

Supplementary Table 10.1. Selected rosid fossils

clade	taxon	organ	source	minimum age estimate (Mya)	reference
Indet. Rosidae	Rose Creek flower	Flower and fruit	Late Early Cretaceous Albian, Nebraska	101	Basinger and Dilcher 1984
Vitaceae	<i>Indovitis chitaleyae</i>	fruit with intact seeds	Late Maastrichtian, India	66	Manchester et al 2012
Clusiaceae	<i>Paleoclusia chevalieri</i>	flower	Late Cretaceous (Turonian) Old Crossman locality, New Jersey, USA	90	Crepet and Nixon, 1998a
Salicaceae	<i>Populus tidwellii</i> & <i>P. wilmatae</i>	Twigs with attached leaves, fruits	Early middle Eocene, Green River Fm., Utah	47	Manchester et al. 2006
Salicaceae	<i>Pseudosalix handleyi</i>	Twigs with attached flowers, fruits, leaves	Early middle Eocene, Green River Fm., Utah	47	Boucher et al. 2004
Phyllanthaceae	" <i>Phyllanthocarpus</i> "	Trilocular capsular fruit with two seeds per locule	Late Cretaceous (late Maastrichtian), India	66	Kapgate pers. Comm. 2014; fig. 10.21d
Euphorbiaceae	<i>Euphorbiocarpon</i> spp.	Trilocular capsular fruit with one seed per locule	Early Eocene London Clay flora, S. England	50	Reid and Chandler 1933
Malpighiaceae	<i>Eoglandulosa warmanensis</i>	flower	Middle Eocene of southeastern North America	45	Taylor and Crepet, 1987
Fabaceae	Indet. pods and compound leaves	Fruits, leaves	Paleocene of Colombia	58	Herrera in Wing et al. 2009
Rosaceae	<i>Prunus</i>	fruit	Eocene Princeton Chert, British Columbia	49	Cevallos-Ferriz and Stockey, 1991
Rosaceae	<i>Paleorosa similkameenensis</i>	flower	Middle Eocene Princeton Chert, British Columbia	49	Basinger 1976; Cevallos-Ferriz , et al 1993
Cannabaceae	<i>Aphananthe cretacea</i>	fruit	Late Cretaceous (Maastrichtian) Walbeck, Germany	67	Knobloch and Mai 1986
Rhamnaceae	<i>Coahuilanthus belinda</i>	flower	Late Campanian El Almácigo locality, Coahuila, Mexico	73	Calvillo-Canadell and Cevallos-Ferriz 2007
Rhamnaceae	<i>Archaeopaliurus boyacensis</i>	Winged fruit	Late Cretaceous (Maastrichtian) Guadas Fm., Colombia	70	Correa et al. 2010
Rhamnaceae	<i>Paliurus clarnensis</i>	Winged fruit	Middle Eocene Clarno Fm, Oregon, USA	46	Burge and Manchester 2008
Cucurbitales	<i>Cucurbitaciphyllum lobatum</i>	Palmately lobed leaves	Paleocene Fort Union Fm, Montana	58	Manchester 2014
Fagaceae	<i>Protofagacea</i>	staminate and	Late Cretaceous (Late	84	Sims et al. 1998

	<i>allonensis</i>	bisexual flowers, cupulate fruits	Santonian) Allon locality, Georgia, USA.		
Fagales	<i>Antiquacupula sulcata</i>	Fruits and flowers	Late Cretaceous (Late Santonian) Allon locality, Georgia, USA	84	Sims et al. 1998
stem-group lineage of Fagales.	<i>Archaeofagacea futabensis</i>	bisexual and actinomorphic flower with a tricarpellate gynoecium and inferior ovary.	Late Cretaceous (Early Coniacian) Kamikitaba locality, Honshu, Japan	87	Takahashi et al. 2008a
Fagales Normapolles group	<i>Antiuocarya, Bedellia, Calathiocarpus, Caryanthus, Budvaricarpus, Dahlgrenianthus Manningia and Normanthus</i>	flowers and fruits	Late Cretaceous (Santonian, Campanian), Europe and North America	86-73	Friis 1983; Friis and Crane 1989; Sims et al. 1999; Schönenberger et al. 2001b; Friis et al., 2003b, 2006b.
Nothofagaceae	<i>Nothofagidites</i>	pollen	Late Cretaceous (Campanian) Australia	74	Dettmann 1994
Nothofagaceae	<i>Nothofagus</i> spp.	pollen	Late Cretaceous (Maastrichtian) Australia	70	Dettmann 1994
Fagaceae	<i>Fagus</i>	cupulate nuts and leaves	Early Eocene, McAbee, British Columbia	49	Manchester and Dillhoff 2004; Denk and Grimm 2009
Betulaceae	<i>Palaeocarpinus</i>	Infructescence and fruit	Paleocene Europe, North America, Asia	60	Crane 1981; Manchester et al. 2004
Betulaceae	<i>Coryloides</i>	Globose nut similar to <i>Corylus</i> fruit	Eocene Clarno Fm., Oregon	46	Manchester 1994
Betulaceae	<i>Asterocarpinus</i> spp.	fruit	Late Eocene to early Oligocene W. North America	35-33	Manchester and Crane 1987
Betulaceae	<i>Betula leopoldae</i>	Leaves, catkins, fruits, pollen	Early middle Eocene, Princeton, British Columbia	49	Crane and Stockey 1987
Betulaceae	<i>Alnus clarnensis</i>	Leaf, catkin, fruit, pollen	Early middle Eocene Oregon	47	Liu et al 2014
Juglandaceae	<i>Juglans</i>	fruit	Early middle Eocene, Oregon	46	Manchester 1994
Juglandaceae	<i>Cyclocarya</i>	fruit	Paleocene	58	Manchester and Dilcher 1982
Juglandaceae	<i>Platycarya</i>	Infructescence, pollen	Early Eocene, North Dakota, Wyoming, England	48	Wing and Hickey; Manchester 1987
Juglandaceae	<i>Polyptera</i>	fruit	Early Paleocene, North America	60	Manchester and Dilcher 1997
Juglandaceae	<i>Cruciptera</i>	fruit	Early Middle Eocene Oregon, Germany	47	Manchester et al. 1994
Lythraceae	<i>Lythrum</i> and <i>Peplis</i>	Distinctive pollen	Late Cretaceous (lower Campanian) Wyoming	81	Grímsson et al. 2011

Myrtaceae	<i>Paleomyrtinaea</i>	fruits	Paleocene	58	Pigg <i>et al.</i> 1993
Anacardiaceae	<i>Anacardium</i>	Fruit with	Middle Eocene	47	Manchester <i>et al.</i> 2007
	<i>germanica</i>	hypocarp			
Anacardiaceae	<i>Pentoperculum</i>	fruits	Early Eocene London Clay and middle Eocene Oregon	50-46	Manchester 1994
Burseraceae	<i>Bursericarpum</i>	fruit	Early Eocene London Clay	50	Reid and Chandler 1933; Manchester 1994
Sapindaceae	<i>Acer</i> sp.	fruit	Late Cretaceous (Maastrichtian), North Dakota	66	Kirk Johnson, pers. comm. (fig. 10.21e)
	<i>Dipteronia</i>	fruit	Early Eocene British Columbia, Washington, Oregon	49	McClain and Manchester 2001
Simaroubaceae	<i>Ailanthus</i>	fruit	Early Eocene China, Middle Eocene North America, Europe	49	Corbett and Manchester 2004
Tapisciaceae	<i>Tapiscia</i>	seed	Early Eocene London Clay, Middle Eocene Messel, Germany and Clarno Fm, Oregon	50	Mai 1995; Manchester 1994, Collinson <i>et al.</i> 2012
Brassicales (or Sapindales?)	<i>Dressiantha bicarpellata</i>	flowers	Late Cretaceous (Turonian) Old Crossman locality, New Jersey, USA	90	Gandolfo <i>et al.</i> 1998a; De Craene and Haston 2006
Dipterocarpaceae	<i>Shorea maomingensis</i>	Winged fruit	Late Eocene, S. China	35	Feng <i>et al.</i> 2013
Malvaceae	<i>Florissantia</i>	flower, fruit	Middle Eocene to early Oligocene, western North America	45-32	Manchester 1992
Malvaceae	<i>Craigia</i>	fruit	Early Eocene, eastern Asia	50	Kvaček <i>et al.</i> 2005
Malvaceae	<i>Tilia</i>	bract and fruit	Late Eocene, Early Oligocene western North America.	35-32	Manchester 1994