

Table S1. DNA sequences used in the phylogenetic analyses of this study. N: Number of sequences.

Suborder	Family	Species	N	Accession Number
Calycophorae	Abylidae	<i>Abylopsis eschscholtzii</i>	16	GQ119937, KX384609, MH444747-MH444758, MW125242, MW125247
		<i>Abylopsis tetragona</i>	4	GQ119938-GQ119939, HM053518, MW125218
		<i>Bassia bassensis</i>	4	GQ119959-GQ119960, MW125215, MW125229
		<i>Ceratocymba leuckartii</i>	1	ON553405*
		<i>Ceratocymba sagittata</i>	1	GQ119961
		<i>Enneagonum hyalinum</i>	4	GQ119974-GQ119975, MW125228, MW125239
	Diphyidae	<i>Chelophyes appendiculata</i>	7	MW125230, MW125232-MW125233, MW125237, MW125240, MW125248, MZ292871
		<i>Chelophyes contorta</i>	3	MZ292872-MZ292874
		<i>Dimophyes arctica</i>	3	ON539931*, GQ119966, MZ292875
		<i>Diphyes bojani</i>	6	GQ119967-GQ119970, MZ292030-MZ292031
		<i>Diphyes chamissonis</i>	17	KF962109-KF962110, KF977265-KF977271, MH388299, MH401084-MH401085, MZ292876-MZ292880
		<i>Diphyes dispar</i>	11	AY937367, GQ119971-GQ119973, KU529462, MH401081-MH401083, MZ292881-MZ292883
		<i>Eudoxoides mitra</i>	12	GQ119977-GQ119980, MH401079-MH401080, MW125217, MW125231, MW125236, MZ292884-MZ292886
		<i>Eudoxoides spiralis</i>	6	GQ119981-GQ119983, MW125238, MZ292887-MZ292888
		<i>Lensia achilles</i>	1	GQ120000
		<i>Lensia campanella</i>	4	GQ120001, GQ120066, JQ353738-JQ353739
		<i>Lensia conoidea</i>	1	GQ120002
		<i>Lensia cossack</i>	1	MZ292889
		<i>Lensia exeter</i>	1	GQ120003
		<i>Lensia fowleri</i>	4	GQ120004-GQ120007
		<i>Lensia grimaldii</i>	1	GQ120008
		<i>Lensia hotspur</i>	1	GQ120009
		<i>Lensia meteori</i>	1	GQ120010
		<i>Lensia multicristata</i>	4	GQ120011-GQ120014
		<i>Lensia subtiloides</i>	3	ON532017 - ON532018*, KF977289
		<i>Muggiaea atlantica</i>	24	ON540133 - ON540143*, JQ353740-JQ353745, KF977296-KF977299, MZ292890-MZ292892
		<i>Sulculeolaria quadrivalvis</i>	4	AY937378, GQ120048-GQ120050
	Clausophyidae**	<i>Kephyes ovata</i>	1	GQ119999
Physonectae	Agalmatidae	<i>Agalma elegans</i>	6	AY937363, GQ119940-GQ119943, KF962059
		<i>Agalma okenii</i>	14	GQ119944-GQ119948, MH708467-MH708471, MW125221-MW125223, MW125246
		<i>Athorybia rosacea</i>	4	AY937364, GQ119956, MW125219-MW125220
		<i>Frillagalma vityazi</i>	2	GQ119986-GQ119987
		<i>Halistemma cupulifera</i>	2	GQ119989-GQ119991
		<i>Halistemma isabu</i>	6	MT933178-MT933183
		<i>Halistemma rubrum</i>	1	AY937372
		<i>Marrus claudanielis</i>	1	GQ120021
		<i>Marrus orthocanna</i>	1	GQ120019
		<i>Nanomia bijuga</i>	11	ON532083 - ON532086*, AY937373, JQ716068-JQ716071, KF977305, LN901200
		<i>Nanomia cara</i>	7	GQ120023-GQ120029
	Cordagalmatidae**	<i>Cordagalma cordiforme</i>	1	AY937366

*New acquired sequences; **: Outgroup.