

FRANKEA sartbernardensis (Martin) Colbath 1986a p. 73

- 1966b *Veryhachium sartbernardense* Martin, p. 434-435, text-fig 11-13
1967 *Evittia sartbernardense* (Martin) Brito, p. 477 invalid; full basionym not given
1970 *Baltisphaeridium sartbernardense* (Martin) Cramer p. 157-158
1970 *Frankea sartbernardensis* (Martin) Burmann, p. 291 invalid; full basionym not given
1973 *Multiplicisphaeridium sartbernardense* (Martin) Eivenack, Cramer & Diez p. 791-792
1978 *Dateriocradus sartbernardensis* (Martin) Elaovad-Debbaj, p. 34

↓ according to Jervis 1993 (see for discussion of the genus)

- non 1969 *V. sartbernardense* Martin; Martin p. 104 pl. 6, fig 263 Fig 53 = *F. breviuscula*
non 1970 *B. sartbernardense* (Martin) Cramer; Cramer, pl. 27, fig 249, 250 = *F. longiuscula*
non 1974a *V. sartbernardense* (Martin); Rauscher pl. 7, fig 2 } = *F. breviuscula*
non 1974b *V. sartbernardense* Martin; Rauscher pl. 2: 11 }
non 1974 *V. aff. sartbernardense* Martin; Martin p. 17, 28, 43, pl. 4, fig 122
non 1975 *V. sartbernardense* Martin; Sheshgova p. 9, pl. 15, fig 9* pl. 27, fig 7 ? *F. hamulata*
non 1977 *F. sartbernardensis* (M.) Burmann; Martin, pl. 5, fig 7 = *F. hamata*
non 1982 *Multi. sartbernardense* (M.) Eivenack et al.; Tynni p. 76 pl. 12, fig 26
non 1989 *F. sartbernardense*; Vavrdova p. 404-405, fig 1: 26 = *F. hamata*

ratio of process length to central body diameter about 1:3 ; 3-6 terminal pinnae

type material = early Llanvirn (see Servais 1993 p. 79)

Martin 1966b : Late Arenigian & Llandellian, Belgium

Vanguestaine 1978a : Arenigian/Llanvirnian Belgium

Molyneux 1979 : Arenigian or Llanvirnian, Isle of Man

Martin 1982 : Arenigian, Newfoundland, Canada

Vavrdova 1978 (p. 72) : early Llanvirnian, Czechoslovakia

Vavrdova 1977 (pl. 2, fig. 4, 5) : late Arenigian - early Llanvirnian, Czechoslovakia.

Martin 1975 : probable Llanvirnian Belgium

Turner 1982 (p. 128) : reworked in Caradocian England

Downie 1984 (fig. 4.26) : early Arenigian - early Llanvirnian: Britain

early Arenigian - late Llanvirnian range

Turner & Wadge 1979 (pl. 19, fig. 4) : mid Arenigian, England

Hill and Molyneux 1988 : Caradocian: NE Libya

Keegan et al. 1990 (pl. 2, fig. 3 = *sarthernardenis/longiuscula*) : Llanvirnian Jordan

Elaouad-Debbaj 1984 : late Arenigian, Morocco.

Cramer 1970a : Ashgillian - Late Llandoveryan

Downie & Soper 1972 : early Llanvirnian England

Vavrdova 1972 (p. 80) : Llanvirnian Czechoslovakia

Martin 1967 : late Llandoveryan - late Wenlockian, Belgium

Vavrdova 1976 (pl. 3, fig. 3) : reworked in latest Ordovician, Czechoslovakia

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- Martin & Rickards 1979 (pl. 1, fig. 16) : late Arenigian, Belgium
- Cramer & Diez 1977a (pl. 6, figs. 3-4, text-fig. 2:15; sartbernardensis group)
Late Arenigian Morocco
- Diez & Cramer 1974 : Arenigian - late Llandoveryan range
- Cramer 1971 (pl. 2, fig. 10) :
- Cunha & Vanguetaine 1988 (p. 73, pl. 2, fig. 7) : late Arenigian, S.E. Portugal
- Vanguetaine 1986b : Arenigian / Llandoveryan Belgium
- Kalvacheva 1978 (pl. 1, figs. 2, 2a, 3) : Llanvirnian, Bulgaria
- Deunff and Massa 1975 (pl. 1, fig. 16) : Llanvirnian / Llandoveryan, Libya
- Paris and Deunff 1970 (p. 2 & pl. 1, fig. 7) : Llanvirnian France
- Rauscher 1974a (pl. 2 fig. 11) : Llanvirnian - E. Llandoveryan France
- Vavrdova 1974 (Fig. 1.35) : Llanvirnian Czechoslovakia
- Jardiné et al 1974 : Caradocian - ? Ardgillian Algeria
- Deunff 1977a (p. 142, pl. 1, figs. 7-10) : Llanvirnian, Morocco
- Vavrdova 1986 : Arenigian / Llanvirnian transition Czechoslovakia
- Martin & Dean & Martin 1978 : Arenigian Newfoundland & Canada
- Vavrdová 1982a : Late Arenigian Czechoslovakia

Maletz & Servais 1993 (Figs. 4.1-4.3) Early Llanvirn Germany

Servais & Maletz 1992 (pl. 3, fig. 5) Early Llanvirnian Belgium

Millward & Molyneux 1992: Llanvirnian/Caradocian England

Cooper & Molyneux 1990 (Fig 4i): Late Arenig. N. England

Martin 1993 (pl. 2, fig. 3) Llanvirn Belgium

(†) Wadge, Owens & Downie 1967 (p. 507)

Lister, Burgess & Wadge 1969 (p. 98-99)

Martin 1969 (p. 103-104, 154-155, fig 54-55 pl. 1, fig 53, 57, pl. 2, fig 68-69) Arenig-Silurian Belgium
 non p. 104, fig 53; pl. 6, fig. 263 - Servais 1993

Servais 1993 (pp 87-92, review pl. 1, figs 1-2, 7)

Servais 1991 (p. 240-242, 244 fig. 17, 21, 23): late Arenig-Llanvirn and/or Llandeilo Belgium

Vavrdová 1993: latest Arenig/earliest Llanvirn Czech Republic

~~Servais~~ Andre et al. 1991 Arenig-Llandeilo Belgium

Servais 1994 Early-Late Llanvirn NE Germany

Molyneux 1990: Late Arenig England & Wales

Cooper, Rushton et al. 1995 Late Arenig NW England

Jachowicz 1995 (pl. 1, fig. 9)* Early Caradoc Saudi Arabia

(?) Fatka et al. 1997 (Figure 1a) Early Llanvirn Belgium

Burmann 1976 'Early-Late Llanvirnian' East Germany

reworked (see Vecoli et al 1999)

* = *F. breviscula* according to Vecoli et al 1999

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- Walter & Berger 1998 (Figure 9j) : late Arenig / Llanvirn } Saxony, Germany
 Late Ludlow / Emsian }
- (cf.) Wadge et al. 1967 : Early Llanvirn Cumberland England
- Kalvacheva 1972 : Ordovician (? Llanvirn) Bulgaria
- Hafenrichter 1980 : Early Silurian, Eastern Sierra Morena Spain
- Martin, Michot & Vanguetaine 1970 : Caradoc, Belgium
- Molyneux 1999 : Early - Late Arenig, Isle of Man UK
- (cf.) Fang 1987 (pl. 4, fig. 16) : Llanvirn, Yunnan Province China
- Vecoli, Tongiorgi & Playford 1999 (p. 350, 352, pl. 3, figs 3-5)
 Late Arenig (*D. hirundo* graptolite zone) - Middle Llanvirn
 (*D. murchisoni* Zone) range
- Vecoli et al. 1999 : Llanvirn, Southern Tunisia & Algerian Sahara
- Tongiorgi & Di Milia 1999 : } Early Llanvirn Tunisia & Belgium
 { late Early Llanvirn Spain
- Strother, Al-Hajri & Traverse 1996 : Llanvirn Saudi Arabia
- Molyneux & Al-Hajri 2000 : Llanvirn Central Arabian Basin
 Saudi Arabia

Dorning 1999 : 'mid Arenig British Isles / NW. Europe
- mid Caradoc'

Molyneux 1999b : Late Arenig Northwest England

Burmann 2001 : Arenig, Stadtsteinach (Frankenwald) Germany

(cf. F.s) Ercegovac & Dajić 1996 : Late Ordovician
(pl. 2 fig. 3) eastern Serbia Yugoslavia

Vecoli 1999 (p. 43-44, pl. 9, fig. 2) : Llanvirn, Algeria & Tunisia

Vecoli & Le Hérissey 2004 : 'Llanvirn', northern Gondwana
(+ reworked Late Arhygill)

Robardet & Sutiérrez-Marco 2004 : Middle Ordovician
(= Fennian Stage of British Isles)
SW Iberian Peninsula, Spain

Burmann 1973f (pl. 4, figs. 1-2 & 4-6, pl. 5, figs. 1-2) : Llanvirn,
South-East Hartz Mountains, Germany

Burmann 1973e (pl. 2, figs. 1-9, pl. 3, figs. 1-f, pl. 4, figs. 1-3)
Llanvirn 'Paschleben', Germany

Molyneux (in Pratt et al) 1995 : ? Llanvirn
Cadair Idris region North Wales

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Rushton and Molyneux 1989 : Late Arenig

(Figure 4 B)

Lake District England

Miller & Al-Ruwaili 2007 : reworked in Late Ordovician (Hirnantian)

central Saudi Arabia

El Beraly, Zalat & Ali 2003 : Bathonian / early Callonian

Western Desert Egypt

Delcambre & Pingot 2002 : late Arenig

Chastre - Sembloux Brabant Massif, Belgium

Vanguerstaine 2008 (pl. 2, figs. 9-10) : late Arenig

Senne-Sennette river valleys, Brabant Massif, Belgium

Jachowicz 2005 (Figure 6L) Llanvirn

Upper Silesian Block, NW of Kraków, southern Poland

Vecoli, Riboulleau & Versteegh 2009 (pl. 1, fig 12)

Late Ordovician (Hirnantian), Chadams Basin southern Tunisia

Trela & Szczepanik 2009 reworked Late Astgill

(Figure 4.1 & 4.35 + cf. 4.34)

(Hirnantian)

Holy Cross Mountains Poland

Svein & Rasul 1990 (p. 2, fig. 13) Llanvirn
Western Desert, Egypt

Paris, Le Hérisse Monod et al. 2007:
Middle Ordovician (Darrivilian = Llanvirn)

Border Folds, SE Turkey

Molyneux 2009: Arenig (late Dapingian / early Darrivilian)
Lake District, NW England

Booth 1979 thesis (p. 259-262, p. 13, fig. 9, p. 14, fig. 12, p. 16, fig. 13
p. 13, fig. 12, p. 30, fig. 6, p. 32, fig. 4) Arenig

Menai & Caernarvon, North Wales

Vanguestarne & Wauthoz 2011:
Middle Ordovician (early Darrivilian)
Thye river section, southern Brabant Massif, Belgium