



**A revision of the systematic position of *Periclimenaeus spinimanus* Bruce, 1969 (Crustacea: Decapoda: Pontoniinae) and the designation of *Anisomenaeus* gen. nov.\***

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In the course of studying a number of Indo-West Pacific species of the genus *Periclimenaeus* Borradaile, 1915, it was noticed that *Periclimenaeus spinimanus* Bruce, 1969, does not fit the current definition of the genus (Bruce 1995), where the species was unfortunately used to illustrate the genus *Periclimenaeus*. The species is known only from the type specimen collected off Ras Asir, Somalia, at 67.5–73.1 m, during the course of the R.V. *Anton Bruun* cruise 9 of the International Indian Ocean Expedition in 1964. A preliminary description was provided by Bruce (1969) and later, a more detailed illustrated description (Bruce 1978). The species lacks a molar process on the dactylus and an opposing fossa on the fixed finger of the major second pereopod, the major diagnostic character of the genus *Periclimenaeus* Borradaile. A new mono-specific genus is now proposed for its reception.

Abbreviation used: USNM, National Museum of Natural History, Washington.

**Systematic account**

**Palaemonidae Rafinesque, 1815**

**Pontoniinae Kingsley, 1879**

***Anisomenaeus* gen. nov.**

**Diagnosis.** Small shrimp of subcylindrical body form. Rostrum well developed, compressed, dorsally and ventrally dentate. Carapace smooth, glabrous, inferior orbital angle obsolete, orbit generally feebly developed, with small supraorbital tubercle, epigastric and hepatic spines absent, antennal spine present, anterolateral lateral angle of branchiostegite rounded. Abdomen smooth, glabrous, first tergite with dorsal anterior median lobe, pleura with posterior margins rounded. Telson with two pairs of dorsal spines, three pairs of posterior spines. Eye normal, with globular cornea. Antennule normal. Antenna with basicerite unarmed, scaphocerite well developed. Epistome unarmed. Mandible without palp, molar process robust, incisor reduced to acute process; maxillula with bilobed palp, upper lacinia spinose, lower lacinia setose; maxilla with simple palp, basal endite bilobed, scaphognathite normal; maxillipeds without special features, exopodal flagella slender with four long plumose terminal setae and several shorter adjacent setae. First maxilliped with bilobed epipod, second maxilliped with small subrectangular epipod without podobranch, third maxilliped with ischium fused to basis, coxa with small rounded lateral plate, without medial process, small arthrobranch present. First pereopods slender, chela with fingers short, stout, scaphoid, dactylus with simple bidentate tip, fixed finger simply acute distally, cutting edges entire, basi-coxal articulation with protuberant process. Second

pereiopods well developed, chelae unequal, dissimilar, major chela with palm densely spinose, dactylus spinose, without molar process, cutting edge entire, tip acute; fixed finger without proximal fossa, longitudinally grooved, medial margin entire, lateral margin feebly crenulate, merus and ischium ventrally spinose; minor chela with palm spinose, dactylus spinose, compressed, tip bidentate, fingers closing with shearing action, fixed finger similar, cutting edge entire. Ambulatory pereiopods normal, dactyli short, biunguiculate, without basal process, propodus spinulate. Uropod with protopodite unarmed, with distolateral tooth with spine medially.

**Type species.** *Periclimanaeus spinimanus* Bruce, 1969, by present designation and monotypy.

**Etymology.** From *an-* not, and *iso-*, the same (Greek), and part of the name *Periclimanaeus* first used by Borradaile (1915), that is, different from *Periclimanaeus*. Gender masculine.

**Systematic position.** Closely resembling *Periclimanaeus* Borradaile, in which it was originally placed, but immediately distinguishable by the absence of a dactylar molar process and a fixed finger fossa on the major second pereiopod chela, characters that are diagnostic of the genus *Periclimanaeus*. *Anisomenaenus* gen. nov. also differs from *Periclimanaeus* in the very dense spinulation of the second pereiopod chelae. The fingers of the minor second pereiopod also close with a shearing action, a character not occurring in *Periclimanaeus* although typical of the genera *Typton* Costa and *Epipontonia* Bruce. The genus contains only a single species.

***Anisomenaenus spinimanus* (Bruce, 1969) comb. nov.**

*Periclimanaeus spinimanus* Bruce, 1969: 165-167. — 1978: 123–127, figs 1–3. — Li, 2000: 136, fig. 165.

**Type.** holotype, male, USNM168529.

**Type locality.** Ras Afir, Somalia.

**Host.** No data.

**Bathymetric range.** 68–73 m.

**Distribution.** Known from type locality only.

**Remarks.** The presence of an anterior median dorsal lobe of the first abdominal tergite in *Anisomenaenus* is a feature that is also present in *Periclimanaeus robustus* Borradaile, 1915, the type species of the genus *Periclimanaeus*, and seven other species of that genus: *P. gorgonidarum* (Balss), *P. uropodialis* Barnard, *P. palauensis* Miyake & Fujino, *P. ardeae* Bruce, *P. djiboutensis* Bruce, *P. lobiferus* Bruce, *P. orontes* Bruce; but is lacking in the 43 other Indo-West Pacific species of the genus. It has also not been reported in any other pontoniine genus.

*Anisomenaenus* gen. nov. can be distinguished from other sponge associated pontoniine taxa by the following key. Genera of suspected but unproven association with sponges are given in parentheses.

**Key to the Indo-West Pacific sponge associated pontoniine genera**

- 1. Scaphocerite rudimentary ..... 2
- Scaphocerite well developed ..... 4
- 2. Mouthparts filtratory ..... *Typtonychus* Bruce
- Mouthparts non-filtratory ..... 3
- 3. Labrum greatly hypertrophied, protuberant, maxillipedal exopods with numerous plumose setae distally ..... *Onycomenes* Bruce
- Labrum not greatly hypertrophied or protuberant, maxillipedal exopods with four terminal plumose setae ..... *Typton* Costa
- 4. Fingers of major second pereiopod with molar process and fossa ..... 5
- Fingers of major second pereiopod with fingers without molar process and fossa ..... 7
- 5. Dactyl of major second pereiopod with molar process, fixed finger with fossa ..... *Periclimanaeus* Borradaile
- Dactyl of major second pereiopod with fossa, fixed finger with molar process ..... 6
- 6. Orbits well developed with large supra-orbital teeth ..... *Climeniperaeus* Bruce
- Orbits feebly developed without supra-orbital teeth ..... *Paraclimanaeus* Bruce

7.	Second pereiopods subequal and similar .....	8
–	Second pereiopods unequal and dissimilar .....	10
8.	Rostrum elongate, far exceeding antennular peduncle, with few large teeth, three dorsal and one ventral tooth.....	
	..... <i>Poripontonia</i> Fransen	
–	Rostrum not exceeding antennular peduncle .....	9
9.	Second pereiopod fingers closing with shearing action, ambulatory dactyls slender, third feebly biunguiculate, ventral corpus feebly denticulate, reduced on fourth and fifth pereiopods, uropodal exopod distolaterally with mobile spine and tooth .....	<i>Epipontonia</i> Bruce
–	Second pereiopod fingers not closing with shearing action, ambulatory dactyls short, strongly dentate, uropodal exopod distolaterally multi-spinose .....	<i>Apopontonia</i> Bruce
10.	First pereiopods unequal, carpus segmented .....	<i>Thaumastocaris</i> Kemp
–	First pereiopods similar, carpus unsegmented .....	11
11.	Second pereiopods with palms subcylindrical or oval in section .....	12
–	Second pereiopods with palms bilaterally compressed .....	<i>Onycocaris</i> Nobili
12.	Minor second pereiopod with dactyl distally swollen .....	[ <i>Exopontonia</i> Bruce]
–	Minor second pereiopod dactyl not distally swollen .....	13
13.	Dactyls of third and fifth ambulatory pereiopods biunguiculate, fourth simple elongate, denticulate.....	
	..... <i>Onycocaridites</i> Bruce	
–	Dactyls of third to fifth ambulatory pereiopods similar .....	14
14.	Dactyls of ambulatory pereiopods simple .....	<i>Periclimenoides</i> Bruce
–	Dactyls of ambulatory pereiopods biunguiculate .....	15
15.	Ambulatory dactyls with corpus ventrally denticulate .....	16
–	Ambulatory dactyls with corpus ventrally unarmed.....	17
16.	Rostrum reduced, unarmed or minutely unidentate, major second pereiopod with fingers simple, unarmed .....	
	..... <i>Onycocaridella</i> Bruce	
–	Rostrum well developed, dorsally and ventrally dentate, major second pereiopod with dactyl deeply scaphoid, fixed finger with large bicuspid tooth proximally.....	<i>Hamiger</i> Borradaile
17.	Second pereiopod with both fingers unarmed, non-tuberculate, first abdominal tergite with median anterior lobe .....	
	..... [ <i>Anisomenaeus</i> gen. nov.]	
–	Major second pereiopod with both fingers with single acute tooth, minor second pereiopod with cutting edge of fingers with small transversely ridged tubercles, first abdominal tergite without median anterior lobe .....	<i>Orthopontonia</i> Bruce

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