



Checklist of the Jurassic wood (updated March 2024)

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Abstract

A list of all known fossil wood taxa reported from the Jurassic, up to March of 2024, is given. The list contains 54 genera and 203 species of gymnospermous wood taxa described from 36 countries across seven continents. 35 genera and 98 species were reported from Asia, 25 genera and 58 species from Europe, 10 genera and 15 species from Africa, 7 genera and 11 species from North America, 12 genera and 28 species from South America, and 4 genera and 5 species from Australia and Antarctica. 23 genera and 44 species were documented from the Lower Jurassic, 36 genera and 82 species from the Middle Jurassic, and 24 genera and 67 species from the Upper Jurassic. Systematically: two genera and two species belong to Cycadales; one monotypic genus belongs to Bennettitales; four genera and seven species belong to Ginkgoales; 45 genera and 191 species of Coniferales; and two genera and two species are of Incertae sedis.

Keywords: Fossil wood, Jurassic, Palaeogeographic distribution, stratigraphic distribution

Introduction

The Jurassic was an important period for the diversification and radiation of gymnosperms and saw a great variety of fossil gymnospermous wood at the time (Philippe *et al.*, 2000, 2006; Bamford & Philippe, 2001; Zhang *et al.*, 2015; Vajda *et al.*, 2016; Wang *et al.*, 2017; Iamandei *et al.*, 2018; Gnaedinger & Zavattieri, 2020; Gou *et al.*, 2023). However, a comprehensive reference for the taxonomy, nomenclature, and literature of the Jurassic gymnospermous wood is not available at present. In this paper, we provide the first checklist of the Jurassic gymnospermous wood based on a thorough literature

survey, with a peculiar emphasis on their geographical and stratigraphic distributions.

Results

Our study shows that a total of 54 fossil-genera and 203 fossil-species of gymnospermous wood have been formally described from the Jurassic of 36 countries spanning all seven continents (Table 1). Geographically, 35 genera and 98 species have been reported from Asia, 25 genera and 58 species from Europe, 10 genera and 15 species from Africa, 7 genera and 11 species from North America, 12 genera and 28 species from South America, and 4 genera and 5 species from Australia and Antarctica (Figs 1, 2), with the most diverse (24 genera and 58 species) fossil wood documented in China. Stratigraphically, 23 genera and 44 species have been documented from the Lower Jurassic, 36 genera and 82 species from the Middle Jurassic, and 24 genera and 67 species from the Upper Jurassic, respectively (Fig. 3). Systematically, two genera and two species belong to Cycadales, one monotypic genus belongs to Bennettitales, four genera and seven species belong to Ginkgoales, 45 genera and 191 species of Coniferales, and two genera and two species are of Incertae sedis (Fig. 4).

Most of the Jurassic wood taxa were locally distributed either in Gondwana or Laurasia. However, ten genera were distributed globally and dichronologically dominated the wood-diversity through the Jurassic (Fig. 5): in the Early Jurassic, *Xenoxylon* (7 species), *Protophyllocladoxylon* (6 species), *Brachyoxylon* (5 species), *Agathoxylon* (= *Araucarioxylon*, 4 species), and *Protosciadopityoxylon* (3 species); in the Middle Jurassic, *Agathoxylon* (= *Araucarioxylon*, 13 species), *Xenoxylon* (10 species), *Protophyllocladoxylon* (5 species),

TABLE 1. Fossil gymnospermous wood from the Jurassic.

Species	Preservation Status	Horizon and Age	Locality	References
<i>Agathoxylon</i> sp.	Secondary xylem	Early–Late Jurassic	Xinjiang, Sichuan, China; Antarctica; New Zealand; Near village Kota; Gadchiroli, Maharashtra, India; North of Kerman, Iran; Cerro Alto, Argentina	Gou <i>et al.</i> , 2021a; Thorn, 2005; Rajanikanth & Sukh-Dev, 1989; Poole & Ataabadi, 2005; Xie <i>et al.</i> , 2024b
<i>Agathoxylon agathoides</i> Kräusel & Jain, 1964	Secondary xylem	La Matilde Fm.; Middle Jurassic	Santa Cruz Province, Argentina	Kräusel & Jain, 1964
<i>Agathoxylon conlinii</i> Philippe, 1995	Secondary xylem	Jurassic	Comté, France	Philippe, 1995
<i>Agathoxylon dallonii</i> Dupéron-Laudoueneix & Lejal-Nicol, 1981	Secondary xylem	Jurassic	Egypt; Libya; Morocco; Tanzania	Boureau, 1948; Dupéron-Laudoueneix & Lejal-Nicol, 1981
<i>Agathoxylon desnoyersii</i> Philippe, 1995	Secondary xylem	Jurassic	Comté, France	Philippe, 1995
<i>Agathoxylon gilii</i> Ríos-Santos & Cevallos-Ferriz, 2018	Secondary xylem	Jericó Member of the Todos Santos Fm.; Late Jurassic	Porvenir Jericó, Chiapas, Mexico	Ríos-Santos & Cevallos-Ferriz, 2018
<i>Agathoxylon holbavicum</i> Iamandei, Iamandei & Gradinaru, 2018	Secondary xylem	Early Jurassic	Holbav and Cristian areas in the Braşov region, Romania	Iamandei <i>et al.</i> , 2018
<i>Agathoxylon jericoense</i> Ríos-Santos & Cevallos-Ferriz, 2018	Secondary xylem	Upper member of the Todos Santos Fm.; Late Jurassic	Porvenir Jericó, Chiapas, Mexico	Ríos-Santos & Cevallos-Ferriz, 2018
<i>Agathoxylon liguaensis</i> Torres & Philippe, 2002	Secondary xylem	Quebrada del Pobre Fm.; Middle Jurassic	Lias of La Ligua, Chile; Argentina	Torres & Philippe, 2002
<i>Agathoxylon matildense</i> Zamuner & Falaschi, 2005	Secondary xylem	La Matilde Fm.; Middle Jurassic	Santa Cruz Province, Argentina	Zamuner & Falaschi, 2005
<i>Agathoxylon pranhitensis</i> Rajanikanth & Sukh-Dev, 1989	Secondary xylem	Kota Fm.; Late Jurassic	Near village Kota, Gadchiroli, Maharashtra, India	Rajanikanth & Sukh-Dev, 1989
<i>Agathoxylon protoaraucana</i> Brea, 1977	Secondary xylem	Early Jurassic	Argentina	Brea, 1977; Gnaedinger & Herbst, 2009
<i>Agathoxylon santacruzense</i> Kloster & Gnaedinger, 2018	Secondary xylem	Kota Fm., La Matilde Fm.; Middle–Late Jurassic	Gadchiroli District of Maharashtra State, India; Santa Cruz Province, Argentina	Kloster & Gnaedinger, 2018; Chinnappa & Kavali, 2020
<i>Agathoxylon saravanensis</i> Philippe, 2004	Secondary xylem	Khorat Gr.; Late Jurassic	Isan, Thailand	Philippe <i>et al.</i> , 2004
<i>Agathoxylon termieri</i> Gnaedinger, 2006	Secondary xylem	Early–Middle Jurassic	Africa; Santa Cruz, Argentina	Gnaedinger, 2006
<i>Agathoxylon wagadensis</i> Rai, Prasad, Prakash, Singhi, Garg, Gupta & Pandey, 2016	Secondary xylem	Ghadhada Fm.; Middle Jurassic	Gangta Bet, Gujarat, India	Rai <i>et al.</i> , 2016
<i>Araucarioxylon americana</i> Jeffrey, Philippe & Hayes, 2010	Secondary xylem	Jurassic	Whitby, Britain	Jeffrey, 1907; Philippe & Hayes, 2010
<i>Araucarioxylon amraparense</i> Manik & Srivastava, 1991	Secondary xylem	Middle Jurassic	Bajo de Sun Julian, Argentina	Manik & Srivastava, 1991
<i>Araucarioxylon agathoides</i> Gnaedinger, 2000	Secondary xylem	Middle Jurassic	Bajo de Sun Julian, Argentina	Philippe <i>et al.</i> , 2000
<i>Araucarioxylon batuense</i> Duan, 2000	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Chaoyang, Liaoning, China	Duan, 2000
<i>Araucarioxylon japonicum</i> Shimakura, 1936	Secondary xylem	Torinosu Gr., Khorat Gr.; Late Jurassic	Hokkaido, Honshu, Shikoku, Japan; Isan, Thailand	Shimakura, 1936
<i>Araucarioxylon lindlei</i> Morgans, 1999	Secondary xylem	Early–Middle Jurassic	Britain	Morgans, 1999
<i>Araucarioxylon santalense</i> Bose, Maheshwari & Gnaedinger, 2000	Secondary xylem	Middle Jurassic	Bajo de Sun Julian, Argentina	Philippe <i>et al.</i> , 2000; Kloster & Gnaedinger, 2018

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Araucarioxylon sidugawaense</i> Shimakura, 1936	Secondary xylem	Jurassic	Miyagi-ken, Japan	Shimakura, 1936
<i>Araucarioxylon termier</i> Attims, 1965	Secondary xylem	Middle Jurassic	Tanzania	Attims, 1965
<i>Araucarioxylon zigongensis</i> Duan, 1998	Secondary xylem	Xiashaximiao Fm., Xintiangou Fm.; Middle Jurassic	Zigong, Sichuan, China	Duan & Peng, 1998
<i>Araucariopitys haraulachica</i> Shilkina, 1958	Secondary xylem	Early Jurassic	Haraulachian, Russia	Shilkina, 1958
<i>Archangelskyoxylon carlquistii</i> Gnaedinger, Brea & Martínez, 2024	Secondary xylem	Roca Blanca Fm.; Early Jurassic	El Mojón hill, Santa Cruz Province, Patagonia, Argentina	Brea <i>et al.</i> , 2024
<i>Baieroxylon chilensis</i> Torres & Philippe, 2002	Secondary xylem	Quebrada del Pobre Fm.; Middle Jurassic	Lias of La Ligua, Chile	Torres & Philippe, 2002
<i>Baieroxylon cf. chilensis</i> Torres & Philippe, 2002	Secondary xylem	Roca Blanca Fm.; Jurassic	San Cruz Province, Argentina	Torres & Philippe, 2002
<i>Baieroxylon cf. lindcianum</i> Philippe, 1995	Secondary xylem	Jurassic	Comté, France	Philippe, 1995
<i>Baieroxylon rocablanquense</i> Gnaedinger, 2012	Secondary xylem	Roca Blanca Fm.; Early Jurassic	Estancia Los Pirineos, Santa Cruz Province, Argentina	Gnaedinger, 2012
<i>Brachyoxylon boureaui</i> Philippe, 2004	Secondary xylem	Khorat Gr.; Late Jurassic	Isan, Thailand	Philippe <i>et al.</i> , 2004
<i>Brachyoxylon brachyphylloides</i> Gazeau & Koeniguer, 1970	Secondary xylem	Middle Jurassic	Tunisia; Niger; Chad	Gazeau & Koeniguer, 1970
<i>Brachyoxylon cristianicum</i> Iamandei, Iamandei & Gradinaru, 2018	Secondary xylem	Early Jurassic	Holbav and Cristian areas in the Braşov region, Romania	Iamandei <i>et al.</i> , 2018
<i>Brachyoxylon currumilii</i> Bodnar, 2013	Secondary xylem	Cañadón Asfalto Fm.; Early–Middle Jurassic	Chubut Province, Argentina	Bodnar <i>et al.</i> , 2013
<i>Brachyoxylon eboracense</i> Philippe, 2002	Secondary xylem	Jurassic	England	Philippe, 2002
<i>Brachyoxylon holbavicum</i> Iamandei, Iamandei & Gradinaru, 2018	Secondary xylem	Early Jurassic	Holbav and Cristian areas in the Braşov region, Romania	Iamandei <i>et al.</i> , 2018
<i>Brachyoxylon liebermannii</i> Philippe, 1995	Secondary xylem	Jurassic	Comté, France	Philippe, 1995
<i>Brachyoxylon nonakai</i> Yamazaki & Tsunnada, 1981	Secondary xylem	Torinosu Gr., Yatsuji Fm.; Late Jurassic	Kochi, Japan	Yamazaki, 1981
<i>Brachyoxylon orientale</i> Philippe, 2004	Secondary xylem	Khorat Gr.; Late Jurassic	Isan, Thailand	Philippe <i>et al.</i> , 2004
<i>Brachyoxylon qijiangense</i> Xie, Wang & Tian, 2023	Secondary xylem	Shaximiao Fm.; Middle Jurassic	Chongqin, China	Xie <i>et al.</i> , 2023a
<i>Brachyoxylon saurinii</i> Boureau & Serra, 1961	Secondary xylem	Jurassic	Cambodia	Boureau & Serra, 1961
<i>Brachyoxylon trautilii</i> Philippe, 1995	Secondary xylem	Shaximiao Fm.; Middle Jurassic	Comté, France; Sichuan, China	Philippe, 1995; Xie <i>et al.</i> , 2024a
<i>Brachyoxylon voisinii</i>	Secondary xylem	Early Jurassic	La Granville, Ardennes, Gardès, Mende of Lozère, France	Thevenard <i>et al.</i> , 1995; Moreau <i>et al.</i> , 2019
<i>Brachyoxylon cf. voisinii</i>	Secondary xylem	Early Jurassic	Bleymard Strait, southern France	Moreau <i>et al.</i> , 2021
<i>Brachyoxylon yanqingense</i> Tian & Cheng, 2022	Secondary xylem	Tuchengzi Fm.; Late Jurassic	Beijing, China	Cheng <i>et al.</i> , 2023
<i>Cedroxylon</i> sp.	Secondary xylem	Early–Middle Jurassic	Yorkshire, Britain	Morgans, 1999

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Cedroxylon hornei</i> Seward & Bancroft, 1913	Secondary xylem	Late Jurassic	East Sutherland, Britain	Seward & Bancroft, 1913
<i>Cedroxylon jurense</i> Kraus, 1870	Secondary xylem	Jurassic	Moscow, Russia	Kraus, 1870
<i>Circoporopitys argentinum</i> Gnaedinger, 2007	Pith, primary xylem, secondary xylem	La Matilde Fm.; Middle Jurassic	Santa Cruz Province, Argentina	Gnaedinger, 2007
<i>Circoporoxylon</i> sp.	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Jiang <i>et al.</i> , 2019
<i>Circoporoxylon grandioporum</i> Müller-Stoll & Schultze-Motel, 1990	Secondary xylem	Early Jurassic	Mittel-Franken, Germany	Müller-Stoll & Schultze-Motel, 1990
<i>Circoporoxylon kotaense</i> Chinnappa & Rajanikanth, 2016	Secondary xylem	Kota Fm.; Late Jurassic	Near village Kota, Gadchiroli, Maharashtra, India	Chinnappa & Rajanikanth, 2016
<i>Circoporoxylon mcgeei</i> Kräusel & Jain, 1964	Secondary xylem	Late Jurassic	North America	Kräusel & Jain, 1964
<i>Circoporoxylon mongolense</i> Ding, Fu, Li & Zhang, 2010	Secondary xylem	Sharilin Fm.; Late Jurassic	Ömnögovi Province, Mongolia	Ding <i>et al.</i> , 2010
<i>Circoporoxylon sanjuliense</i> Gnaedinger, 2007	Secondary xylem	La Matilde Fm.; Middle Jurassic	Santa Cruz Province, Argentina	Gnaedinger, 2007
<i>Circoporoxylon sewardi</i> Kräusel, 1949	Secondary xylem	Late Jurassic	Australia	Kräusel, 1949
<i>Circoporoxylon shanense</i> Kräusel, 1949	Secondary xylem	Late Jurassic	Asia	Kräusel, 1949; Ding <i>et al.</i> , 2010
<i>Circoporoxylon tibetense</i> Xia, 2020	Secondary xylem	Xiali Fm.; Middle Jurassic	Shuanghu County of Tibet, China	Xia <i>et al.</i> , 2020
<i>Cupressionxylon</i> sp.	Secondary xylem	Early–Middle Jurassic	Yorkshire, Britain	Morgans, 1999
<i>Cupressionxylon dunstani</i> Sahni, 1920	Secondary xylem	Jurassic	Fassifern, Australia	Sahni, 1920
<i>Cupressionxylon fujeni</i> Mathews & Ho, 1963	Secondary xylem	Late Jurassic	Zhulu, Zhangjiakou, Hebei, China	Mathews & Ho, 1945
<i>Cupressionxylon gurovii</i> Krendowsky, 1879	Secondary xylem	Jurassic	Orlov, Russia	Krendowsky, 1879
<i>Cupressionxylon hanshanense</i> Zhang & Cao, 1986	Secondary xylem	Hanshan Fm.; Late Jurassic	Hanshan, Maanshan, Anhui, China	Zhang & Cao, 1986
<i>Cupressionxylon juraaica</i> Lutz, 1930	Secondary xylem	Late Jurassic	South Dakota, America	Lutz, 1930
<i>Cupressionxylon kiprianovii</i> Mercklin, 1855	Secondary xylem	Jurassic	Russia	Mercklin, 1855
<i>Cupressinoxylon kotaense</i> Rajanikanth & Sukh-Dev, 1989	Secondary xylem	Kota Fm.; Late Jurassic	Near village Kota, Gadchiroli, Maharashtra, India	Rajanikanth & Sukh-Dev, 1989
<i>Cupressionxylon walkomi</i> Sahni, 1920	Secondary xylem	Jurassic	Fassifern, Australia	Sahni, 1920
<i>Dadoxylon alpinum</i> Lemoigne, 1966	Secondary xylem	Middle Jurassic	Comté, France	Lemoigne, 1966
<i>Ductoagathoxylon wangii</i> Gou & Feng, 2021	Pith, primary xylem, secondary xylem	Xishanyao Fm.; Middle Jurassic	Hami, Xinjiang, China	Gou <i>et al.</i> , 2021b
<i>Ecpagloxylon mathiesenii</i> Philippe, 2010	Secondary xylem	Neil Klintner Fm.; Early Jurassic	Hjørnefjæld, Jameson Land, Eastern, Greenland	Philippe <i>et al.</i> , 2010
<i>Ginkomyeloxylon tanzanii</i> Giraud & Hankel, 1986	Pith, primary xylem, secondary xylem	Early Jurassic	Tanzania	Giraud & Hankel, 1986

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Ginkgoxylon dixitii</i> Biradar & Mahabale, 1978	Secondary xylem	Kota Fm.; Late Jurassic	India	Biradar & Mahabale, 1978
<i>Ginkgoxylon liaoningense</i> Jiang, Wang, Philippe & Zhang, 2016	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Jiang <i>et al.</i> , 2016
<i>Haplomyeloxylon tiaojishanense</i> Wang, Li, Yang & Zhang, 2006	Pith, primary xylem, secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Zheng <i>et al.</i> , 2008
<i>Herbstixylon patagonicum</i> Gnaedinger, 2007	Pith, primary xylem, secondary xylem	La Matilde Fm.; Middle Jurassic	Santa Cruz Province, Argentina	Gnaedinger, 2007
<i>Juniperoxylon sibiricum</i> Nastchokin, 1962	Secondary xylem	Middle Jurassic	Krasnoyarsk, Russia	Nastchokin, 1962
<i>Keteleerioxylon liaoxiense</i> Jiang, 2019	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Jiang <i>et al.</i> , 2019
<i>Lioxylon liaoningense</i> Zhang, Wang, Zheng, Saiki & Li, 2006	Pith, primary xylem, secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Zhang <i>et al.</i> , 2006
<i>Metapodocarpoxylon libanoticum</i> Dupéron-Laudoueneix & Pons, 1986	Secondary xylem	Jurassic	Algeria; Colombia; Egypt; Mali; Morocco; Tunisia	Dupéron-Laudoueneix & Pons, 1986
<i>Mesembrioxylon carterii</i> Tidwell, Britt & Ash, 1998	Pith, primary xylem, secondary xylem	Morrison Fm.; Late Jurassic	Colorado, America	Tidwell <i>et al.</i> , 1998
<i>Mesembrioxylon rajmahalense</i> Jain, 1965	Pith, primary xylem, secondary xylem	Kota Fm.; Jurassic	India	Jain, 1965
<i>Mesembrioxylon sewardi</i> Sahni, 1920	Pith, primary xylem, secondary xylem	Walloon Fm.; Middle Jurassic	Chinghee Cr., Lamington, S.E. Moreton, Australia	Sahni, 1920
<i>Palaeoginkgoxylon</i> sp.	Secondary xylem	Early Jurassic	Holbav and Cristian areas in the Braşov region, Romania	Iamandei <i>et al.</i> , 2018
<i>Perisemoxylon bispirale</i> He & Zhang, 1993	Secondary xylem	Yima Fm., Yanan Fm.; Middle Jurassic	Yima, Sanmengxia, Henan; Lingwu, Ningxia, China	He & Zhang, 1993
<i>Phyllocladoxylon</i> sp.	Secondary xylem	Early Jurassic	Holbav and Cristian areas in the Braşov region, Romania	Iamandei <i>et al.</i> , 2018
<i>Phyllocladoxylon atlasicum</i> Crémier & Attims, 1969	Secondary xylem	Middle Jurassic	Morocco	Crémier & Attims, 1969
<i>Phyllocladoxylon</i> cf. <i>eboracense</i> Kräusel, 1963	Secondary xylem	Huoshilin Fm.; Late Jurassic	Yingcheng, Jilin, China	Zheng <i>et al.</i> , 2008
<i>Phyllocladoxylon gothanii</i> Shimakura, 1937	Secondary xylem	Late Jurassic	Krasnoyarsk, Russia	Shimakura, 1937
<i>Phyllocladoxylon heizyoense</i> Shimakura, 1936	Secondary xylem	Daido Fm.; Middle Jurassic	South Chungcheong, Boryeong, Korea; Pyongyang, North Korea	Shimakura, 1936
<i>Phyllocladoxylon xinqiuensis</i> Cui & Liu, 1992	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Cui & Liu, 1992
<i>Planoxylon australe</i> Gnaedinger, 2007	Secondary xylem	La Matide Fm.; Middle Jurassic	San Cruz Province, Argentina	Gnaedinger, 2007
<i>Pinoxylon dacotense</i> Knowlton, 1900	Secondary xylem	Tiaojishan (Lanqi) Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Knowlton, 1900; Jiang <i>et al.</i> , 2008
<i>Pithoxylon nordenskioldii</i> Schenk, 1888	Secondary xylem	Jurassic	Saghalien, Russia	Zhang <i>et al.</i> , 2015
<i>Podocarpoxylon</i> sp.	Secondary xylem	Jurassic	Niedersachsen, Germany; India	Mahabale, 1967
<i>Podocarpoxylon atuelensis</i> Gnaedinger, 2015	Secondary xylem	El Freno Fm.; Early Jurassic	Cerro La Brea section, Atuel River valley, south of Mendoza Province, Argentina	Gnaedinger, 2015

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Podocarpoxylon austroamericanum</i> Gnaedinger, 2007	Secondary xylem	La Matide Fm.; Middle Jurassic	San Cruz Province, Argentina	Gnaedinger, 2007
<i>Podocarpoxylon chandrapurensis</i> Rajanikanth & Sukh-Dev, 1989	Secondary xylem	Kota Fm.; Late Jurassic	Near village Chiture, Gadchiroli, Maharashtra, India	Rajanikanth & Sukh-Dev, 1989
<i>Podocarpoxylon dacrydioides</i> Cui, 1995	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Chaoyang, Liaoning, China	Cui, 1995
<i>Podocarpoxylon feruglioi</i> Gnaedinger, 2007	Secondary xylem	La Matide Fm.; Middle Jurassic	San Cruz Province, Argentina	Gnaedinger, 2007
<i>Podocarpoxylon gangtaensis</i> Rai, Prasad, Prakash, Singhi, Garg, Gupta & Pandey, 2016	Secondary xylem	Ghadhada Fm.; Jurassic	Gangta Bet, Gujarat, India	Rai <i>et al.</i> , 2016
<i>Podocarpoxylon gregussii</i> Rajanikanth & Sukh-Dev, 1989	Secondary xylem	Kota Fm.; Late Jurassic	Lathi, India	Rajanikanth & Sukh-Dev, 1989
<i>Podocarpoxylon krauseli</i> Rajanikanth & Sukh-Dev, 1989	Secondary xylem	Kota Fm.; Late Jurassic	Near village Kota, Gadchiroli, Maharashtra, India	Rajanikanth & Sukh-Dev, 1989
<i>Podocarpoxylon phyllocladoides</i> Müller-Stoll & Schultze-Motel, 1990	Secondary xylem	Jurassic	Oberpfalz, Germany	Müller-Stoll & Schultze-Motel, 1990
<i>Protaxodioxylon jianchangense</i> Tian & Wang, 2015	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Tian <i>et al.</i> , 2015
<i>Protaxodioxylon mongolense</i> Ding, Fu, Li & Zhang, 2010	Secondary xylem	Sharilin Fm.; Late Jurassic	Ömnögovi Province, Mongolia	Ding <i>et al.</i> , 2010
<i>Protaxodioxylon patagonicum</i> Bodnar & Escapa, 2016	Secondary xylem	Early Jurassic	Cerro Bayo, Chubut Province, Argentina	Bodnar & Escapa, 2016
<i>Protaxodioxylon romanense</i> Bamford & Philippe, 2001	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Bamford & Philippe, 2001
<i>Protaxodioxylon sahnii</i> Chinnappa & Kavali, 2019	Secondary xylem	Late Jurassic	Pranhita-Godavari Basin, India	Chinnappa <i>et al.</i> , 2019
<i>Protaxodioxylon zhoui</i> Jiang, 2019	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Jiang <i>et al.</i> , 2019
<i>Protelicoxylon feriziene</i> Gnaedinger, 2007	Secondary xylem	La Matide Fm.; Middle Jurassic	San Cruz Province, Argentina	Gnaedinger, 2007
<i>Protelicoxylon lepenneii</i> Philippe, 1995	Secondary xylem	Jurassic	Comté, France	Philippe, 1995
<i>Protocallitrixylon liassicum</i> Yamazaki & Tsunnada, 1982	Secondary xylem	Kuruma Gr., Negoya Gr.; Late Jurassic	Toyama, Japan	Yamazaki & Tsunnada, 1982
<i>Protocedroxylon</i> sp.	Secondary xylem	Xinmin Fm.; Middle Jurassic	Inner Mongolia, China	Zhang <i>et al.</i> , 2018
<i>Protocedroxylon bojarensis</i> Shilkina & Blokhina, 1975	Secondary xylem	Late Jurassic	West Siberian, Russia	Blokhina, 1975
<i>Protocedroxylon gregussii</i> Shilkina, 1967	Secondary xylem	Jurassic	Franz Josef Land, Russia	Shilkina, 1967
<i>Protocedroxylon haraulachicum</i> Shilkina, 1958	Secondary xylem	Early Jurassic	Haraulachian, Russia	Shilkina, 1958
<i>Protocedroxylon lindleianum</i> Edward, Philippe & Hayes, 2010	Secondary xylem	Jurassic	Whitby, Yorkshire, Britain	Philippe & Hayes, 2010
<i>Protocedroxylon lingwuense</i> He & Zhang, 1993	Secondary xylem	Yanan Fm.; Middle Jurassic	Lingwu, Ningxia, China	He & Zhang, 1993
<i>Protocedroxylon ronkinii</i> Shilkina, 1986	Secondary xylem	Late Jurassic	East Siberian, Russia	Shilkina, 1986

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Protocedroxylon zhangii</i> Zhang, Tian & Wang, 2018	Secondary xylem	Wanbao Fm.; Middle Jurassic	Zhalantun, Hulun Buir, Inner Mongolia, China	Zhang <i>et al.</i> , 2018
<i>Protocedroxylon zhalantunense</i> Zhang, Tian & Wang, 2018	Secondary xylem	Wanbao Fm.; Middle Jurassic	Zhalantun, Hulun Buir, Inner Mongolia, China	Zhang <i>et al.</i> , 2018
<i>Protocamaecyparixylon klitzschii</i> Giraud & Hankel, 1985	Secondary xylem	Early Jurassic	Tanzania	Giraud & Hankel, 1985
<i>Protocircoporoxylon mongolense</i> Ding, Fu, Li & Zhang, 2010	Secondary xylem	Sharilin Fm.; Late Jurassic	Ömnögovi Province, Mongolia	Ding <i>et al.</i> , 2010
<i>Protocupressioxylon</i> sp.	Secondary xylem	Yima Fm.; Middle Jurassic	Yima, Sanmengxia, Henan, China; Antarctica	Zhou & Zhang, 1989; Garland <i>et al.</i> , 2007
<i>Protocupressioxylon catenatum</i> Müller-Stoll & Schultze-Motel, 1990	Secondary xylem	Jurassic	Württemberg, Göppingen, Germany	Müller-Stoll & Schultze-Motel, 1990
<i>Protocupressioxylon coromandelinum</i> Kräusel, 1949	Secondary xylem	Sharilin Fm.; Late Jurassic	Ömnögovi Province, Mongolia	Kräusel, 1949; Ding <i>et al.</i> , 2010
<i>Protocupressioxylon liasinum</i> Müller-Stoll & Schultze-Motel, 1990	Secondary xylem	Jurassic	Göppingen, Göppingen, Germany	Müller-Stoll & Schultze-Motel, 1990
<i>Protocupressioxylon medlynii</i> Tidwell, Britt & Ash, 1998	Secondary xylem	Morrison Fm.; Late Jurassic	Colorado, America	Tidwell <i>et al.</i> , 1998
<i>Protocupressioxylon mishanense</i> Zheng & Zhang, 1982	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Zheng & Zhang, 1982
<i>Protocupressioxylon munense</i> Shilkina & Blokhina, 1975	Secondary xylem	Early Jurassic	Yakutsk, Russia	Blokhina, 1975
<i>Protocupressioxylon purbeckensis</i> Philippe, 2010	Secondary xylem	Purbeck Fm.; Late Jurassic	Dorset, Britain; Asturias, Spain; Ajoie, Switzerland	Philippe <i>et al.</i> , 2010
<i>Protocupressioxylon tiaojishanense</i> Jiang, 2019	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Jiang <i>et al.</i> , 2019
<i>Protophyllocladoxylon araucarioides</i> Kräusel, 1959	Secondary xylem	Middle Jurassic	England	Holden, 1913
<i>Protophyllocladoxylon chaoyangense</i> Zhang & Zheng, 2000	Secondary xylem	Beipiao Fm.; Early Jurassic	Beipiao, Chaoyang, Liaoning, China	Zhang & Zheng, 2000a
<i>Protophyllocladoxylon franconicum</i> Vogellehner, 1966	Secondary xylem	Tuchengzi Fm.; Early–Late Jurassic	Beipiao, Chaoyang, Liaoning, China; Comté, France; Franken, Germany	Vogellehner, 1966
<i>Protophyllocladoxylon holbavicum</i> Iamandei, Iamandei & Gradinaru, 2018	Secondary xylem	Early Jurassic	Holbav and Cristian areas in the Braşov region, Romania	Iamandei <i>et al.</i> , 2018
<i>Protophyllocladoxylon maurianum</i> Gazeau & Koeniguer, 1970	Secondary xylem	Early–Middle Jurassic	Morocco	Gazeau & Koeniguer, 1970
<i>Protophyllocladoxylon quedinburgense</i> Schultze-Motel, 1961	Secondary xylem	Early Jurassic	Württemberg, Göppingen, Germany	Schultze-Motel, 1961
<i>Protophyllocladoxylon uzbekistanicum</i> Junusov, 1977	Secondary xylem	Middle Jurassic	Uzbekistan	Junusov, 1977
<i>Protophyllocladoxylon xenoxylodes</i> Serra, 1966	Secondary xylem	Early Jurassic	Cambodia	Serra, 1966
<i>Protophyllocladoxylon yiwuense</i> Gou & Feng, 2021	Secondary xylem	Xishanyao Fm.; Middle Jurassic	Hami, Xinjiang, China	Gou <i>et al.</i> , 2021c
<i>Protopiceoxylon amurense</i> Du, 1982	Secondary xylem	Ningyuancun Fm.; Late Jurassic	Jiayin, Yichun, Heilongjiang, China	Du, 1982

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Protopiceoxylon canadense</i> Medlyn & Tidwell, 1979	Secondary xylem	Early Jurassic	British Columbia, Canada	Medlyn & Tidwell, 1979
<i>Protopiceoxylon extinctum</i> Gothan, 1963	Secondary xylem	Tiaojishan Fm., Tuchengzi Fm.; Middle–Late Jurassic	Zhulu, Zhangjiakou, Hebei, China	Sze & Lee, 1963
<i>Protopiceoxylon dacotense</i> Knowlton, 1900	Secondary xylem	Jurassic	South Dakota, America	Knowlton, 1900
<i>Protopiceoxylon resiniferous</i> Medlyn & Tidwell, 1979	Secondary xylem	Morrison Fm.; Late Jurassic	Utah, America	Medlyn & Tidwell, 1979
<i>Protopiceoxylon xinjiangense</i> Wang, Zhang & Saiki, 2000	Secondary xylem	Shishugou Gr.; Middle–Late Jurassic	Qitan, Changji, Xinjiang, China	Wang <i>et al.</i> , 2000
<i>Protopiceoxylon yabei</i> (Shimakura) Sze, 1963	Secondary xylem	Late Jurassic	Huoshiling, Jilin, China	Sze & Lee, 1963
<i>Protopodocarpoxylo araucarioides</i> Müller-Stoll & Schultze-Motel, 1990	Secondary xylem	Late Jurassic	Westfalen, Germany	Müller-Stoll & Schultze-Motel, 1990
<i>Protopodocarpoxylo batuyingziense</i> Zheng & Zhang, 2004	Secondary xylem	Tuchengzi Fm.; Late Jurassic	Batuyingzi, Beipiao, Liaoning, China	Zheng, 2004
<i>Protopodocarpoxylo guidense</i> Attims, 1965	Secondary xylem	Early Jurassic	Morocco	Attims, 1965
<i>Protopodocarpoxylo lamtharii</i> Gazeau & Koeniguer, 1970	Secondary xylem	Early Jurassic	Morocco	Gazeau & Koeniguer, 1970
<i>Protosciadopityoxylon lamayingense</i> Jiang, 2019	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Batuyingzi, Beipiao, Liaoning, China; Comté, France	Jiang <i>et al.</i> , 2019
<i>Protosciadopityoxylon liaoningense</i> Zhang, Zheng & Ding, 2000	Secondary xylem	Beipiao Fm.; Early Jurassic	Batuyingzi, Beipiao, Liaoning, China	Zhang & Zheng, 2000a
<i>Protosciadopityoxylon liaoxiense</i> Zhang & Zheng, 2000	Secondary xylem	Beipiao Fm.; Early Jurassic	Beipiao, Chaoyang, Liaoning, China	Zhang & Zheng, 2000a
<i>Protosciadopityoxylon jeholense</i> (Ogura) Zhang & Zheng, 2000	Secondary xylem	Beipiao Fm.; Early Jurassic	Beipiao, Chaoyang, Liaoning, China	Zhang & Zheng, 2000a
<i>Prototaxoxylon acevedoae</i> Gnaedinger & Herbst, 2006	Secondary xylem	La Matide Fm.; Middle Jurassic	Gran Bajo de San Julián, Argentina	Gnaedinger & Herbst, 2006
<i>Prototaxoxylon liassicum</i> Muralidhara Rao, 1991	Secondary xylem	Kota Fm.; Late Jurassic	India	Muralidhara Rao, 1991
<i>Prototaxoxylon intertrappeum</i> Gnaedinger & Herbst, 2006	Secondary xylem	La Matide Fm.; Middle Jurassic	Gran Bajo de San Julián, Argentina	Gnaedinger & Herbst, 2006
<i>Prototaxoxylon pintadense</i> Gnaedinger, 2006	Secondary xylem	Piedra Pintada Fm.; Middle Jurassic	Neuquén Province, Argentina	Gnaedinger, 2006
<i>Prototaxoxylon uniseriale</i> Prasad, Gnaedinger & Herbst, 2006	Secondary xylem	La Matide Fm.; Middle Jurassic	Gran Bajo de San Julián, Argentina	Gnaedinger & Herbst, 2006
<i>Prototaxodioxylon choubertii</i> Giraud & Hankel, 1985	Secondary xylem	Early Jurassic	Morocco; Tanzania	Giraud & Hankel, 1985
<i>Prototaxodioxylon romanense</i> Philippe, 1995	Secondary xylem	Tuchengzi Fm.; Late Jurassic	Batuyingzi, Beipiao, Liaoning, China; Comté, France	Philippe, 1995
<i>Sahnioxylon</i> sp.	Pith, primary xylem, secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Jiang <i>et al.</i> , 2019
<i>Sahnioxylon rajmahalense</i> (Sahni) Bose & Sah, 1954	Pith, primary xylem, secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Bose & Sah, 1954; Zheng <i>et al.</i> , 2005
<i>Sciadopityoxylon heizyoense</i> Zhang & Zheng, 2000	Secondary xylem	Beipiao Fm.; Early Jurassic	Beipiao, Liaoning, China	Zhang & Zheng, 2000a

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Scotoxylon hornei</i> Vogellehner, 1968	Pith, primary xylem, secondary xylem	Jurassic	Scotland	Vogellehner, 1968
<i>Scotoxylon yanqingense</i> Zhang & Zheng, 2000	Pith, primary xylem, secondary xylem	Tuchengzi Fm.; Late Jurassic	Beijing, China	Zhang <i>et al.</i> , 2000b
<i>Shimakuroxylon japonicum</i> Philippe, Boura, Oh & Pons, 2014	Secondary xylem	Yatsuji Fm.; Late Jurassic	Japan	Philippe <i>et al.</i> , 2014
<i>Simplicioxylon bugaricum</i> Philippe, 1995	Secondary xylem	Jurassic	Comté, France	Philippe, 1995
<i>Simplicioxylon hungaricum</i> Polgari, Philippe, Szabo-Drubina & Toth, 2005	Secondary xylem	Early Jurassic	Urkut, Hungary	Philippe <i>et al.</i> , 2006
<i>Sinocycadoxylon liianum</i> Zhang, Yang, Fu, Zheng & Wang, 2012	Pith, primary xylem, Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Zhang <i>et al.</i> , 2012
<i>Svalbardoxylon johnsenii</i> Vogellehner, 1968	Pith, primary xylem, secondary xylem	Jurassic	Spitbergen, Norseland	Vogellehner, 1968
<i>Taxaceoxylon</i> sp.	Secondary xylem	Kota Fm.; Late Jurassic	Near village Kota, Gadchiroli, Maharashtra, India	Rajanikanth & Sukh-Dev, 1989
<i>Taxaceoxylon sahnii</i> Rajanikanth & Sukh-Dev, 1989	Secondary xylem	Kota Fm.; Late Jurassic	Near village Kota, Gadchiroli, Maharashtra, India	Rajanikanth & Sukh-Dev, 1989
<i>Taxodioxylon szei</i> Yang & Zheng, 2003	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Yang & Zheng, 2003
<i>Taxoxylon</i> sp.	Secondary xylem	Tiaojishan Fm.; Middle Jurassic	Beipiao, Liaoning, China	Jiang <i>et al.</i> , 2019
<i>Xenoxylon barberi</i> Kräusel, 1949	Secondary xylem	Early Jurassic	Württemberg, Germany; Russia	Kräusel, 1949
<i>Xenoxylon conchyliaum</i> Fliche, 1995	Secondary xylem	Middle Jurassic	Hebe, China	Wang, 1995
<i>Xenoxylon ellipticum</i> Schulltz-Motel, 2006	Secondary xylem	Tuchengzi Fm.; Jurassic	Beipiao, Chaoyang, Liaoning, China; Comté, France; Basley, Germany	Ding <i>et al.</i> , 2000
<i>Xenoxylon hopeiense</i> Chang, 1929	Secondary xylem	Beipiao Fm., Tiaojishan Fm.; Early–Middle Jurassic	Zhulu, Zhangjiakou, Hebei; Beipiao, Chaoyang, Liaoning, China; Ishikawa Ken, Japan	Chang, 1929; Ding <i>et al.</i> , 2000; Jiang <i>et al.</i> , 2016
<i>Xenoxylon huttonianum</i> Philippe & Hayes, 2010	Secondary xylem	Jurassic	Whitby, Yorkshire, Britain	Philippe & Hayes, 2010
<i>Xenoxylon japonicum</i> Vogellehner, 1968	Secondary xylem	Beipiao Fm.; Early Jurassic	Beipiao, Chaoyang, Liaoning, China	Vogellehner, 1968; Ding <i>et al.</i> , 2000
<i>Xenoxylon jurassicum</i> Kräusel, 1922	Secondary xylem	Late Jurassic	Krasinoyalsk, Russia	Nastchokin , 1968
<i>Xenoxylon latiporosum</i> (Cramer) Gothan, 1963	Secondary xylem	Beipiao Fm., Tiaojishan Fm., Tuchengzi Fm., Ningyuancun Fm., Shishugou Gr., Yingcheng Fm., Changan Fm., Chancai Fm., Xinhe Fm., Hojedk Fm.; Jurassic	Beipiao, Chaoyang, Liaoning; Yanqing, Beijing; Jiayin, Heilongjiang; Qitan, Changji, Xinjiang; Yangcaogou, Jilin; Baiquan, Liaoyuan, Jilin; Laotouju, Songxiaping, Jilin; Gansu, China; South Chungcheong, Boryeong, Korea; Pyongyang, North Korea; Comté, France; Württemberg, Germany; Russia; North of Kerman, Iran	Gothan & Sze, 1933; Sze & Lee, 1963; Du, 1982; Duan, 1986; Duan & Wang, 1995; Ding <i>et al.</i> , 2000; Li <i>et al.</i> , 2021; Zhu <i>et al.</i> , 2022; Poole & Ataabadi, 2005
<i>Xenoxylon meisteri</i> Palibin & Jarmolenko, 1932	Secondary xylem	Morrison Fm.; Late Jurassic	Utah, America	Richmond <i>et al.</i> , 2019
<i>Xenoxylon moorei</i> Tidwell, Britt & Ash, 1998	Secondary xylem	Morrison Fm.; Late Jurassic	Colorado, America	Tidwell <i>et al.</i> , 1998
<i>Xenoxylon morrisonens</i> Tidwell, Britt & Ash, 1998	Secondary xylem	Morrison Fm.; Late Jurassic	Utah, America	Tidwell <i>et al.</i> , 1998

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TABLE 1. (Continued)

Species	Preservation Status	Horizon and Age	Locality	References
<i>Xenoxylon peidense</i> Zheng & Zhang, 1982	Secondary xylem	Beipiao Fm., Tiaojishan Fm., Nankangzhuang Fm., Tuchengzi Fm.; Jurassic	Jianchang, Tieling, Kazuo, Liaoning, China	Zheng & Zhang, 1982; Ding <i>et al.</i> , 2000; Tian <i>et al.</i> , 2015; Li <i>et al.</i> , 2021
<i>Xenoxylon phyllocladoides</i> Gothan, 1936	Secondary xylem	Tiaojishan (Lanqi) Fm., Tiaojishan Fm., Yima Fm.; Daido Fm.; Xinmin Fm., Middle Jurassic; Scalby Fm., Dogger Fm., Cleveland Ironstone Fm., Khorat Gr.; Jurassic	Beipiao, Chaoyang, Liaoning; Yima, Sanmengxia, Henan; Inner Mongolia, China; South Chungcheong, Boryeong, Korea; Pyongyang, North Korea; Comté, France; Dorset, Purbeck, Britain; Svalbard; Thailand	Jiang <i>et al.</i> , 2008; Jiang <i>et al.</i> , 2016; Zhang <i>et al.</i> , 2018; Reolid <i>et al.</i> , 2010; Boonchai <i>et al.</i> , 2020
<i>Xenoxylon pseudoellipticum</i> Yamazaki & Tsunada, 1981	Secondary xylem	Kurama Gr., Negoya Gr.; Early Jurassic	Aichi-ken, Japan	Yamazaki, 1981
<i>Xenoxylon saadawii</i> Youssef, 2002	Secondary xylem	Late Jurassic	Egypt	Youssef, 2002
<i>Xenoxylon shehongense</i> Xie, Wang & Tian, 2023	Secondary xylem	Penglaizhen Fm.; Late Jurassic	Shehong, Sichuan, China	Xie <i>et al.</i> , 2023b
<i>Xenoxylon suljiuctense</i> Shilkina & Khudaiberdyev, 1971	Secondary xylem	Middle Jurassic	Ferghana, Kyrgyzstan	Shilkina & Khudaiberdyev, 1971
<i>Xenoxylon cf. suljiuctense</i> Shilkina & Khudaiberdyev, 1980	Secondary xylem	Kuruma Gr., Negoya Gr.; Early Jurassic	Aichi-ken, Japan	Yamazaki & Tsunada, 1982
<i>Xenoxylon tomiense</i> Larishchev, 1957	Secondary xylem	Jurassic	Western Siberia, Russia	Larishchev, 1957
<i>Xenoxylon utahense</i> Xie & Gee, 2021	Secondary xylem	Morrison Fm.; Late Jurassic	Utah, America	Xie <i>et al.</i> , 2021
<i>Xenoxylon yunnanensis</i> Feng, 2015	Secondary xylem	Shaximiao Fm.; Middle Jurassic	Huize, Qujing, Yunnan, China	Feng <i>et al.</i> , 2015
<i>Yiwupitys elegans</i> Gou & Feng, 2023	Pith, primary xylem, secondary xylem	Xishanyao Fm.; Middle Jurassic	Hami, Xinjiang, China	Gou <i>et al.</i> , 2023
<i>Yorcoxylon lindleianum</i> , Vogellehner 1968	Pith, primary xylem, secondary xylem	Jurassic	England	Vogellehner, 1968
<i>Zhangoxylon yanliaoense</i> Jiang, Wang, Tian & Zheng, 2022	Pith, primary xylem, secondary xylem	Tiaojishan Fm.; Middle Jurassic	Chaoyang, Liaoning, China	Jiang <i>et al.</i> , 2022

Fm., Formation; Gr., Group

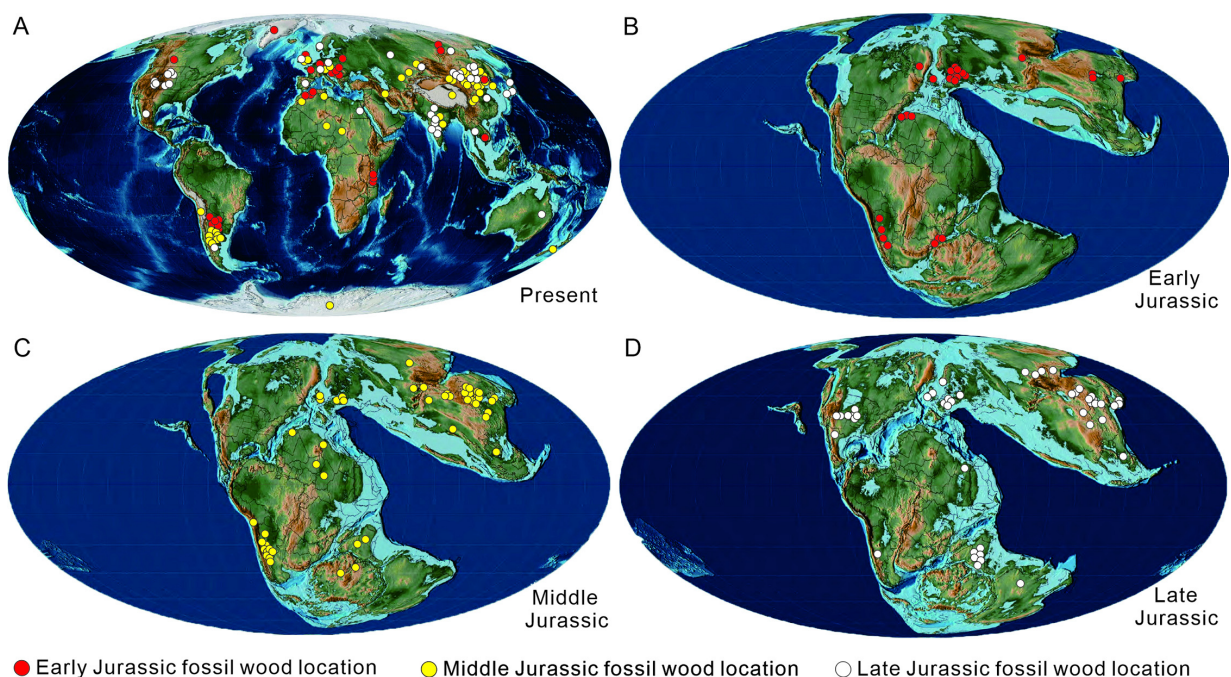


FIGURE 1. Geographic and paleogeographic maps of the Jurassic gymnospermous wood distribution.

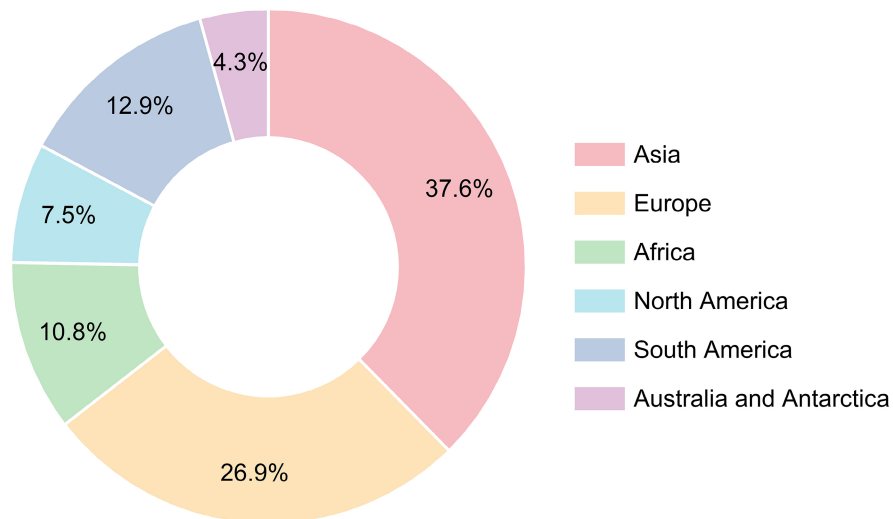


FIGURE 2. The genera number percentage of seven continents.

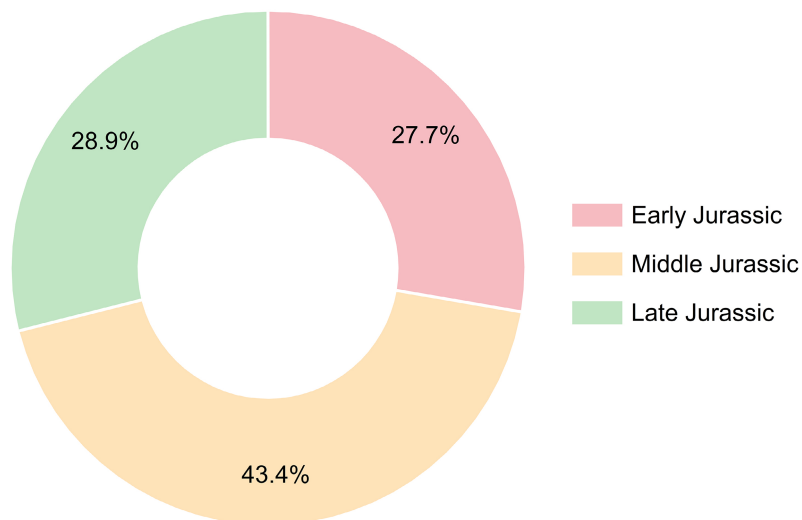


FIGURE 3. The genera number percentage of Early Jurassic, Middle Jurassic, and Late Jurassic.

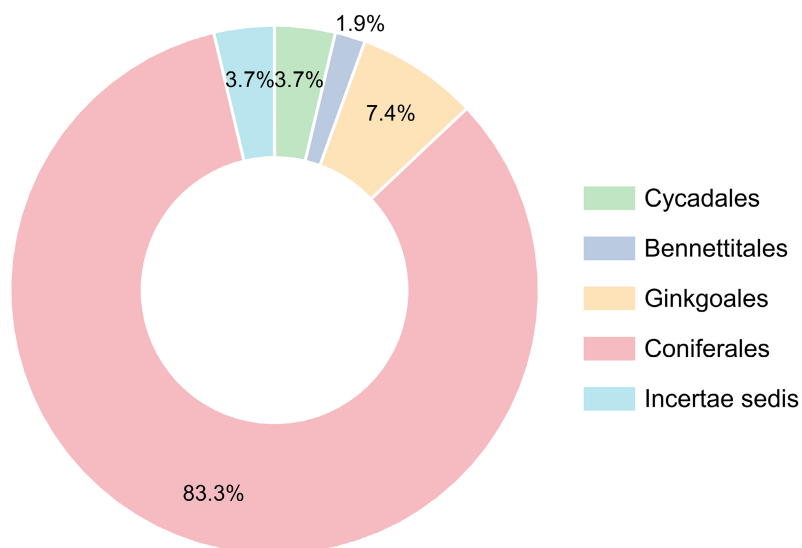


FIGURE 4. The genera number percentage of Cycadales, Bennettitales, Ginkgoales, Coniferales, and Incertae sedis.

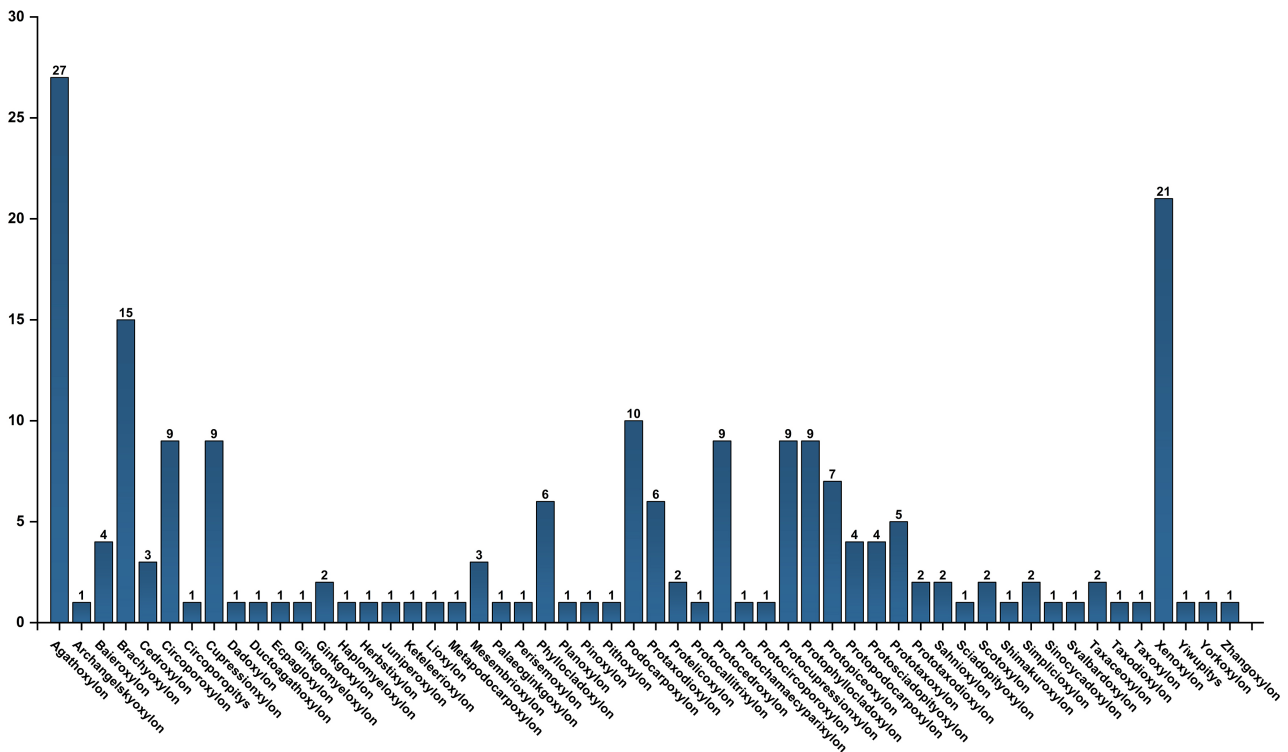


FIGURE 5. The species number of each genera of the Jurassic gymnospermous wood.

Brachyoxylon (4 species), *Protocedroxylon* (4 species), and *Prototaxoxylon* (4 species); and in the Late Jurassic, *Xenoxylon* (13 species), *Agathoxylon* (= *Araucarioxylon*, 5 species), *Cupressioxylon* (5 species), *Protopiceoxylon* (5 species), and *Circoporoxylon* (4 species).

Although the morphology and structure of the pith and the primary xylem play important roles in the classification and identification of fossil gymnospermous woods, most of the fossil-wood specimens from the Jurassic are only preserved with the secondary xylem. To date, only 15 genera and 20 species of permineralized gymnospermous wood with pith, primary and secondary xylems have been described from the Jurassic.

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