

12 - Supplementary online material

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A. Trace-fossil assemblages from channel-belt deposits, separated by type of fluvial system.

Age / Formation	Country / region	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
A.1. Meandering rivers				
Pliocene / Monte Hermoso Fm.	Argentina	<i>Skolithos</i> isp., <i>Taenidium</i> isp.		Zavala and Navarro (1993)
Oligocene / Rocaforte Sst	Spain		Equoid footprints (? <i>Plagiolophustipus</i> isp.)	Astibia et al. (2007)
Oligocene-Miocene / Vinchina Fm. (sections 206, 218 and 219)	Argentina	<i>Capayanichnus vinchinensis</i> , <i>Taenidium barretti</i> , <i>Scoyenia</i> isp.	<i>Delatorrichnus</i> isp., <i>Bothriodontipus</i> isp.	Melchor et al. (2010)
Early Eocene / Wasacht Fm.	USA	<i>Spirographites</i> isp. (= <i>Lunulichnus tuberosus</i> , root traces		Zonneveld et al. (2006)
Campanian / Anacleto Fm.	Argentina		Sauropod nest (platter structure), sauropod footprints	Chiappe et al. (2004), Garrido (2010)
Late Cretaceous / Candeleros Fm.	Argentina	<i>Helminthopsis</i> isp., <i>Scoyenia</i> isp., <i>Skolithos</i> isp., <i>Taenidium</i> isp.		Aramayo and Bocanegra (2003)
Late Triassic -Early Jurassic (Norian Toarcian) / Elliot Fm.	South Africa	<i>Cochlichnus</i> isp., <i>Taenidium barretti</i> , " <i>Hormosiroidea meandrica</i> "	<i>Grallator</i> isp. (= <i>Neotrisauropus</i>), <i>Anomoepus</i> isp. (= <i>Moyenisauropus</i>), <i>Moyenisauropus</i> resting traces, <i>Episcopopus</i> isp., chiroteriid footprints	Smith et al. (2009)
Cretaceous / Hasandong Fm. (facies vii)	Korea	<i>Planolites annularius</i> , <i>Planolites montanus</i> , <i>Skolithos magnus</i>		Kim et al. (2002)
Late Permian / Beaufort Gr (type 3 paleosurface)	South Africa	<i>Planolites</i> isp.	<i>Undichna britannica</i> , large vertebrate meniscate burrow, bilobed septate trail.	Smith (1993)
Late Carboniferous (Westphalian) / Mudstone Series (<i>Planolites montanus</i> assoc.)	Poland	<i>Planolites montanus</i> , <i>Cochlichnus anguineus</i> , <i>Lockeia avalonensis</i> , <i>Lockeia siliquaria</i> , thread like equilibrichnia, three fingered resting trace		Gluszek (1995)
Late Devonian (Frasnian) / Oneonta and Walton formations	USA	I to J-shaped vertical meniscate burrows, bivalve trails, arthropod trackways		Bridge et al. (1986), Thoms and Berg (1985)
A.2. Braided rivers				
recent / Platte river	USA	Staphylinid beetle burrows		Smith and Heim (1971)
Pliocene / Osoppo congl	Italy		Mammalian (<i>Hipparion</i> , bovid, and rhinocero) tracks	Dalla Vecchia and Rustioni (1996)
Miocene-Pliocene / Ogallala Fm.	USA	invertebrate burrow (? <i>Palaeophycus</i>)	Mammalian tracks (<i>Bestiopeda</i> isp., <i>Chelipus</i> isp., <i>Gambapes</i> isp. A and isp.B)	Williamson and Lucas (1996)
Miocene / Diligencia Fm.	USA	<i>Taenidium</i> isp.		Squires and Advocate

Age / Formation	Country / region	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Early Miocene / Gering and Monroe Creek formations	USA	<i>Taenidium</i> isp., <i>Skolithos</i> isp., J-, L- or spiral burrows		(1984) Stanley and Fagerstrom (1974)
Oligocene-Miocene / Vinchina Fm. (sections 205 and 210)	Argentina	<i>Capayanichnus vinchinensis</i> (vertical to oblique), <i>Spongeliomorpha carlsbergi</i> , <i>Palaeophycus</i> isp.		Melchor et al. (2010)
Eocene / Duchesne River Fm.	USA	<i>Scoyenia</i> isp., <i>Spongeliomorpha</i> (= ? <i>Palaeophycus</i>), vertical meniscate burrows		D'Alessandro et al. (1987)
Cenomanian / Tuscaloosa Fm.	USA		Large chambered burrow systems (= type 14 Bown 1982)	Savrda et al. (2000)
Early Cretaceous / Antenor Navarro	Brazil	Track and burrow produced by annelids and arthropods	Ornitischian and theropod tracks	Carvalho (2000, 2004)
Jurassic / Morrison Fm. (Salt Wash Mb.)	USA		Common ornithopod and theropod footprints. <i>Brontopodus</i> isp., <i>Pteraichnus saltwashensis</i> , <i>Hatcherichnus sanjuanensis</i> , <i>Chelonipus</i> isp.	Foster and Lockley (2006)
Jurassic / Morrison Fm. (Salt Wash Mb.)	USA		<i>Chelonipus</i> isp.	Lockley and Foster (2006)
Late Triassic / Molteno Fm.	South Africa	<i>Archaeonassa</i> isp. (= <i>Scolicia</i>)		Turner (1978)
Late Triassic / Sugarloaf Arkose	USA	<i>Scoyenia</i> isp.		Hubert and Dutcher (2010)
Early Triassic / Labyrinthodontidae Beds, Middle Buntsandstein = Wiory Fm.	Poland		<i>Chirotherium hauboldi</i> , <i>Rhynchosauroides brevidigitatus</i> , <i>Synaptichnium chirotherioides</i> , <i>Brachychirotherium kuhni</i> , <i>Isochirotherium sanctacrucense</i> , cf. <i>Capitosauroides</i> isp., <i>Rhynchosauroides</i> isp., Chirotheriid footprints	Fuglewicz et al. (1990), Ptaszyński (2000) Niedźwiedzki and Ptaszyński (2007)
Triassic / Lepreau Fm.	Canada	<i>Skolithos linearis</i> , <i>Palaeophycus striatus</i> , <i>Palaeophycus</i> isp., <i>Planolites</i> isp., <i>Anchorichnus coronus</i> , <i>Ancorichnus</i> isp., <i>Aulichnites</i> isp., <i>Palaeophycus striatus</i> , <i>Taenidium</i> isp., <i>Cruziana problematica</i> , <i>Fuersichnus</i> isp., <i>Gordia marina</i> , <i>Rusophycus</i> isp., inclined meniscate burrows, "surface pit structures"		MacNaughton and Pickerill (1995)
Triassic / Fremouw Fm.	Antarctica	<i>Cruziana</i> isp., <i>Skolithos</i> isp., <i>Palaeophycus</i> ?, chevron traces		Miller and Collinson (1994), Miller (2000))

Age / Formation	Country / region	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Permian-Triassic / Takrouna Fm.	Antarctica	<i>Archaeonassa</i> isp. (= <i>Aulichnites</i>), <i>Skolithos</i> isp., <i>Monocraterion</i> isp.		Zawiskie et al. (1983)
Permian-Triassic / Takrouna Fm. Late Permian / Val Gardena Sandstone	Antarctica Italy	<i>Skolithos</i> isp., <i>Taenidium</i> isp.	<i>Pachypes dolomiticus</i> , <i>Dicynodontipus geinitzi</i> , <i>Rhynchosauroides palmatus</i> , <i>R. pallinii</i> , <i>Ichniotherium accordii</i> , <i>Hyloidichnus tirolensis</i> , <i>Varanopus curvidactylus</i> , " <i>Chelichnus</i> " <i>tazelwiörn</i> , <i>Janusichnus bifrons</i> , <i>Chirotherium</i> isp.	Zawiskie et al. (1983) Cassinis and Santi (2005)
Permian / Torbay Breccia Fm.	Great Britain	Large <i>Beaconites</i>		Ridgway (1974), Pollard (1976)
Permian / Feather Conglomerate (Victoria Group)	Antarctica	<i>Skolithos linearis</i> (piperock)		Fitzgerald and Barrett (1986)
Carboniferous-Permian / Cumberland Gr	Canada	<i>Diplichnites cuithensis</i>		Ryan (1986)
Pennsylvanian / Rouge Rock	Great Britain	<i>Lockeia siliquaria</i> , <i>Archaeonassa</i> isp., <i>Planolites</i> isp., <i>Cochlichnus</i> isp., vertical escape traces		Kane (2009)
Mississippian / Mauch Chunk Fm.	USA	<i>Cruziana problematica</i> , <i>Diplichnites gouldi</i> Type A, <i>Diplopodichnus biformis</i> , <i>Gordia</i> isp., <i>Koupichnium aspodon</i> , <i>Planolites beverlyensis</i> , <i>Rusophycus carbonarius</i> , <i>Stiallia pilosa</i> , <i>Stiaria intermedia</i> , <i>Taenidium barretti</i>	<i>Palaeosauropus primaevus</i> , <i>Undichna</i> isp.	Fillmore et al. (2010)
Devonian / Taylor Gr	Antarctica	<i>Diplichnite</i> isp.		Woolfe (1990)
Early-Middle Devonian / Wood Bay Fm.	Svalbard	<i>Svalbardichnus trilobus</i>		Wisshak et al. (2004)
Devonian / Lower Old Red Sandstone	Great Britain	<i>Taenidium barretti</i>		Allen and Williams (1981)
Middle Devonian / Battery Point Fm. (Cap-aux-Os Mb.)	Canada	<i>Palmichnium antarcticum</i>		Braddy and Milner (1998)
Early Devonian / Peel Sandstone Group (<i>Beaconites</i> ichnocoenosis)	Great Britain	<i>Taenidium barretti</i> , <i>Beaconites antarcticus</i> , <i>Diplocraterion parallellum</i>		Crowley et al. (2009)
Ordovician / Tumblagooda Sandstone	Australia	<i>Selenichnites landgridei</i> , <i>Rusophycus trefolia</i> , <i>Diplocraterion paralellum</i> form T1		Trewin and McNamara (1995)
Ordovician / Tumblagooda Sandstone	Australia	<i>Planolites</i> , <i>Selenichnites landgridei</i> , <i>Didymaulyponomos</i> , <i>Rusophycus rex</i>		Trewin and McNamara (1995)
Early Cambrian / Wood Canyon	USA	<i>Arenicolites</i> isp., <i>Skolithos</i> isp., horizontal		Kennedy and Droser

Age / Formation	Country / region	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Fm.		burrows		(2011)
A.3. Ephemeral rivers				
Pleistocene / Koobi Fora tuff complex	Kenya	Predominantly vertical and diagonal root casts, subordinate horizontal root casts, and rare rhizolith balls		Cohen (1982)
Neogene / Río Negro Fm.	Argentina		<i>Gruipeda dominguensis</i>	Melchor (2009)
Late Triassic / Bhirmaram Fm.	India	<i>Skolithos</i> isp., <i>Palaeophycus</i> isp., <i>Taenidium</i> isp., vertical escape burrows		Sarkar and Chaudhuri (1992)
Late Triassic / Maleri Fm.	India	<i>Skolithos</i> isp., <i>Palaeophycus</i> isp.		Sarkar and Chaudhuri (1992)
Late Triassic / Keuper	Germany	<i>Cruziana problematica</i> , cf. <i>Polykladichnus</i> isp., <i>Skolithos</i> isp.		Schlirf et al. (2001)
Late Triassic / Bull Canyon Fm.	USA	<i>Palaeophycus tubularis</i> , <i>Scoyenia gracilis</i> , <i>Skolithos</i> isp.		Lucas et al. (2006)
Middle Triassic / Yerrapalli Fm.	India	<i>Taenidium</i> isp., <i>Skolithos</i> isp.		Maulik and Chaudhuri (1983)
Triassic / Sheerwood Sandstone Gr (Ichnocoenosis 2)	Ireland	<i>Planolites beverleyensis</i> , <i>Biformites</i> isp.	Reptile footprints	Buckman et al. (1997)
Early Jurassic / Santo Domingo Fm.	Argentina	<i>Skolithos linearis</i>	Footprints in cross section	Melchor et al. (2006)
Early Jurassic / Santo Domingo Fm.	Argentina	<i>Skolithos linearis</i> , <i>Diplichnites</i> isp., <i>Palaeophycus tubularis</i> , <i>Taenidium barretti</i>	<i>Dicynodontipus</i> isp.	Melchor et al. (2006)
Early Permian / Tambach sandstone (lower beds)	Germany	<i>Tambachichnus spiralis</i> , horizontal trails, scratch traces	<i>Ichniotherium cottae</i> , "Varanopus" <i>microdactylus</i> , <i>Tambachichnus schmidti</i> , unnamed track type	Eberth et al. (2000), Haubold (1998), Voigt (2005)
Early Permian / Abo Fm.	USA	<i>Scoyenia gracilis</i> , <i>Skolithos</i> isp., <i>Arenicolites</i> isp.	<i>Batrachichnus</i> isp., <i>Dromopus</i> isp., <i>Dimetropus</i> isp., <i>Gilmoerichnus</i> isp., "lungfish burrows"	Mack et al. (2003)
Late Carboniferous-Early Permian / Cape John Fm.	Canada		<i>Limnopus vagus</i> , <i>Amphisauropus latus</i> , <i>Dimetropus nicolasi</i> , <i>Dromopus agilis</i> , <i>Varanopus</i> cf. <i>microdactylus</i>	van Allen et al. (2005)
Late Carboniferous / Grande Anse Fm.	Canada		<i>Pseudobradypus</i> isp., tenmospondyl amphibian trackway	Falcon-Lang et al. (2007)
Pennsylvanian (early) / Tynemouth Creek Fm.	Canada	<i>Taenidium barretti</i>	<i>Pseudobradypus longidigitatus</i> , <i>Baropezia</i> isp., <i>Batrachichnus</i> isp.	Falcon-Lang et al. (2010)
Early Carboniferous / Albert Fm. (<i>Rusophycus</i> ichnocoenosis)	Canada	<i>Rusophycus carbonarius</i> , <i>Cruziana problematica</i> , <i>Skolithos</i> isp., <i>Diplichnites triassicus</i> , <i>Diplichnites</i> cf. <i>incertipes</i> ,		Pickerill (1992)

Age / Formation	Country / region	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Carboniferous / Port Hood Fm.	Canada	<i>Monomorphichnus bilinearis</i> <i>Cruziana problematica</i> , <i>Rusophycus carbonarius</i> , small ovate pits		Keighley and Pickerill (1997, 2003)
Early Carboniferous / Maam Fm.	Ireland	<i>Taenidium barretti</i>		Graham and Pollard (1982)
Early Devonian / Ridgeway Conglomerate Fm.	Great Britain	<i>Taenidium barretti</i> , <i>Diplichnites</i> isp., root traces		Hillier and Williams (2007)
Devonian / Harrylock Fm.	Ireland	<i>Beaconites antarcticus</i>		Bamford et al. (1986)
Upper Silurian / Moor Cliffs Fm.	Great Britain	<i>Palmichnium antarcticum</i> , <i>Cochlichnus anguineus</i> , <i>Diplichnites gouldi</i> (types A and B), <i>Paleohelcura tridactyla</i> , <i>Palaeophycus</i> isp., <i>Taenidium barretti</i> , <i>Rusophycus</i> type B		Morrisey and Braddy (2004), Marriott et al. (2009)
Upper Silurian / Freshwater West Fm. / Rat Island Mudstone Mb.	Great Britain	<i>Diplichnites gouldi</i> (types A and B), <i>Paleohelcura tridactyla</i> , <i>Cochlichnus anguineus</i> , <i>Palaeophycus</i> isp., <i>Treptichnus</i> isp., <i>Selenichnites</i> isp., <i>Beaconites antarcticus</i> , <i>Striatichnium linearis</i> , <i>Rusophycus</i> type B, <i>Cruziana</i> isp., <i>Taenidium barretti</i>		Morrisey and Braddy (2004), Marriott et al. (2009)
A.4. Anastomosed rivers				
Late Miocene / Tariquia Fm. (Ichnofabric 1)	Bolivia	<i>Taenidium barretti</i>		Buatois et al. (2007)
Miocene / Toro Negro Fm.	Argentina	<i>Paleophycus tubularis</i> , <i>Helminthopsis hieroglyphica</i>	<i>Fuscinapeda sirin</i> , <i>Macrauchenichnus rector</i> , cf. <i>Venatoripes riojanus</i> , incumbent footprint, slender anisodactyl footprint, small heteropod footprint, kidney-like footprints, oval impressions	Krapovickas et al. (2009)
Miocene / Toro Negro Fm.	Argentina	<i>Palaeophycus tubularis</i> , <i>Scoyenia gracilis</i> , <i>Taenidium barretti</i>		Krapovickas et al. (2009)
Early Paleocene / Fort Union Fm.	USA	<i>Cochlichnus</i> isp., root traces	Semipalmate bird tracks (2 types), bird tracks without web traces, amphibian (salamander?) tracks	Johnson (1986)
Late Cretaceous (Maastrichtian) / North Horn Fm.	USA	<i>Planolites</i> isp.	Herbivorous dinosaur tracks in cross section	Difley and Ekdale (2002)
Late Cretaceous (Maastrichtian) / St. Mary River Fm.	Canada	Simple burrows, burrow networks, trails	Deep hadrosaur and shallow theropod tracks	Nadon (1993)

Age / Formation	Country / region	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
A.5. Undefined channel type				
Plio-Pleistocene / Upper Siwalik subgroup (Ichnofacies A)	India	? <i>Spongiomorpha</i> isp., <i>Skolithos</i> isp.		Tandon and Naugh (1984)
Plio-Pleistocene / Upper Siwalik subgroup	India	Clay-filled vertical rhizoliths		Tandon and Naugh (1984)
Miocene- Pliocene / Ridge Route Fm	USA	<i>Palaeophycus tubularis</i>		Smith et al. (1982)
Oligocene / Brule Fm.	USA		Rhinocere, entelodontid, and camel (2 forms) footprints	Chaffee (1943)
Oligocene / Solsona–Sanauja fluvial fan	Spain	Irregularly clustered burrows		de Gibert and Sáez (2009), Sáez et al. (2007)
Eocene / Duchesne River Fm.	USA	? <i>Palaeophycus</i> isp.		D'Alessandro et al. (1987)
Late Paleocene / Fort Union Fm. or unnamed unit	USA	<i>Camborygma symplokonomos</i> , <i>Camborygma eumekenomos</i> , <i>Camborygma litonomos</i>		Hasiotis and Honey (2000)
Cretaceous-Tertiary / North Horn Fm.	USA	<i>Taenidium barretti</i> , <i>Skolithos linearis</i> , rhizolith (tap root)		Bracken and Picard (1984)
Late Cretaceous / Lance Fm.	USA	Invertebrate traces	<i>Saurexallopus zerbsti</i> , <i>Hadrosauropodus langstoni</i> , <i>Sarjeantopodus semipalmatus</i> theropod morphotype 1 and 2, trydactyl footprint with fusiform digit III, bird tracks (morphotypes B, C, and D)	Lockley et al. (2004), Falkingham et al. (2010)
Cretaceous / Abu Agag Fm.	Egypt	<i>Planolites</i> isp., ? <i>Rusophycus</i> isp.	<i>Rhynchosauroides</i> , cf. <i>Gallegosichnus</i>	Demathieu and Wycisk (1990)
Early Cretaceous (Barremian) / Piedrahita de Muñó Fm.	Spain	Cylindrical burrows	Theropod footprints	Platt and Meyer (1991), Platt (1989)
Late Triassic / Shinarump Fm.	USA		Tridactyl trackway	Lockley and Milner (2006)
Carboniferous / Port Hood Fm. (Ichnocoenosis I)	Canada	<i>Cruziana</i> isp. (= <i>Didymaulichnus</i>), <i>Helminthopsis</i> isp., <i>Palaeophycus striatus</i> , cf. <i>Palaeophycus</i> isp.		Keighley and Pickerill (1997, 2003)
Carboniferous / Coal pit at Mostyn	Great Britain	<i>Palmichnium pottsae</i>		Braddy and Anderson (1996)
Early-Middle Devonian / Wood Bay Fm.	Svalbard	<i>Svalbardichnus trilobus</i>		Wisshak et al. (2004)
Early Devonian / St Maughans Fm.	Great Britain	<i>Taenidium barretti</i>		Morrissey et al. (2004), Fayers et al. (2010)
Devonian / Taylor Gr	Antarctica	<i>Taenidium</i> isp. (2 forms), <i>Skolithos</i> isp., <i>Diplichnites</i> isp.		Woolfe (1990)

B. Trace-fossil assemblages from floodbasin pond deposits

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Late Pleistocene / ?Luján Fm.	Argentina	Unknown	<i>Taenidium barretti</i> , simple trails	<i>Neomegaterichnum pehuencoensis</i> , <i>Myodontidichnum rosalensis</i> , <i>Eumacrauchenichnus patachonicus</i> , <i>Stegomastodonichnum australis</i> , <i>Pumaeichnum biancoi</i> , <i>Pehuencoichnum gracilis</i> , <i>Odocoileinichnum commune</i> , <i>Lamaichnum guanicoe</i> , <i>Megalamaichnum tulipensis</i> , <i>Phoenicopterichnum</i> , <i>Glyptodon</i> footprint, Ursidae footprints, Rodentia footprints, and bird footprints (assigned to Tinamidae, Anatidae, Charadriidae, Laridae, and Rheidae)	Aramayo and Manera de Bianco (1987, 2009), Aramayo et al. (2003)
Pleistocene / Marine terraces Ionian coast	Italy	Unknown	<i>Taenidium</i> isp., root traces		D'Alessandro et al. (1992)
Late Miocene / Tariquia Fm. (ichnofabric 3)	Bolivia	Anastomosed	Highly bioturbated ichnofabric, rare <i>Taenidium barretti</i> or mottled texture		Buatois et al. (2007)
Late Miocene / Upper Freshwater Molasse	Germany	Unknown	<i>Rhizocorallium jenense</i> (high density)		Fürsich and Mayr (1981)
Miocene / Abiquiu Fm.	USA	Braided		<i>Avipeda phoenix</i>	Lucas et al. (2007)
Late Oligocene / Lower Freshwater Molasse	Switzerland	Braided	<i>Cochlichnus abguineus</i> , <i>Steinsfjordichnus brutoni</i> , <i>Helminthoidichnites</i> isp., <i>?Planolites</i> isp., <i>Treptichnus pollardi</i> , <i>Treptichnus</i> isp., irregular ridge (2 forms), epichnial hair ridges, epichnial groove (2 forms), hypichnial ridge (4 forms), hypichnial ridge-groove structure, discoid structures	<i>Pecoripeda</i> isp., tracks A-D (undertracks)	Uchman et al. (2004)
Early Oligocene / Mues Fm. (Mues Sst Mb.)	Spain	Unknown		<i>Entelodontipus</i> cf. <i>viai</i>	Astibia et al. (1994, 2007)
Eocene / Duchesne River Fm.	USA	Transition from high sinuosity to braided	<i>?Spongiomorpha</i> isp. (= <i>?Palaeophycus</i>), <i>Taenidium</i> isp., <i>Skolithos</i> isp.		D'Alessandro et al. (1987)
Eocene / Duchesne River Fm.	USA	Transition from high sinuosity to	<i>Taenidium</i> isp., <i>Skolithos</i> isp.		D'Alessandro et al. (1987)

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Late Cretaceous / Nemegt Fm.	Mongolia	braided Meandering	Invertebrate tracks and trails	Tyranosaurid theropod and titanosaur footprints, deeply impressed large hadrosaur footprints	Currie et al. (2003)
Late Cretaceous / Anacleto	Argentina	Meandering	<i>Planolites</i> isp., <i>Taenidium</i> isp., <i>Skolithos</i> isp., <i>Archaeonassa</i> isp. (=cf. <i>Scolicia</i>)	cf. <i>Aquatilavipes</i> isp., cf. <i>Ignotormis</i> isp., <i>Barrosopus slobodai</i>	Coria et al. (2002)
Cretaceous / Abu Agag Fm.	Egypt	Unknown	<i>Planolites</i> isp., <i>Planolites</i> isp., <i>Corophium</i> burrows	<i>Capitosauroides</i> isp., <i>Rhynchosauroides</i> isp., cf. <i>Rotodactylus</i> isp., <i>Amblydactylus</i> isp.	Demathieu and Wycisk (1990)
Cretaceous / Hasandong Fm. (facies ii)	Korea	Meandering	<i>Chondrites</i> isp. type A, <i>Circulichnus montanus</i> , <i>Cochlichnus anguineus</i> , <i>Helminthopsis abeli</i> , <i>Helminthopsis hieroglyphica</i> , <i>Laevicyclus</i> isp., <i>Planolites beverleyensis</i> , <i>Planolites montanus</i> , , <i>Skolithos magnus</i> , <i>Skolithos verticalis</i> , <i>Skolithos</i> isp., <i>Spirodesmos</i> isp., <i>Taenidium barretti</i> , <i>Thalassinoides suevicus</i> , branched-walled burrow, rhizoliths		Kim et al. (2002)
Cretaceous / Hasandong Fm. (facies ii)	Korea	Meandering	<i>Taenidium</i> isp., <i>Planolites</i> isp., <i>Diplocraterion luniforme</i> , <i>Skolithos</i> isp.		Kim and Paik (1997)
Jurassic / Morrison Fm. (Salt Wash Mb.)	USA	Braided	Diverse invertebrate trace fossils	<i>Dinehichnus</i> cf. <i>socialis</i> , swim-trace, theropod trackway	Lockley and Foster (2006)
Jurassic / Morrison Fm. (Salt Wash Mb.)	USA	Braided		<i>Brontopodus</i> isp., <i>Stegopodus</i> isp., theropod and ornithopod footprints	Foster and Lockley (2006)
Early Jurassic / Santo Domingo Fm. (facies association A1)	Argentina	Ephemeral	<i>Palaeophycus tubularis</i> , <i>Taenidium barretti</i> , <i>Diplichnites</i> isp., <i>Helminthoidichnites tenuis</i> , <i>Rusophycus carbonarius</i> , <i>Skolithos linearis</i> , <i>Spongeliomorpha carlsbergi</i> , hypichnial bilobed ridges, appendage traces, burrow with brush-like traces, epichnial bilobed ridges.	<i>Gruipeda dominguensis</i> , small epichnial rounded pits, footprints preserved in cross-section, tridactyl footprint.	Melchor et al. (2006)
Early Jurassic / Santo Domingo Fm. (facies association C1)	Argentina	Ephemeral	<i>Helminthoidichnites tenuis</i> , <i>Palaeophycus tubularis</i> , <i>Spongeliomorpha carlsbergi</i>	<i>Dicynodontipus</i> isp., <i>Tetrasauropus</i> isp., <i>Alaripeda</i> isp., bird-like footprint type C, large pentadactyl footprints, tridactyl footprints	Melchor et al. (2006)
Late Triassic (Carnian) /	Italy	Ephemeral	Horizontal and vertical burrows	<i>Evazoum siriguii</i> , chirtotheriid footprints,	Nicosia and Loi (2003)

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Monte Marcello Fm. Late Triassic / Carrizal Fm.	Argentina	Meandering	<i>Taenidium</i> isp., <i>Skolithos</i> isp., <i>Palaeophycus</i> isp.	dinosaur footprints (three forms)	Melchor et al. (2001)
Late Triassic / Los Colorados Fm.	Argentina	Ephemeral	<i>Palaeophycus tubularis</i> cf. <i>Skolithos</i> isp., <i>Cochlichnus</i> isp., <i>Taenidium barretti</i>	? <i>Dicynodontipus</i> isp.	Melchor et al. (2001)
Early Triassic / Coal Cliff Sandstone, Narrabeen Gr	Australia	Unknown	cf.. <i>Tasmanadia</i> isp.	<i>Dicynodontipus bellambiensis</i>	Retallack (1996)
Triassic / Fleming Fjord Fm. (<i>Scoyenia</i> ichnocoenosis)	Greenland	Unknown	<i>Scoyenia gracilis</i> , <i>Skolithos</i> isp. A and B, small stuffed burrows		Bromley and Asgaard (1979)
Triassic / Sheerwood Sandstone Gr (Ichnocoenosis 1)	Ireland	Ephemeral	<i>Cruziana problematica</i> , <i>Rusophycus</i> isp., <i>Archaeonassa</i> isp. (= <i>Herpystezoum</i>), <i>Diplichnites</i> isp., ? <i>Paleohelcura</i> isp.		Buckman et al. (1997)
Permian-Triassic / Takrouna Fm.	Antarctica	Braided	Root cast of reed-like plants, fine epichnial trails and ridges		Zawiskie et al. (1983)
Permian / La Golondrina Fm.	Argentina	Braided	<i>Cochlichnus anguineus</i> , <i>Helminthopsis abeli</i> , <i>Helminthoidichnites tenuis</i> , <i>Ctenopholeus kutscheri</i> , <i>Palaeophycus striatus</i>		Buatois et al. (1997)
Permian / Sagra Fm.	Spain	Unknown	<i>Scoyenia gracilis</i> , <i>Ancorichnus</i> isp., <i>Skolithos</i> isp., <i>Cruziana</i> isp., <i>Spongeliomorpha</i> isp.	<i>Hyloidichnus major</i> , cf. <i>Limnopus</i> isp.	Gand et al. (1997)
Permian / Tunas Fm.	Argentina	Meandering	<i>Cochlichnus anguineus</i> , <i>Helminthopsis</i> isp.	<i>Undichna</i> isp.	Zavala et al. (1993)
Permian / Carapacha Fm.	Argentina	Braided	<i>Rusophycus stromnessi</i> , <i>Scoyenia</i> isp., <i>Helminthoidichnites tenuis</i> , <i>Palaeophycus</i> isp., arthropod locomotion trace fossils, segmented burrows	<i>Batrachichnus salamandroides</i> , <i>Hyloidichnus bifurcatus</i> , cf. <i>Varanopus</i> isp., cf. <i>Amphisauropus</i> isp., <i>Charachichnos</i> isp., Swim-trace	Melchor and Sarjeant (2004)
Late Carboniferous / Tupe Fm.	Argentina	Braided	<i>Archaeonassa fossulata</i> , <i>Didymaulichnus lyelli</i> , <i>Helminthoidichnites tenuis</i> , <i>Palaeophycus tubularis</i> , <i>Planolites</i> isp., root traces		Buatois and Mángano (2002)
Late Carboniferous / Salop Fm.	Great Britain	Ephemeral	<i>Diplichnites gouldi</i>	<i>Limnopus vagus</i> , <i>Batrachichnus salamandroides</i> , <i>Batrachichnus plainvillensis</i> , <i>Ichniotherium willsi</i> , <i>Hyloidichnus?</i> <i>bifurcatus</i> , <i>Dimetropus leisnerianus</i> , vertebrate resting trace	Tucker and Smith (2004)
Carboniferous / Pomquet	Canada	Unknown	<i>Diplopodichnus biformis</i> (four forms)		Keighley and Pickerill

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Fm. (Ichnocoenosis F)			<i>Circulichnus montanus</i> , <i>Gordia marina</i> <i>Protichnites</i> isp., <i>Gluckstadtella cooperi</i> , appendage traces (type A), small ovate pits (type A), interface trails (3 forms)		(1997, 1998, 2003)
Carboniferous / Port Hood Fm.	Canada	Braided	<i>Thalassinoides suevicus</i>		Keighley and Pickerill (1997, 2003)
Devonian / Taylor Gr	Antarctica	Unknown	<i>Taenidium</i> isp., <i>Diplichnites</i> isp., <i>Skolithos</i> isp.		Woolfe (1990)
Devonian / Taylor Gr	Antarctica	Unknown	<i>Cruziana</i> isp., <i>Rusophycus</i> isp.		Woolfe (1990)
Devonian / Eday Marls and Eday Sandstone (ORS)	Great Britain	Unknown	<i>Cornulatichnus edayensis</i> , <i>Beaconites</i> isp., <i>Merostomichnites</i> isp.		Carroll and Trewin (1995)
Early Devonian / St Maughans Fm.	Great Britain	Ephemeral	<i>Diplichnites gouldi</i> type A and B, cf. <i>Cochlichnus</i> isp.	<i>Undichna unisulca</i> , <i>Undichna</i> cf. <i>simplicitas</i> , <i>Undichna trisulcata</i>	Morrissey et al. (2004), Fayers et al. (2010)
Early Devonian / Peel Sandstone Gr (<i>Diplichnites</i> ichnocoenosis)	Great Britain	Braided	<i>Diplichnites gouldi</i> , <i>Protichnites</i> isp., <i>Stiallia pilosa</i> , <i>Fucusopsis angulatus</i> , <i>Selenichnites</i> isp., <i>Diplopodichnus</i> <i>biformis</i>		Crowley et al. (2009)
Early-Middle Devonian / Wood Bay Fm.	Svalbard	Braided	<i>Siskemia</i> cf. <i>elegans</i> , <i>Merostomichnites</i> isp., <i>Planolites</i> isp., <i>Taenidium barretti</i> , <i>Cruziana polaris</i>		Wisshak et al. (2004)
Late Silurian / tuffs in Moor Cliffs Fm.	Great Britain	Anastomosed	<i>Palmichnium antarcticus</i> , <i>Cruziana</i> isp., <i>Cornulatichnus edayensis</i> , <i>Beaconites</i> <i>antarcticus</i> , spread of pellets on burrow openings, bread roll traces, pellets (isolated or arranged in grooves)		Marriott et al. (2009)
Ordovician / Tumblagooda Sandstone	Australia	Unknown	<i>Heimdallia chatwini</i> , <i>Diplichnites gouldi</i> , <i>Tumblagoodichnus hackingi</i> , cf. <i>Diplocraterion</i> isp., <i>Skolithos</i> isp. (= <i>Tigilites</i>), ? <i>Paleohelcura</i> isp., ? <i>Protichnites</i> isp.		Trewin and McNamara (1995)

C. Trace-fossil assemblages from crevasse-splay deposits

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Late Pleistocene / Homeb Silts	Namibia	Ephemeral	<i>Skolithos linearis</i> , <i>Planolites</i> isp., <i>Taenidium</i> isp., invertebrate trail, pellet-filled chambers, pellet-lined burrows, rhizoconcretions, rhizoliths (= <i>Chondrites</i> -like traces and <i>Termitichnus</i> isp.), <i>Monomorphichnus</i> -like tracks	Footprint in cross-section, trackway of a bovid	Smith et al. (1993)
Late Miocene / Tariquia Fm. (Ichnofabric 2)	Bolivia	Anastomosed	<i>Taenidium barretti</i> , possible root traces		Buatois et al. (2007)
Oligocene-Miocene / Vinchina Fm. (sections 205 and 210)	Argentina	Braided	<i>Capayanichnus vinchinensis</i> , <i>Taenidium barretti</i> , <i>Spongeliomorpha carlsbergi</i>	<i>Eumachrauchenichnus</i> , large tetradactyl footprints	Melchor et al. (2010)
Oligocene-Miocene / Vinchina Fm. (206, 218 and 219)	Argentina	Meandering	<i>Capayanichnus vinchinensis</i> , <i>Taenidium barretti</i> , <i>Spongeliomorpha carlsbergi</i> , <i>Skolithos</i> isp., hypichnial bilobed ridge	<i>Eumacrauchenichnus</i> , bird tracks, rehiform tracks, lacertoid footprint, small mammalian tracks	Melchor et al. (2010)
Late Oligocene / "Beichlen-Serie" Subalpine Molasse	Switzerland	Braided	U-shaped burrows	Bird footprints (rallidae)	Clercq and Holst (1971)
Early Oligocene / Mues Fm. (Mues Sst Mb.)	Spain	Braided to anastomosed		<i>Plagiolophustipus</i> isp. (equoidea)	Murelaga et al. (2000), Astibia et al. (2007)
Oligocene / Solsona–Sanatija fluvial fan	Spain	Unknown	<i>Taenidium barretti</i> , <i>Cochlichnus anguineus</i> , <i>Helminthoidichnites</i> isp., <i>Gordia</i> isp., vertical ornamented burrows	Rare large vertebrate footprint in cross section	de Gibert and Sáez (2009), Sáez et al. (2007)
Oligocene / Gering Fm.	USA	Ephemeral		Concave-up deformation structures, ungulate (including entelodontid) footprints	Loope (1986)
Campanian / Kaiparowits Fm. (Middle unit)	USA	Meandering	<i>Skolithos</i> isp., <i>Planolites</i> isp., stump cast (= <i>Socialites tumulus</i>), root traces		Roberts and Tapanila (2006), Roberts (2007)
Campanian / Anacleto Fm.	Argentina	Meandering	<i>Skolithos</i> isp.		Chiappe et al. (2004), Garrido (2010)
Early Late Cretaceous / Tongfosi Fm.	China	Unknown		Theropod and iguanodontid tracks	Matsukawa et al. (1995)
Cretaceous / Hasandong Fm. (facies iii)	Korea	Meandering	<i>Beaconites coronus</i> , <i>Skolithos magnus</i>	Ornithopod and sauropod tracks	Kim et al. (2002)
Middle Jurassic / La Matilde Fm.	Argentina	Ephemeral	<i>Hexapodichnus casamiquelai</i> , <i>Helminthoidichnites tenuis</i> , root traces	<i>Ameghinichnus patagonicus</i> , <i>Wildeichnus navesi</i> , <i>Sarmientichnus scagliai</i> , <i>Delatorrichnus goyenechei</i> , cf. <i>Grallator</i> isp.	Melchor et al. (2004)

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Early Jurassic / East Berlin Fm.	USA	Ephemeral	<i>Planolites</i> isp., <i>Scoyenia</i> isp., <i>Skolithos</i> isp., <i>Fuersichnus</i> isp., fusiform burrows, escape structure, spherical pellets, large burrows		Gierlowski-Kordesch (1991)
Late Triassic / Bhirmaram Fm.	India	Ephemeral	<i>Skolithos</i> isp., <i>Palaeophycus</i> isp., <i>Taenidium</i> isp.		Sarkar and Chaudhuri (1992)
Late Triassic / Maleri Fm.	India	Ephemeral	<i>Palaeophycus</i> isp., <i>Skolithos</i> isp., small stuffed burrows		Sarkar and Chaudhuri (1992)
Late Triassic / Dharmaram Fm.	India	Ephemeral	<i>Skolithos</i> isp., <i>Palaeophycus</i> isp.		Sarkar and Chaudhuri (1992)
Late Triassic / Bull Canyon Fm.	USA	Ephemeral	<i>Diplichnites triassicus</i>		Lucas et al. (2006)
Norian / "Marginal Triassic"	Great Britain	Ephemeral		<i>Grallator</i> isp., cf. <i>Anchisauripus</i> isp., cf. <i>Tetrasauropus</i> isp., ? <i>Pseudotetrasauropus</i> isp.	Tucker and Burchette (1977), Lockley et al. (1996) Netto (2007)
Middle-Late Triassic (Ladinian-eonorian) / Caturrita Fm.	Brazil	Unknown	<i>Skolithos linearis</i> , <i>Skolithos</i> cf. <i>serratus</i> , <i>Taenidium barretti</i> , <i>Arenicolites</i> isp., arthropod trackway, rootlets		
Middle-Late Triassic (Ladinian-eonorian) / Caturrita Fm.	Brazil	Braided	<i>Scoyenia gracilis</i> , <i>Diplichnites gouldi</i> , <i>Permichnium</i> isp., <i>Skolithos</i> isp., <i>Arenicolites</i> isp., arthropod trackways, small horizontal undetermined burrows	<i>Rhynchosauroides retroversipes</i> , <i>Rhynchosauroides</i> isp., cf. <i>Characichnos</i> isp.	Silva et al. (2008), Netto (2007)
Early Triassic / Fremouw Fm.	Antarctica	Braided		Type G burrows, type L burrows	Babcock et al. (1998), Miller et al. (2001) (2001)
Early Triassic / Labyrinthodontidae Beds, Middle Buntsandstein (Wiory Fm.)	Poland	Braided	<i>Diplichnites triassicus</i>	<i>Chirotherium hauboldi</i> , <i>Rhynchosauroides brevidigitatus</i> , <i>Brachychirotherium kuhni</i> , <i>Rhynchosauroides polonicus</i> , <i>Rhynchosauroides</i> ispp., Chirotheriid footprints	Fuglewicz et al. (1990), Machalski and Machalska (1994)
Early Triassic / Fremouw Fm.	Antarctica	Braided		tetrapod ichnogenus A (cynodont burrow cast)	Sidor et al. (2008)
Triassic / Fleming Fjord Fm. (<i>Rusophycus</i> ichnocoenosis)	Greenland	Unknown	<i>Cruziana problematica</i> , <i>Cruziana</i> isp., <i>Rusophycus eutendorfensis</i> , <i>Spongeliomorpha carlsbergi</i> , <i>Skolithos</i> ispp. A and B, striated oblique burrows, large oblique burrows, small stuffed		Bromley and Asgaard (1979)

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Late Permian / Beaufort Gr (type 1 paleosurface)	South Africa	Meandering	burrows <i>Planolites</i> isp., <i>Treptichnus</i> isp. (= "beaded scribble trails"), <i>Umfolozia</i> isp., <i>?Archaeonassa</i> isp. (=meandering septate grooves)	<i>Undichna</i> isp., dinocephalian tracks, pareaiasaurian tracks, circular depressions with push up rim, toe prods with claw scrapes (subaquesos dicynodont tracks), randomly arranged squelch traces	Smith (1993)
Early Permian / Megacycle II	Canada	Meandering	<i>Taenidium</i> isp., <i>Scoyenia gracilis</i> , <i>Palaeophycus</i> isp., <i>Skolithos</i> isp.	<i>Gilmoerichnus kablikae</i> , <i>Amphisauropus latus</i> , <i>Ichniotherium</i> cf. <i>willsi</i>	Mossman and Place (1989)
Early Permian / Abo Fm.	USA	Ephemeral	<i>Diplopodichnus biformis</i>	<i>Batrachichnus delicatulus</i> , <i>Dromopus</i> isp., <i>Limnopus</i> isp., <i>Dimetropus</i> isp.	Lucas et al. (2004)
Early Permian / Abo Fm.	USA	Ephemeral	<i>Scoyenia gracilis</i> , <i>Taenidium</i> isp. (= adhesive meniscate burrows), <i>Paleohelcura dunbari</i> , <i>Paleohelcura tridactyla</i> , <i>Diplichnites</i> isp., <i>Cruziana problematica</i>	<i>Batrachichnus</i> isp., <i>Dromopus</i> isp., <i>Dimetropus</i> isp., <i>Gilmoerichnus</i> isp., "lungfish burrows"	Mack et al. (2003)
Late Carboniferous / Parrsboro Fm.	Canada	Unknown		<i>Pseudobradypus (Herpetichnus) ernerii</i> , <i>Hylopus hardingi</i> , <i>Dromillopus quadrifidus</i> , <i>Cursipes dawsoni</i>	Mossman and Grantham (1999)
Late Carboniferous (Westphalian) / Mudstone Series (<i>Cochlichnus-Acripes-Lockeia</i> association)	Poland	Meandering	<i>Acripes</i> isp., <i>Cochlichnus anguineus</i> , <i>Lockeia avalonensis</i> , <i>Lockeia siliquaria</i> , <i>Torrowangea rosei</i> , <i>?Undichna</i> isp. (= simple meandering trace), small arthropod trackway, small and large equilibrichnia, thread like equilibrichnia, simple trails, small and large fugichnia		Gluszek (1995)
Westphalian / Tynemouth Creek Fm.	Canada	Ephemeral	<i>Diplichnites cuithensis</i>		Briggs et al. (1984)
Carboniferous / Pomquet and lower Port Hood Fm. (ichnocoenosis D)	Canada	Ephemeral	<i>Diplichnites</i> cf. <i>loganus</i> , <i>Diplichnites</i> isp. (types A and B), <i>Protichnites</i> cf. <i>carbonarius</i> , <i>Protichnites</i> cf. <i>kennediea</i> , <i>Protichnites</i> cf. <i>scoticus</i> , <i>Protichnites</i> cf. <i>variabilis</i> , <i>Protichnites</i> isp. (type A), <i>Stiallia</i> cf. <i>pilosa</i> , <i>Rusophycus carbonarius</i> , <i>Rusophycus</i> isp., <i>Selenichnites</i> isp., horn-shaped surface traces, rhizoliths	<i>Hyloidichnus</i> isp. (=vertebrate tracks type A), <i>Characichnos</i> isp. (= vertebrate tracks type B and F), <i>Asperipes mathew</i> (=vertebrate track type C)	Keighley and Pickerill (1996, 1998, 2003)

Age / Fm.	Country / region	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Author
Carboniferous / Pomquet and lower Port Hood Fm. (ichnocoenosis E)	Canada	Ephemeral	<i>Hexapodichnus horrens</i> , <i>Monomorphichnus</i> cf. <i>lineatus</i> , <i>Protichnites</i> cf. <i>carbonarius</i> , <i>Protichnites</i> isp. (types B and D) appendage traces (types A and B) arthropod resting trace		Keighley and Pickerill (1996, 1998, 2003)
Carboniferous / Port Hood Fm. (ichnocoenosis J)	Canada	Ephemeral	<i>Planolites beverleyensis</i> , cf. <i>Planolites beverleyensis</i> , cf. <i>Planolites</i> isp., <i>Taenidium barretti</i> , <i>Phycodes pedum</i> <i>Taenidium barretti</i>	<i>Varanopus</i> isp. (= vertebrate tracks type D) poorly preserved trackways (vertebrate tracks type E)	Keighley and Pickerill (1996, 1997, 1998, 2003)
Early Carboniferous / Maam Fm.	Ireland	Ephemeral			Graham and Pollard (1982)
Carboniferous / Strathclyde Gr	Great Britain	Ephemeral	<i>Diplichnites cuithensis</i> , <i>Beaconites</i> isp.		Pearson (1992)
Late Devonian / Oneonta Fm.	USA	Meandering	<i>Arenicolites</i> isp., <i>Planolites</i> isp., vertical burrows, burrow mottling		Demicco et al. (1987)
Late Devonian / McAras Brook Fm.	Canada	Unknown	<i>Taenidium barretti</i> , arthropod trackway		Bruck et al. (1985)
Devonian (Givetian to Famennian) / Ravendale Fm.	Australia	Ephemeral	<i>Diplichnites gouldi</i>		Neef (2004)
Devonian / Lower Old Red Sandstone	Great Britain	Braided	<i>Taenidium barretti</i> (at high angle to bedding)		Allen and Williams (1981)
Silurian / Clam Bank Fm.	Canada	Unknown	<i>Diplichnites</i> isp.		Wright et al.(1995)

D. Trace-fossil assemblages from pedogenized floodplain settings

Age / Formation	Country	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Holocene / Kalna Fm.	India	Ephemeral	U-shaped subhorizontal ephemeroptera burrows		De (2002)
Pleistocene-Holocene / Palaeo-Orange River deposits (Bosluispan locality)	South Africa	Unknown	<i>Termitichnus namibiensis</i> , <i>Skolithos</i> isp., <i>Planolites</i> isp., <i>Taenidium</i> isp., vertical rhizoconcretions		Miller and Mason (2000)
Late Pleistocene / Sopas Fm.	Uruguay	Unknown	<i>Castrichnus incolumnis</i> , <i>Taenidium serpentinum</i> (highly bioturbated ichnofabric), vertical and horizontal rhizoliths, small stumps	Carnivore coprolites, possible vertebrate burrows (articulated skeletons of vertebrates)	Verde et al. (2007) (2006), Verde and Ubilla (2002)
Pleistocene / Koobi Fora Fm.	Kenya	Unknown		Hominid tracks and animal tracks (bird and artiodactyl footprints)	Bennet et al. (2009)
Plio-Pleistocene / Upper Siwalik subgroup (ichnofacies B and C)	India	Unknown	<i>Termitichnus</i> isp. (= Type 9)	Vertebrate burrow filling	Tandon and Naug (1984)
Plio-Pleistocene / Upper Siwalik subgroup	India	Unknown	? <i>Skolithos</i> isp. (= Type 5), ? <i>Palaeophycus</i> isp. (= Types 6 and 8), <i>Taenidium</i> isp. (= Type 7)		Tandon and Naug (1984)
Plio-Pleistocene / Upper Siwalik subgroup	India	Unknown	? <i>Spongeliomorpha</i> isp. (= Type 1), <i>Skolithos</i> isp. (= Type 2), Type 3 (= small stuffed burrows), Type 4 burrows		Tandon and Naug (1984)
Pliocene / Monte Hermoso Fm.	Argentina	Meandering	<i>Taenidium</i> isp., root traces	Vertebrate burrows	Zavala and Navarro (1993)
Miocene / Pawnee Creek Fm.	USA	Unknown	Fossilized roots	<i>Alezichnos chelecharatos</i>	Gobetz (2006)
Miocene / Pawnee Creek Fm.	USA	Unknown	Rhizoliths (three size classes), <i>Taenidium</i> and chambers (= <i>Beaconites kytosichnus</i>), <i>Scoyenia</i> (= <i>Beaconites knestosichnus</i>), <i>Parowanichnus perirhizaterion</i>	<i>Kladosystemites homocylindrichnus</i> , <i>Polychoredrites tetrachelichnus</i> , <i>Daimonelix petalichnus</i> , <i>Katarrhedrites atesphatichnus</i> , <i>Katarrhedrites atyphichnus</i>	Hembree and Hasiotis (2008)
Early Miocene / Hiwegi (Kibanga Mb..)	Kenya	Unknown	<i>Cellicalichnus habari</i> , <i>Fictovichnus</i> isp., root traces, vertical walled burrows		Thackray (1994)
Early Miocene / Upper Harrison beds	USA	Braided	<i>Taenidium</i> isp., small rhizoliths	Large vertebrate burrows and dens	Hunt et al. (1983)
Early Miocene / Harrison Fm.	USA	Unknown	<i>Daimoniobarax nephroides</i> , <i>Daimoniobarax tschinkeli</i> , rhizoliths, possible dung beetle burrows	<i>Daimonelix circumaxilis</i> , <i>Alezichnus trogodont</i>	Martin and Bennet (1977), Gobetz and Martin (2006), Yelinek

Age / Formation	Country	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Late Oligocene / Sarmiento Fm. (Upper Puesto Almendra Mb.)	Argentina	Meandering	<i>Coprinisphaera ecuadoriensis</i> , <i>C. murguiai</i> , <i>C. kheprii</i> , <i>C. tonnii</i> , <i>Teisseirei barattinia</i> , <i>Celliforma rosellii</i> , <i>Feoichnus challa</i> , <i>Lazaichnus fistulosus</i> , <i>Beaconites coronus</i> , cf. <i>Loloichnus</i> isp., septate burrows	large to medium-sized burrows	and Chin (2007), Smith et al. (2011) Bellosi et al. (2010)
Late Oligocene / Brule Fm. (Scenic Mb.)	USA	Braided	<i>Pallichnus dakotensis</i> , <i>Cellicalichnus ficoides</i> , calcite filled root traces		Retallack (1984)
Late Oligocene / John Day Fm. (Lower Turtle Cove Mb)	USA	Unknown	<i>Pallichnus dakotensis</i> , <i>Edaphichnium lumbricatum</i> , <i>Termitichnus</i> isp., <i>Taenidium</i> isp., fine roots, vertical rhizoconcretions of trees		Retallack et al.(2000), Retallack (2004)
Oligocene / Jebel Qatrani Fm.	Egypt	Meandering	<i>Masrichnus issawii</i> , rhizolith of small plants (type 16), pedotubules	helical vertebrate burrows (type 12 and type 13)	Bown (1982)
Oligocene / Jebel Qatrani Fm.	Egypt	Meandering	rhizoliths of medium sized plants		Bown (1982)
Oligocene / Jebel Qatrani Fm.	Egypt	Meandering	<i>Termitichnus qatrani</i> , <i>Termitichnus simplicidens</i> , <i>Vondrichnus obovatus</i> , <i>Fleaglellius pagodus</i> , <i>Krausichnus trompitus</i> , <i>Macanopsis</i> isp., <i>Edaphichnium</i> isp., rhizolith of small plants (= type 16), possible crayfish burrow (= type 3) possible <i>Psilonichnus</i> isp. (= type 4)		Bown (1982), Genise and Bown (1994), Bown and Kraus (1988)
Eocene-Oligocene / White River Fm. (type I palaeosols)	USA	Meandering	<i>Celliforma ficoides</i> , cf. <i>Planolites</i> isp. (2 types), cf. <i>Macanopsis</i> isp., type A rhizoliths (shallow network)	Possible vertebrate coprolite	Hembree and Hasiotis (2007)
Eocene-Oligocene / White River Fm. (type II palaeosols)	USA	Meandering	cf. <i>Planolites</i> isp., burrow network with mudstone balls, type B rhizoliths (taproot small plants)	Trampled ground (possible tracks of hoofed animals)	Hembree and Hasiotis (2007)
Eocene-Oligocene / White River Fm. (type III palaeosols)	USA	Meandering	Rhizoliths of type A (small network) and B (taproot of small plants), cf. <i>Planolites</i> isp. (2 types), diffuse network of burrows (= <i>Parowanichnus</i> isp.), <i>Edaphichnium</i> isp. (type A and B), <i>Macanopsis</i> isp., backfilled burrows		Hembree and Hasiotis (2007)
Eocene-Oligocene / White	USA	Meandering	Type B (taproot of small plants) and C		Hembree and Hasiotis

Age / Formation	Country	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
River Fm. (type IV palaeosols)			(taproot of trees and shrubs) rhizoliths, <i>Fictovichnus parvus</i> , “wasp cocoons”, <i>Edaphichniun</i> isp. (type A)		(2007)
Late Eocene / Sarmiento Fm. (Lower Puesto Almendra Mb)	Argentina	Braided	<i>Coprinisphaera ecuadoriensis</i> , <i>C. murguiai</i> , <i>C. kheprii</i> , <i>C. tonnii</i> , <i>C. kraglievichi</i> , <i>Lazaichnus fustilosus</i> , <i>Teisseirei barattinia</i>		Bellosi et al. (2010), Sánchez et al. (2010)
Early Eocene / Wasacht Fm.	USA	Meandering	<i>Planolites</i> isp., <i>Skolithos</i> isp., small meniscate plug-shaped burrows		Zonneveld et al. (2006)
Early Eocene / Willwood Fm.	USA	Meandering	<i>Edaphichniun lumbricatum</i> , <i>Macanopsis astreptum</i> , meniscate burrows (type 5 and type 7)	<i>Ichnogyrus nididens</i>	Bown and Kraus (1983)
Early Eocene / Willwood Fm.	USA	Meandering	<i>Scaphichniun hamatum</i> , meniscate burrows (type 5 and type 7), grey root trace with red halo		Bown and Kraus (1983), Hasiotis et al. (1993)
Eocene / Duchesne River Fm.	USA	Unknown	Rhizoliths, unidentified burrows with laminated fill		D'Alessandro et al. (1987)
Eocene / Asencio Fm.	Uruguay	Unknown	<i>Monesichnus ameghinoi</i> , <i>Uruguay auroranormae</i> , <i>Uruguay rivasi</i> , <i>Palmiraichnus castellanosi</i> , <i>Corimbatichnus fernandezi</i> , <i>Teisseirei barattinia</i> , <i>Elipsoideichnus meyeri</i> , <i>Rebuffoichnus</i> isp., <i>Krausichnus</i> isp., <i>Tombownichnus</i> isp., <i>?Loloichnus</i> isp. (= <i>Gerraichnus</i>), <i>Cellicalichnus</i> isp., <i>Coprinisphaera</i> isp. (= <i>Fontanai</i>), rhizoliths		Genise et al. (2004), Bellosi et al. (2004), Genise and Verde (2010)
Late Palaeocene / Fort Union Fm. or unnamed unit	USA	Unknown	<i>Camborygma symplokonomos</i> , <i>Camborygma eumekenomos</i> , <i>Camborygma lironomos</i> , vertically oriented rhizoliths and rootlets		Hasiotis and Honey (2000)
Palaeocene-Eocene / Claron Fm.	USA	Unknown	<i>Parowanichnus formicoides</i> , cf. <i>Celliforma</i> isp., <i>Eatonichnus utahensis</i> , <i>Eatonichnus claronensis</i> , <i>Eatonichnus</i> sp., <i>Fictovichnus</i> isp.		Bown et al. (1997), Hasiotis and Bown (1997)
Cretaceous-Tc / North Horn Fm.	USA	Unknown	<i>Taenidium barretti</i> , <i>Skolithos linearis</i> , rhizolith (tap root)		Bracken and Picard (1984)

Age / Formation	Country	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Campanian / Two Medicine Fm.	USA	Braided	<i>Celliforma</i> ispp. (2 forms), <i>Rebuffoichnus sciuttoi</i> , <i>Teisseirei</i> isp., <i>Skolithos</i> isp., <i>Tombownichnus</i> isp.	Mammal burrow, herbivorous dinosaur coprolites	Martin and Varricchio (2011)
Cenomanian / Tuscaloosa Fm.	USA	Braided	<i>Taenidium serpentinum</i> (highly bioturbated ichnofabric) and root traces		Savrda et al. (2000) (2000)
Cretaceous / Hasandong Fm. (facies v)	Korea	Meandering	<i>Beaconites coronus</i> , <i>Skolithos magnus</i> , <i>Palaeophycus tubularis</i> , <i>Thalassinoides paradoxicus</i>		Kim et al. (2002)
Early Cretaceous / Punta del Barco Fm. (<i>Dagnichnus</i> ichnofabric)	Argentina	Unknown	<i>Dagnichnus totoi</i> , <i>Celicalichnus meniscatus</i> , <i>Loloichnus baqueroensis</i> , vertical root traces, stump cast, tangled meniscate burrows,		Bedatou et al. (2009; 2008), Genise et al. (2008)
Early Cretaceous / Punta del Barco Fm. (large <i>Taenidium-Beaconites</i> ichnofabric)	Argentina	Unknown	<i>Taenidium barretti</i> , <i>Beaconites coronus</i> , <i>Loloichnus baqueroensis</i>		Bedatou et al. (2009; 2008), Genise et al. (2008)
Early-Middle Jurassic / Aghounj Fm.	Iran	Braided	<i>Celicalichnus antiquus</i> , curved meniscate burrow	Possible dinosaur tracks	Fürsich et al. (2010)
Early Jurassic / Steierdorf Fm. (Doman Mb)	Romania	Ephemeral		<i>Batrachopus</i> cf. <i>deweyi</i> , vertebrate burrows of linear and spiral types,	Popa and Kędzior (2006)
Early Jurassic / East Berlin Fm.	USA	Ephemeral	<i>Palaeophycus striatus</i>		Gierlowski-Kordesch (1991)
Early Hettangian / Zagaje Fm.	Poland	Meandering	<i>Scoyenia</i> isp., <i>Spongiomorpha</i> isp., <i>Lockeia czarnockii</i> , herbaceous root traces	<i>Kayentapus soltykovensis</i> , <i>Anchisauripus</i> isp., <i>Grallator</i> isp., <i>?Stenonyx</i> isp., <i>Characichnos</i> , <i>Anomoepus</i> isp., <i>Parabrontopodus</i> isp., cf. <i>Ameghinichnus</i> isp.	Gierliński et al. (2004)
Late Triassic (Norian) / Laguna Colorado Fm.	Argentina	Meandering		Prosauropod nest	Bonaparte and Vince (1979), Jalfin and Herbst (1995)
Late Triassic (Norian) / Keuper	Poland	Unknown	Rhizoliths	Large vertebrate burrows	Talanda et al. (2011)
Late Triassic (Carnian) / Ischigualasto Fm.	Argentina	Braided	<i>Taenidium barretti</i> , <i>Skolithos</i> isp., horizontal rhizoliths	Large tetrapod subhorizontal burrow fills with chambers and bilobed bottom	Melchor et al. (2001), Colombi et al. (2008), Currie et al. (2009)
Middle Triassic / Lashy Fm. (member A) and Fremouw Fm.	Antarctica	Braided		Tetrapod ichnogenus B (= type L burrow of Miller et al. 2001)	Sidor et al. (2008)

Age / Formation	Country	Fluvial system	Invertebrate and plant trace fossils	Vertebrate trace fossils	Source
Middle Triassic / Timezgadiouine Fm.	Morocco	Braided	Root traces, undetermined invertebrate burrows	<i>Chirotherium barthii</i> , <i>Isochirotherium coureli</i> , <i>Synaptichnium</i> isp., <i>Atreipus-Grallator</i> , <i>Rotodactylus</i> isp., <i>Rhynchosauroides</i> isp., <i>Procolophonichnium</i> isp., complex vertebrate burrows	Voigt et al. (2011), Klein et al. (2011)
Early Triassic / Driekoppen Fm. (Beaufort Gr)	South Africa	Unknown		Therapsid burrow complex (scratched walls, bilobed floor and convex ceiling)	Groenewald et al. (2001)
Early Triassic / Balfour Fm. (Palingkloof Mb)	South Africa	Unknown		Vertebrate burrow (comparable with <i>Katarrhedites</i>)	Modesto and Botha-Brink (2010)
Early Triassic / Katberg Fm.	South Africa	Braided	<i>Macanopsis</i> isp., <i>Katbergia</i> isp., rhizoliths	Large vertebrate burrows	Bordy et al. (2011)
Late Permian-Early Triassic / Katberg Fm.	South Africa	Braided	<i>Katbergia carltonichnus</i> , root traces		Gastaldo and Rolerson (2008)
Late Permian / Karroo Gr	South Africa	Unknown		Large vertebrate burrow	Damiani et al. (2003)
Permian / Teekloof Fm.	South Africa	Meandering	Vertical calcareous rhizoconcretions	<i>Daimonelix</i> isp.	Smith (1987)
Permian / Beaufort Gr	South Africa	Meandering	<i>Planolites</i> isp., <i>Skolithos</i> isp.	Vertebrate burrows with bilobed bottom	Shone (1978), Stanistreet and Turner (1979)
Carboniferous / Pomquet Fm. (ichnocoenosis G)	Canada	Unknown	<i>Taenidium barretti</i>		Keighley and Pickerill (1997, 2003)
Late Silurian -Middle Devonian / Freshwater West Fm.	Great Britain	Ephemeral	<i>Diplopodichnus biformis</i> , fecal pellets		Morrissey and Braddy (2004)
Ordovician / Juniata Fm.	USA	Braided	<i>Scoyenia beerboweri</i> (moderately bioturbated ichnofabric)		Retallack (2001)

E. Trace-fossil assemblages from undistinguished floodplain facies

Age / Formation	Country	Fluvial system	Invertebrate trace fossils	Vertebrate trace fossils	Source
Miocene- Pliocene / Ridge Route Fm.	USA	Unknown	<i>Palaeophycus tubularis</i> , <i>Scoyenia gracilis</i>		Smith et al. (1982)
Eocene / Sant Llorenc del Munt fan-delta complex (Ichnofabric 1)	Spain	Unknown	<i>Taenidium</i> isp., <i>Scoyenia</i> , <i>Skolithos</i>		Siggerud and Steel (1999)
Late Cretaceous / Candeleros Fm.	Argentina	Meandering	<i>Skolithos</i> isp.	<i>Limayichnus major</i>	Aramayo and Bocanegra (2003)
Cretaceous / Ohika Fm.	New Zealand	Unknown	<i>Cochlichnus anguineus</i> , <i>Helminthoidichnites tenuis</i> , <i>Helminthopsis</i> isp.		Fordyce (1980)
Early Cretaceous / Sousa Fm.	Brazil	Meandering		Footprints of large and small theropods, sauropods, graviportal ornithopods, small quadrupedal ornithischian, batrachopodid tracks, small chelonian tracks	Carvalho (2004)
Early Jurassic / Towaco Fm.	USA	Meandering	<i>Planolites beverleyensis</i> , <i>Planolites montanus</i> , <i>Cochlichnus anguineus</i> , <i>Helminthopsis</i> isp., <i>Scoyenia gracilis</i> , <i>Treptichnus bifurcus</i> , arthropod trackways		Metz (1992)
Jurassic / Alcobaça beds	Portugal	Meandering	<i>Taenidium</i> isp.		Fürsich (1981)
Middle Triassic / Yerrapalli Fm.	India	Ephemeral	massive horizontal burrows, oblique passageways		Maulik and Chaudhuri (1983)
Triassic / Keuper Sandstone	Great Britain	Braided	<i>Cruziana</i> isp., <i>Rusophycus</i> isp., <i>Merostomichnites</i> isp., <i>Planolites</i> isp.	<i>Dicynodontypus</i> isp., <i>Chirotherium</i> isp., <i>Rhynchosauroides</i> isp., chelonian? tracks	Pollard (1981)
Triassic / Argana and Ourika formations	Morocco	Unknown	<i>Scoyenia</i> isp., <i>Umfolozia</i> isp.	Vertebrate trackways	Biron and Dutuit (1981)
Permian / La Colina Fm.	Argentina	Meandering	<i>Didymaulichnus lyelli</i> , <i>Palaeophycus tubularis</i> , <i>Taenidium barretti</i> , <i>Palaeophycus striatus</i> , meniscate burrow with striated wall		Buatois et al. (1996)
Late Carboniferous (Pennsylvanian) / Cutler Gr	USA	Braided	<i>Diplichnites cuithensis</i>		Lucas et al. (2005)

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