

S6 Table. Age information and number of specimens sampled for fossil taxa in this study

Phylogenetic position (this paper, parsimony)	Species sampled by this study	# of specimens examined (museum vouchers)	Number of unambiguous (ambiguous) synapomorphies of smallest clade that includes this fossil	Geology	Age range (mya) *	Median age (mya) *	Ref.
Penaeini	† <i>Acanthochirana smitwoodwardi</i>	7 specimens (MSNM i12360, i12241, i12338, i12512, i12394, i12344, i12374)	3 (8)	Hakel, Lebanon, Upper Cretaceous (Cenomanian)	93.9-100.5	97.2	(1)
Parapenaeini	† <i>Aeger tipularius</i>	2 specimens (USNM-PAL-358131, CMNH-29768)	2 (4)	Solnhofen area in Germany. Most conservative age is Early Tithonian	145.5-150.8	148.5	(2-5)
Agripenaeina	† <i>Antrimpos speciosus</i>	4 specimens (CMNH 33420, 33375, USNM-PAL-475694, 358134)	1 (6)	Solnhofen area in Germany. Most conservative age is Early Tithonian	145.5-150.8	148.5	(2-5)
Trachypenaeini	† <i>Drobna deformis</i>	7 specimens (USNM-PAL-358145, 475720, 475697, 358146, CMNH-29476, 29466, 29467)	6 (38)	Solnhofen area in Germany. Most conservative age is Early Tithonian	145.5-150.8	148.5	(2-5)
Parapenaeinini	† <i>Ifasya madagascariensis</i>	9 specimens (MSNM-i11309, i9311, i9408, i14229, i9383, i9406, i9328, i11243, i9328)	2 (4)	Lower Triassic of Madagascar Griesbachian (Scythian).	247-252	249.5	(6-8)
Benthescymidae	† <i>Paleobenthescymus libanensis</i>	1 specimen (USNM-PAL-358506)	4 (8)	Sahel Alma, Lebanon. Upper Cretaceous (Santonian)	83.6-86.3	84.95	(1, 9)
Sergestoidea	† <i>Paleomattea deliciosa</i>	3 specimens (AMNH-44985, 44986, 44987)	2 (17)	Romualdo Member, Brazil. Lower Cretaceous (Albian)	100.5-113	106.75	(10)

* Age boundaries for each geological range are taken from (11) or are as reported in the references cited for each fossil

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