

# Davies & Gibling - Paleozoic Vegetation and the Siluro-Devonian Origin of Fluvial Lateral Accretion Sets

## *Supplementary Data*

### Appendix 1 – Dataset of stratigraphic units

For each of the listed units, the cited references were checked for the occurrence of fluvial lateral accretion and root structures. Confirmed occurrences were then tallied against each stratigraphic stage for the Cambrian to Devonian. The ages cited were taken from these papers or from stratigraphic lexicons on relevant geological survey's websites. Where the age given is not exact or uncertain, any occurrence of lateral accretion was given a value of '1' and then divided by the number of constituent stages making up the imprecise age (e.g., if the age given for a LA-bearing unit was given as "Lower Devonian", the occurrence would be given a value of 1, then divided by 3, such that the Lochkovian, Pragian and Emsian were each given 0.333).

Given Age	Unit	Location	References
Early Cambrian	Addy Quartzite	USA	Lindsay & Gaylord (1992)
Early Cambrian	Aïn Néchéa Fm	Algeria	Ghienne et al. (2007)
Early Cambrian	Araba Fm	Egypt	El-Araby & Abdel-Motelib (1999); Khalifa et al. (2006)
Early Cambrian	Arumbera Sst	Australia	Conrad & Oaks (1982)
Early Cambrian	Backbone Ranges Fm	Canada	MacNaughton et al. (1997)
Early Cambrian	Blanc-Sablon Mb	Canada	Hiscott et al. (1984)
Early Cambrian	Fish River Sbpg	Namibia	Geyer (2005)
Early Cambrian	Gallery Fm	Canada	Trettin (1969)
Early Cambrian	Hardyston Fm	USA	Simpson et al. (2002)
Early Cambrian	Herrería Fm	Spain	Van Den Bosch (1969); Crimes et al. (1977); Álvaro et al. (2003)
Early Cambrian	Neksø Fm	Denmark	Clemmensen & Dam (1993)
Early Cambrian	Pinnacle Fm	Canada	Marquis & Kumarapeli (1993)
Early Cambrian	Sebkhet el Mellah Fm	Algeria	Ghienne et al. (2007)
Early Cambrian	Unicoi Fm	USA	Cudzil & Driese (1987); Simpson & Eriksson (1989)
Early Cambrian	Wood Canyon Fm	USA	Hereford (1977); Fedo & Cooper (1990); Fedo & Prave (1991); Foster (1991); Prave et al (1991)
Early Cambrian	Zabriskie Sst	USA	Prave et al (1991); Prave (1991)
Early-Middle Cambrian	Tapeats Sst	USA	Hereford (1977)
Middle Cambrian	Eregunda Sst Mb	Australia	Moore (1979)
Middle Cambrian	Parahio Fm	India	Myrow et al. (2006a,b)
Middle Cambrian	Upper Heritage Gp	Antarctica	Curtis & Lomas (1999)
Late Cambrian	Crashsite Gp	Antarctica	Curtis & Lomas (1999)
Late Cambrian	Douglas Cg	Antarctica	Rees & Rowell (1991); Myrow et al. (2002)
Late Cambrian	Lamotte Fm	USA	Houseknecht & Ethridge (1978)
Late Cambrian	Owen Gp	Australia	Noll & Hall (2003)
Late Cambrian	Wonewoc Fm	USA	Dott et al.(1986)
Cambrian	Alderney Sst	UK	Laffoley (1985), Went & Andrews (1990), Todd & Went (1991)
Cambrian	Frehel Fm	France	Doré (1972), Went & Andrews (1990)
Cambrian	Ram Sst Gp	Jordan	Amireh et al. (1994)
Cambro-Ordovician	Barik Sst Mb	Oman	Millson et al. (2008)

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Cambro-Ordovician	Leap Year Gp	Antarctica	Andrews & Laird (1976); Laird (1981)
Cambro-Ordovician	Rozel Cg Fm	UK	Went (2005)
Cambro-Ordovician	Turner Cliffs Fm	Canada	Dixon (1973); Miall & Kerr (1980)
Cambro-Ordovician	Wajid Fm	Saudi Arabia Yemen	Dabbagh & Rogers (1983), Alsharhan et al. (1991)
Lower Ordovician	Disi Fm	Jordan	Selley (1970), Amireh et al. (2001)
Lower Ordovician	Mahwiss Fm	Oman	Heward (1989)
Lower Ordovician	Pacoota Sst	Australia	Deckelman (1991)
Lower Ordovician	Table Mountain Gp	S Africa (Cap)	Vos & Tankard (1981)
Middle Ordovician	Mweelrea Gp	Ireland	Pudsey (1984)
Middle Ordovician	St. Peter Sst	USA	Mazzullo & Ehrlich (1983); Dott et al. (1986)
Upper Ordovician	Bald Eagle Fm	USA	Faill & Wells (1974); Cotter (1978); Thompson (1999)
Upper Ordovician	Juniata Fm	USA	Faill & Wells (1974); Cotter (1978); Thompson (1999); Retallack (2001)
Upper Ordovician	Khriem Gp	Jordan	Powell et al. (1994)
Upper Ordovician	Misty Point Fm	Canada	Quinn et al. (1999)
Upper Ordovician	Tumblagooda Sst	Australia	Hocking (1991); Trewin (1993); Trewin & McNamara (1995); Evans et al. (2006)
Upper Ordovician	Were Fm	Benin, Niger	Konate et al. (2003)
Ordovician	Potsdam Gp	Canada, USA	Lewis (1971); Hersi & Lavoie (2000); Sanford (2007)
Ordovician	Table Mountain Gp	S Africa (Nat)	Hobday & Von Brunn (1979)
Ordovician	Tichitt Gp	Mauritania	Ghienne (2003)
Ordovician	Umm Sahm Fm	Jordan	Amireh et al. (2001)
Lower Silurian	Umm Ras Fm	Egypt, Sudar	Wycisk (1990)
Llandovery	Coralliferous Gp	UK	Hillier (2002)
Llandovery	Massanutton Sst	USA	Tomescu (2004), Tomescu & Rothwell (2006)
Llandovery	Tuscarora Fm	USA	Smith (1970), Faill & Wells (1974), Whisonant (1977), Cotter (1978, 1982, 1983), Laughrey (1999)
Llandovery	Whirlpool Sst	Canada, USA	Rutka et al. (1991), Cheel & Middleton (1993)
Lland.-Wenlock	Shawangunk Fm	USA	Smith (1970), Epstein & Epstein (1969), Laughrey (1999), Epstein (2006)
Wenlock	Louisburgh-Clare Island Succession	Ireland	Maguire & Graham (1996)
Ludlow	Major Mitchell Sst	Australia	Gouramanis et al. (2003)
Ludlow-Pridoli	Bloomsburg Fm	USA	Faill & Wells (1974), Cotter (1978), Driese et al. (1993), Epstein (2006)
Ludlow-Pridoli	Store Arøya Fm	Norway	Dam & Andreasen (1990), Davies et al. (2005, 2006)
Ludlow-Pridoli	Stubdal Fm	Norway	Turner (1973, 1974), Turner & Whitaker (1976), Davies (2003), Davies et al. (2005, 2006)
Pridoli	Eask Fm	Ireland	Todd et al. (1988), Boyd & Sloan (2000)
Pridoli	Holmestrand Fm	Norway	Dam & Andreasen (1990), Davies et al. (2005, 2006)
Late Silurian	Siktefjellet Gp	Svalbard	Friend et al. (1997)
Late Silurian	Somerset Island Fm	Canada	Miall et al. (1978), Miall & Gibling (1978), Gibling 1978
Prid.-Lochkovian	Moor Cliffs Fm	UK	Allen & Williams (1982), Love & Williams (2000), Wright & Marriott (2007)
Prid.-Lochkovian	Clam Bank Fm	Canada	Wright et al. (1995)
Prid.-Pragian	Port Stephens Fm	Falkland Is.	Hunter & Lomas (2003)
Siluro-Devonian	Downton Sbgp	UK	Allen (1964, 1974)
Siluro-Devonian	Fosen ORS	Norway	Siedlecka (1975)
Siluro-Devonian	Röde Fm	Sweden	Bassett et al. (1982)
Siluro-Devonian	Swanshaw Sst Fm	UK	Smith et al. (2006)

Lochkovian	Ditton Sbgr	UK	Allen (1974)
Lochkovian	Freshwater West Fm	UK	Marriott et al. (2005), Hillier et al. (2007), Wright & Marriott (2007)
Lochkovian	Red Bay Gp	Svalbard	Friend et al. (1997)
Lochkovian	Red Marl Gp	UK	Owen & Hawley (2000), Wright & Marriott (2007)
Lochkovian	Ridgeway Cg Fm	UK	Hillier & Williams (2007), Wright & Marriott (2007)
Lochk.-Pragian	Dartmouth Gp	UK	Smith & Humphreys (1991)
Lochk.-Pragian	Maccullochs Range Beds	Australia	Neef (2007)
Lochk.-Emsian	Smerwick Gp	Ireland	Todd et al. (1988), Richmond & Williams (2000)
Lochk.-Emsian	Strathpeffer Gp	UK	Clarke & Parnell (1999)
Pragian	Abdon Gp	UK	Allen (1974)
Pragian	Senni Fm	UK	Owen (1995)
Pragian	Traeth Lligwy Beds	UK	Allen (1965)
Pragian-Emsian	Brownstones Fm	UK	Allen (1964), Allen & Dineley (1976), Tunbridge (1981) Allen (1983)
Pragian-Emsian	Cosheston Gp	UK	Thomas et al. (2006)
Pragian-Emsian	Wood Bay Fm	Svalbard	Friend & Moody-Stuart (1972), Blomeier et al. (2003a)
Emsian	Grey Hoek Fm	Svalbard	Worsley (1970)
Emsian	Red Island Road Fm	Canada	Quinn et al. (2004)
Lower Devonian	Ballymastocker ORS	Ireland	McSherry et al. (2000)
Lower Devonian	Basal Clastics	Czech Rep.	Nehyba et al. (2001)
Lower Devonian	Glashabeg Fm	Ireland	Todd et al. (1988), Todd & Went (1991), Todd (2000)
Lower Devonian	New Mountain Sbgr	Antarctica	Plume (1982)
Lower Devonian	Snowblind Bay Fm	Canada	Gibling & Narbonne (1977), Muir & Rust (1982)
Low-Mid Devonian	Battery Point Fm	Canada	Cant & Walker (1976), Rust (1981), Lawrence & Williams (1984), Lawrence & Rust (1987), Griffing et al. (2000), Hotton et al. (2001)
Low-Mid Devonian	Bulandet-Værlandet Fm	Norway	Nilsen (1969)
Low-Mid Devonian	Disappointment Bay Fm	Canada	Thorsteinsson (1958)
Emsian-Eifelian	Campbellton Fm	Canada	Wilson et al. (2004)
Emsian-Eifelian	Coco Range Sst	Australia	Neef et al. (1996), Neef & Bottrill (2001), Neef (2004)
Emsian-Eifelian	Trout Valley Fm	USA	Allen & Gastaldo (2006)
Emsian-Eifelian	Wana Karnu Sst	Australia	Neef & Bottrill (2001), Neef (2004)
Eifelian	Strathcona Fiord Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Eifelian	Trentishoe Mb	UK	Tunbridge (1984)
Eifelian-Givetian	Fair Isle Gp	UK	Mykura (1973), Allen (1982)
Eifelian-Givetian	Hecla Bay Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Givetian	Gauja Formation	Estonia, Latvia, Lithuania	Pontén & Plink-Björklund (2007)
Givetian	Gilwood Mb	Canada	Williams & Krause (1998)
Givetian	Hamilton Gp	USA	Allen & Friend (1968), McCave (1968), Sevon (1985), Bridge (2000)
Givetian	Nèvremont Fm	Belgium	Molenaar (1984, 1986)
Givetian	Tully Clastic Correlatives	USA	Allen & Friend (1968), Johnson & Friedman (1969), Sevon (1985), Willis & Bridge (1987), Bridge (2000)
Middle Devonian	Bluff Head Fm	China	Jones et al. (1997)
Middle Devonian	Hornelen ORS	Norway	Steel et al. (1977), Bryhn (1978), Garner (1979), Gloppe & Steel (1981), Pollard et al. (1984), Anderson & Cross (2001)
Middle Devonian	Kvamsheten Gp	Norway	Osmundsen et al. (2000)
Middle Devonian	Malbaie Cg	Canada	Rust (1984)

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Middle Devonian	Pirate Cove Fm	Canada	Dineley & Williams (1968)
Middle Devonian	Solund Cg	Norway	Nilsen (1968)
Mid-Upper Devonian	McAras Brook Fm	Canada	Fralick & Schenk (1981), Murphy (2001)
Giv.-Fammenian	Pertnjara Gp	Australia	Jones (1991)
Frasnian	Genesee Gp	USA	Allen & Friend (1968), Buttner (1968), Bridge & Gordo (1985), Sevon (1985), Gordon & Bridge (1987) , Bridge (1988, 2000)
Fras.-Fammenian	Beverley Inlet Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Fras.-Fammenian	Bulgeri Fm	Australia	Lang (1993)
Fras.-Fammenian	Caherkeen Fm	Ireland	James & Graham (1995)
Fras.-Fammenian	Eagle Hill Fm	Ireland	James & Graham (1995)
Fras.-Fammenian	Fram Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Fras.-Fammenian	Hell Gate Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Fras.-Fammenian	Hervey Gp	Australia	Conolly (1965)
Fras.-Fammenian	Nordstrand Point Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Fras.-Fammenian	Nundooka Sst	Australia	Neef et al. (1996), Neef & Bottrill (2001), Neef (2004)
Fras.-Fammenian	Reen Point Fm	Ireland	James & Graham (1995)
Fras.-Fammenian	Tholane Fm	Ireland	James & Graham (1995)
Fras.-Fammenian	Toe Head Fm	Ireland	Graham (1975, 1983), Cotter & Graham (1991), James Graham (1995)
Fammenian	Gun Point Fm	Ireland	Sadler & Kelly (1993)
Fammenian	Parry Islands Fm	Canada	Embry & Klovan (1976), Embry (1988, 1991)
Fammenian	Kanayut Cg	USA	Nilsen (1981), Moore & Nilsen (1984)
Upper Devonian	Aztec Slt	Antarctica	McPherson (1979, 1980), Sherwood et al. (1988)
Upper Devonian	Catskill Fm	USA	Ryan (1965), Allen & Friend (1968), Glaeser (1974), Fa Wells (1974), Sevon (1985), Cotter & Driese (1998), Harper (1999), Bridge (2000)
Upper Devonian	Celsius Berg Gp	Greenland	Olsen & Larsen (1993)
Upper Devonian	Finke Gp	Australia	Jones (1973)
Upper Devonian	Kaista Fm	Iraq	Al-Juboury & Al-Hadidy (2008)
Upper Devonian	Kap Graah Gp	Greenland	Olsen (1990), Olsen & Larsen (1993)
Upper Devonian	Kiltoran Fm	Ireland	Jarvis (2000)
Upper Devonian	Lower Taylor Gp	Antarctica	Sherwood et al. (1988), Woolfe (1990)
Upper Devonian	Midland Valley ORS	UK	Bluck (1967), Read & Johnson (1967), Haughton & Bluc (1988), Bluck (2000)
Upper Devonian	Perry Fm	Canada, USA	McIlwaine (1967), Schluger (1973)
Upper Devonian	Rockwell Fm	USA	Bjerstedt & Kammer (1988), Harper (1999)
Upper Devonian	Skrinkle Sst	UK	Marshall (2000a,b)
Upper Devonian	Yiginli Fm	Turkey	Tunbridge (1988)

**Appendix 2 – Cambrian-Devonian stratigraphic units that were the focus of fieldwork by the authors to support the literature compilation – presence of LA sets denoted.**

Age	Unit	Location	LA?
<i>Cambrian</i>			
1. Early Cambrian	Hardyston Formation	USA (New Jersey, Pennsylvania)	N
2. Early Cambrian	Herrera Formation	Spain	N
3. Early Cambrian	Neksø Formation	Denmark	N
4. Early Cambrian	Wood Canyon Formation	USA (California)	N
5. Early Cambrian	Zabriskie Quartzite	USA (California)	N
6. Early Cambrian	Tapeats Sandstone	USA (Arizona)	N
7. Cambrian	Alderney Sandstone Formation	Alderney (UK)	N
8. Cambrian	Frehel Formation	France	N
9. Cambro-Ordovician	Rozel Conglomerate Formation	Jersey (UK)	N
<i>Ordovician</i>			
10. Upper Ordovician	Bald Eagle Formation	USA (Pennsylvania)	N
11. Upper Ordovician	Juniata Formation	USA (Pennsylvania)	N
12. Upper Ordovician	Misty Point Formation	Canada (Newfoundland)	N
<i>Silurian</i>			
13. Llandovery	Tuscarora Formation	USA (Pennsylvania)	N
14. Llandovery	Shawangunk Formation	USA (New Jersey)	N
15. Llandovery	Massanutten Sandstone	USA (Virginia)	N
16. Ludlow-Pridoli	Bloomsburg Formation	USA (Pennsylvania)	N
17. Ludlow-Pridoli	Sundvollen Formation	Norway	N
18. Ludlow-Pridoli	Stubdal Formation	Norway	N
19. Ludlow-Pridoli	Store Arøya Formation	Norway	N
20. Pridoli	Holmestrand Formation	Norway	N
21. Pridoli-Lochkovian	Clam Bank Formation	Canada (Newfoundland)	N
22. Pridoli-Lochkovian	Moor Cliffs Formation	Wales	Maybe
23. Pridoli-Lochkovian	Peel Sound Formation	Canada (Nunavut)	N
24. Pridoli-Pragian	Red Marl Group	Wales	Y
25. Late Silurian	Somerset Island Formation	Canada (Nunavut)	N
<i>Devonian</i>			
26. Lochkovian	Freshwater West Formation	Wales	Y
27. Lochkovian-Emsian	Cosheston Group	Wales	N
28. Pragian	Traeth Lligwy Beds	Wales	Y
29. Lower Devonian	Snowblind Bay Formation	Canada (Nunavut)	N
30. Emsian-Eifelian	Campbellton Formation	Canada (New Brunswick)	N
31. Middle Devonian	Pirate Cove Formation	Canada (Quebec)	Y
32. Middle Devonian	Battery Point Formation	Canada (Quebec)	Y
33. Middle Devonian	Malbaie Conglomerate	Canada (Quebec)	N
34. Frasnian	Oneonta Fm (Genesee Gp)	USA (New York)	N
35. Upper Devonian	Catskill Formation	USA (New York, Pennsylvania)	Y
36. Upper Devonian	Perry Formation	Canada (New Brunswick), USA (Maine)	N

### **Appendix 3 – List of references cited in Appendix 1**

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