

S1 Table. Major clades from combined data parsimony analysis.

Clade	Definition
Penaeoidea	The common ancestor of <i>Aristaeomorpha foliacea</i> and <i>Penaeus monodon</i> and all of its descendants
Penaeidae	The common ancestor of <i>Penaeus monodon</i> and <i>Atypopenaeus formosus</i> and all of its descendants
Penaeni	The common ancestor of <i>Penaeus monodon</i> and <i>Pelagopenaeus balboae</i> and all of its descendants
Pan-Agripenaeina	All species more closely related to Agripenaeini than to <i>Heteropenaeus longimanus</i>
Agripenaeina	The common ancestor of <i>Penaeus monodon</i> and <i>Marsupenaeus japonicus</i> and all of its descendants
Parapenaeni	The common ancestor of <i>Metapenaeopsis palmensis</i> and <i>Artemesia longinaris</i> and all of its descendants
Trachypenaeni	The common ancestor of <i>Xiphopenaeus kroyeri</i> and <i>Atypopenaeus formosus</i> and all of its descendants
Pan-Sicyonia	All species more closely related to crown clade Sicyonia than to <i>Trachypenaeopsis mobilispinis</i>
Sicyonia	The common ancestor of <i>Sicyonia lancifer</i> and <i>Sicyonia laevigata</i> and all of its descendants
Phorcysida	The common ancestor of <i>Aristaeomorpha foliacea</i> and <i>Hymenopenaeus equalis</i> and all of its descendants
Podobranchida	The common ancestor of <i>Aristaeomorpha foliacea</i> and <i>Bentheogennema intermedia</i> and all of its descendants
Aristeidae	The common ancestor of <i>Aristaeomorpha foliacea</i> and <i>Pseudaristeus kathleenae</i> and all of its descendants
Benthescymidae	The common ancestor of <i>Benthonectes filipes</i> and <i>Gennadas valens</i> and all of its descendants
Solenoceridae	The common ancestor of <i>Gordonella paravillosa</i> and <i>Hymenopenaeus equalis</i> and all of its descendants
Sergestoidea	The common ancestor of <i>Sergia robusta</i> and <i>Acetes americanus carolinae</i> and all of its descendants