (KY)	Ohio (or New Albany) Shale	Beck 1962
Lig	Archaeopteridales	<i>Callixylon</i>	<i>beckii</i>	Appal. Basin	USA (OH)	Ohio Shale	Chitaley & Cai 2001
Lig	Archaeopteridales	<i>Callixylon</i>	<i>brownii</i>	Appal. Basin	USA (KY)	New Albany Shale	Read & Campbell 1939; Hoskins & Cross 1951
Lig	Archaeopteridales	<i>Callixylon</i>	<i>brownii</i>	Illinois Basin	USA (IN)	New Albany Shale	Read & Campbell 1939

Lig	Archaeopteridales	<i>Callixylon</i>	<i>clevelandensis</i>	Appal. Basin	USA (OH)	Ohio Shale	Chitaley 1992
Lig	Archaeopteridales	<i>Callixylon</i>	<i>henkei</i>	Avalonia	Germany	?	Kräusel & Weyland 1929; Tanrattana et al. 2019
Lig	Archaeopteridales	<i>Callixylon</i>	<i>erianum</i>	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986
Lig	Archaeopteridales	<i>Callixylon</i>	<i>newberryi</i>	Illinois Basin	USA (IN)	New Albany Shale	Stubblefield et al. 1985
Lig	Archaeopteridales	<i>Callixylon</i>	<i>newberryi</i>	Illinois Basin	USA (IN)	New Albany Shale	Read & Campbell 1939
Lig	Archaeopteridales	<i>Callixylon</i>	<i>newberryi</i>	Michigan Basin	USA (MI)	Antrim Shale	Arnold, 1934
Lig	Archaeopteridales	<i>Callixylon</i>	cf. <i>newberryi</i>	Euramerica - west	USA (TX)	Caballos Novaculite	Fairchild et al. 1973
Lig	Archaeopteridales	<i>Callixylon</i>	<i>whiteanum</i>	N. Laurentia	USA (OK)	Woodford chert	Arnold 1934; Beck 1953; Trivett 1993; Kenrick & Strullu-Derrien 2014
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (PA)	Oswayo Sandstone	Brauer 1980
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (PA)	Pocono	Arnold 1932
Lig	Archaeopteridales	<i>Callixylon</i>	sp.	Appal. Basin	USA (WV)	Hampshire	Scheckle et al. 1986
Lig	Archaeopteridales	<i>Callixylon</i>	<i>brownii?</i>	Appal. Basin	USA (TN)	Chattanooga Shale	Conant & Swanson 1961
Lig	Spermatophyta	<i>Archaeosperma</i>	<i>arnoldii</i>	Appal. Basin	USA (PA)	Oswayo	Pettitt & Beck 1968
Lig	Spermatophyta	<i>Cordaites</i>	<i>robbii</i>	Avalonia	Canada (NB)	?	Dawson 1861
Lig	Spermatophyta	<i>Cordaites</i>	<i>angustifolia</i>	E. Laurentia	Canada (NB)	?	Dawson 1882
Lig	Spermatophyta	<i>Duodimidia</i>	<i>pfefferkornii</i>	Appal. Basin	USA (PA)	Catskill	Cressler et al. 2010
Lig	Spermatophyta	<i>Elkinsia</i>	<i>polymorpha</i>	Appal. Basin	USA (WV)	Hampshire	Rothwell et al. 1989; Serbet & Rothwell 1992
Lig	Spermatophyta	<i>Laceya</i>	<i>hibernica</i>	Avalonia	UK	Coomhola	Klavins & Matten 1996
Lig	Spermatophyta	<i>Sphenophyllum</i>	<i>subtienerimum</i>	Avalonia	Belgium	?	Fairon-Demaret 1996
Lig	Spermatophyta	<i>Sphenopteridium</i>	<i>rigidum</i>	Avalonia	UK	?	Cleal & Thomas 2019
Lig	Spermatophyta	<i>Sphenopteridium</i>	<i>norbergi</i>	Baltica	Norway	?	Osborne et al. 2004
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>schimpeliacana</i>	Avalonia	Germany	?	Osborne et al. 2004
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>hookeri</i>	Avalonia	UK	Kiltoran	Clayton et al. 1979
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>modavensis</i>	Avalonia	Belgium	Evieux	PBDB 32234; 32278, 32279
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>boozensis</i>	Avalonia	Belgium	Evieux	PBDB 32276, 32278
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>flaccida</i>	Avalonia	Belgium	Evieux	PBDB 32272– 32274, 32276, 32232, 32236, 32278, 32279
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>maillieuxi</i>	Avalonia	Belgium	Evieux	PBDB 32278
Lig	Spermatophyta	<i>Sphenopteris</i>	<i>mourloni</i>	Avalonia	Belgium	Evieux	PBDB 32276
Lig	Spermatophyta	<i>Moresnetia</i>	<i>zalesskyi</i>	Avalonia	Belgium	Evieux	Fairon-Demaret 1996
Lig	Spermatophyta	<i>Stenokoleos</i>	<i>setchelli</i>	Appal. Basin	USA (IN)	New Albany Shale	Read & Campbell 1939; Beck 1960
Lig	Spermatophyta	<i>Stenokoleos</i>	<i>simplex</i>	Appal. Basin	USA (IN)	New Albany Shale	Beck 1960
Lig	incertae sedis	<i>Aglosperma</i>	<i>bertr&amp;ii</i>	Avalonia	Belgium	Evieux	Prestianni et al. 2013

Lig	incertae sedis	<i>Aglosperma</i>	<i>quadrapartita</i>	Avalonia	UK	Upper Old Red Sandstone	Hilton & Edwards 1996; Prestianni et al. 2013
Lig	incertae sedis	<i>Aglosperma</i>	sp.	Appal. Basin	USA (PA)	Catskill	Cressler et al. 2010; Prestianni et al. 2013
Lig	incertae sedis	<i>Aporoxylon</i>	<i>primigenium</i>	Avalonia	Germany	?	Unger 1954
Ly-1	Zosterophyllopsida	<i>Barinophyton</i>	<i>citrulliforme</i>	Appal. Basin	USA (NY)	Cattaraugus (Conewango)	Brauer 1980; Taylor & Brauer 1983
Ly-1	Zosterophyllopsida	<i>Barinostrobus</i>	<i>spicatus</i>	Avalonia	USA (ME)	Perry	Dawson 1863
Ly-2	Lepidodendrales	<i>Cyclostigma/</i> <i>Jurinodendron</i>	<i>brevifolium</i>	Avalonia	Belgium	Evieux	Stockmans 1940; PBDB 32273
Ly-2	Lepidodendrales	<i>Cyclostigma/</i> <i>Jurinodendron</i>	<i>kiltorkense</i>	Avalonia	Ireland	Kiltorcan Beds	Haughton 1860; Chaloner 1968; Gierson & Bonamo 1979
Ly-2	Lepidodendrales	<i>Cyclostigma/</i> <i>Jurinodendron</i>	<i>griffithsi</i>	Avalonia	Ireland	Kiltorcan Beds	Haughton 1860
Ly-2	Lepidodendrales	<i>Cyclostigma/</i> <i>Jurinodendron</i>	<i>minutum</i>	Avalonia	Ireland	Kiltorcan Beds	Haughton 1860
Ly-2	Lepidodendrales	<i>Lycopogenia</i>	<i>callicyrtta</i>	Appal. Basin	USA (KY)	New Albany Shale	Read 1936; Read & Campbell 1939
Ly-2	Lepidodendrales	<i>Phytokneme</i>	<i>rhodona</i>	Appal. Basin	USA (KY)	Chattanooga Shale	Andrews et al. 1971
Ly-2	Lycopsida	<i>Sublepidodendron</i>	<i>antedecdens</i>	Avalonia	Poland	?	Gothan & Zimmermann 1937; Wang 1993
Ly-2	Lycopsida	<i>Sublepidodendron</i>	<i>mirabile</i>	Baltica	Norway	?	Wang 2008
Ly-2	Lycopsida	<i>Cleavelandodendron</i>	<i>ohioensis</i>	Appal. Basin	USA (OH)	Cleaveland Shale	Chitaley & Pigg 1996
Ly-2	Lycopsida	<i>Lepidostrobus</i>	<i>kentuckiensis</i>	Appal. Basin	USA (KY)	Pocono Sandstone (Waverley Shale?)	Arnold 1933; Scott 1915
Ly-2	Lycopsida	<i>Otzinachsonia</i>	<i>beerboweri</i>	Appal. Basin	USA (PA)	Catskill	Cressler & Pfefferkorn 2005
Ly-2	Lycopsida	<i>Protoplepidodendron</i>	<i>microphyllum</i>	Appal. Basin	USA	New Albany Shale	Read & Campbell 1939
Ly-2	Lycopsida	<i>Wexfordia</i>	<i>hookense</i>	Avalonia	Ireland	West Cork Sandstone	Matten 1989; Klavins 2004
P-M	Cladoxylopsida	<i>Cladoxylon</i>	sp.	Appal. Basin	USA (IN)	New Albany Shale	Read & Campbell 1939
P-M	Cladoxylopsida	<i>Hierogramma</i>	<i>jeffreyi</i>	Appal. Basin	USA (KY)	New Albany Shale	Read & Campbell 1939
P-M	Cladoxylopsida	<i>Hierogramma</i>	sp.	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986
P-M	Cladoxylopsida	<i>Pietzschia</i>	<i>polyupsilon</i>	Illinois Basin	USA (IN)	New Albany Shale	Read & Campbell 1939
P-M	Cladoxylopsida	<i>Pietzschia</i>	<i>polyupsilon</i>	Appal. Basin	USA (KY)	New Albany Shale	Read & Campbell 1939
P-M	Cladoxylopsida	<i>Polyxylon</i>	<i>elegans</i>	Illinois Basin	USA (IN)	New Albany Shale	Read & Campbell, 1939
P-M	Equisetophyta	<i>Eviostachya(?)</i>	sp.	Appal. Basin	USA (WV)	Hampshire	Scheckler et al. 1986
P-M	Rhacophytales	<i>Protoplepidoden</i>	<i>frickeyi</i>	Avalonia	Poland	?	Gothan & Zimmermann 1937; Taylor et al. 2009
P-M	Equisetophyta	<i>Eviostachya</i>	<i>hoegii</i>	Avalonia	Belgium	Evieux	Stockmans 1948
P-M	Filicopsida	<i>Gillespiea</i>	<i>randolphensis</i>	Appal. Basin	USA (WV)	Hampshire	Erwin & Rothwell 1989
P-M	Equisetophyta	<i>Pseudobornia</i>	<i>ursina</i>	Baltica	Norway	?	Schweitzer 2003; Orlova & Jorina 2011
P-M	Rhacophytales	<i>Rhacophyton</i>	<i>condrusorum</i>	Avalonia	Belgium	Evieux	Stockmans 1948; Schultka, 1978; PBDB

P-M	Rhacophytales	<i>Rhacophyton</i>	<i>zygopteroides</i>	Avalonia	Belgium	Evieux	32226, 32272, 32275–32279, 32233
P-M	Rhacophytales	<i>Rhacophyton</i>	<i>ceratangium</i>	Appal. Basin	USA (WV)	Hampshire	Stockmans 1948; Leclercq 1950
P-M	Rhacophytales	<i>Rhacophyton</i>	sp.	Appal. Basin	USA (WV)	Hampshire	Cornet et al. 1976; Dittrich et al. 1983; Scheckler et al. 1986

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### III. Paleoclimate data

**Table S7.** Atmospheric oxygen level used for this study. The pO<sub>2</sub> values are adapted from 10 million-year based data by Schachat et al. (2018: ‘All black solid’ data). The pO<sub>2</sub> values with prentices is estimated using a median value for this study. The pO<sub>2</sub> values with an asterisk mark indicate significantly high through the Devonian based on the upper 95% CI.

	Silurian	D1*	D2*	D3	D4	D5	D6	D7	D8	D9*	D10*
<b>Mya</b>	420	415	410	405	400	390	385	380	375	370	360
<b>pO<sub>2</sub></b>	33.18	32.32	31.46	(25.57)	19.68	23.36	(24.58)	25.81	(24.68)	27.35	31.15

	Entire Devonian	Early Devonian	Middle Devonian	Late Devonian
<b>Mean</b>	22.09	27.26	23.97	27.25
<b>95% CI (upper)</b>	26.77	33.14	24.84	30.07
<b>95% CI (lower)</b>	17.42	21.38	23.10	24.43

**Table S8.** Correlation tests (Pearson’s  $\rho$  and Spearman’s *rank*) for possible controlling factors and Devonian wildfire occurrences. Explanation for each component and the result of Kendall’s tau test are in the main text (Table 8). An asterisk mark indicates a strongly correlated value ( $P < 0.05$ ).

#### Pearson’s $\rho$

	Fires	Plant (all)	Plant (lignophytes)	Rock units (#)	pO <sub>2</sub> %
<b>Fires</b>		0.521	0.039*	0.002*	0.360
<b>Plant (all)</b>	-0.23		0.735	1.000	0.987
<b>Plant (lignophytes)</b>	0.63	-0.12		0.044*	0.455
<b>Rock units (#)</b>	0.82	0.00	0.61		0.499
<b>pO<sub>2</sub> %</b>	0.31	0.01	-0.25	0.23	

#### Spearman’s *rank*

	Fires	Plant (all)	Plant (lignophytes)	Rock units (#)	pO <sub>2</sub> %
<b>Fires</b>		0.945	0.002*	0.001*	0.373
<b>Plant (all)</b>	0.02		0.552	0.779	0.580
<b>Plant (lignophytes)</b>	0.83	0.21		0.012*	0.959
<b>Rock units (#)</b>	0.89	0.10	0.72		0.393
<b>pO<sub>2</sub> %</b>	0.30	0.20	0.02	0.29	

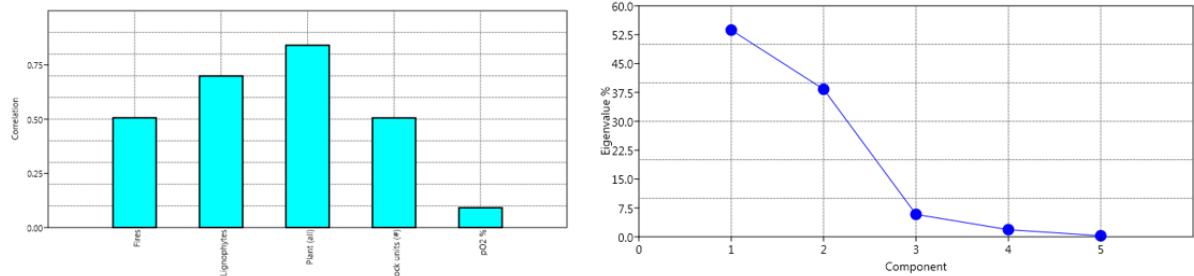
## IV. Multivariate analysis

**Supplementary Table S9.** Results of the Principal Component Analysis for comparing possible wildfire controlling factors. A summarized graph is shown in Figure 10 (main text). An asterisk mark indicates a significantly high correlation value (>50% or <-50%).

SUMMARY			LOADINGS					
PC	Eigenvalue	%variance		PC 1	PC 2	PC 3	PC 4	PC 5
<b>1</b>	246.1770	53.70%	<b>Fires</b>	0.192	0.328	0.469	0.348	-0.718
<b>2</b>	175.6660	38.32%	<b>Lignophytes</b>	0.570*	0.682*	-0.147	-0.397	0.175
<b>3</b>	26.7550	5.84%	<b>Plant (all)</b>	0.787*	-0.599*	-0.082	0.102	-0.067
<b>4</b>	8.5403	1.86%	<b>Rock units</b>	0.133	0.190	0.253	0.700*	0.627*
<b>5</b>	1.2602	0.27%	<b>pO2 %</b>	0.030	-0.181	0.829*	-0.471	0.239

SCORES						
Time	PC 1	PC 2	PC 3	PC 4	PC 5	PC 6
<b>Sil</b>	-7.5593	-11.0710	3.6846	-3.2650	0.5898	-7.5593
<b>D1</b>	-14.1610	-1.9416	7.8342	0.8528	-0.6642	-14.1610
<b>D2</b>	3.8892	-17.6400	3.2317	2.5716	1.7923	3.8892
<b>D3</b>	-5.2715	-11.5200	2.6256	-1.2980	-1.5289	-5.2715
<b>D4</b>	-2.5479	-11.7100	-4.9194	0.3470	-0.8387	-2.5479
<b>D5</b>	-9.9193	0.8799	-9.0023	0.1520	-1.2193	-9.9193
<b>D6</b>	15.4820	-7.6931	-6.9791	1.9899	1.0889	15.4820
<b>D7</b>	-7.2691	15.6320	-2.0708	-4.8763	1.3489	-7.2691
<b>D8</b>	-10.3980	17.1390	-0.1538	-0.3174	0.4802	-10.3980
<b>D9</b>	-2.8351	19.5020	2.3887	5.8172	-0.1453	-2.8351
<b>D10</b>	40.5900	8.4217	3.3606	-1.9739	-0.9037	40.5900



**Figure S5.** Results of the PCA (Figure 10 in the main text) for comparing possible wildfire controlling factors. **Left:** Loadings plot for correlation values of the PC 1. **Right:** Screen plot for the percentage of eigenvalues (indicating the first three components have a strong relation).