



RE-DEFINITION OF THE GENUS *JAVANISOMYSIS* BĂCESCU, 1992 AS  
A SUBGENUS IN THE GENUS *ANISOMYSIS* HANSEN, 1910 (MYSIDA,  
MYSIDAE) AND A NEW SPECIES OF THE SUBGENUS FROM  
COASTAL WATERS IN PHUKET, THAILAND

BY

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ABSTRACT

*Anisomysis (Javanisomysis) gutzui* Băcescu, 1992 was reported as a characteristic species, of which the fourth male pleopod possesses an un-segmented exopod and no endopod. The species is placed in the valid genus *Javanisomysis* on the basis of the characteristics of the fourth male pleopod; however, the definition of the genus was insufficient. In the present paper, re-examination of the genus *Javanisomysis* is carried out on the basis of paratypes loaned from the depository in Romania. We found that major morphological characteristics of the types are common to those of the species of the genus *Anisomysis*, particularly in the forms of the antennal scale, labrum, thoracopodal endopods, and fourth male pleopod. On the basis of the present results, the genus *Javanisomysis* is reinstated as a subgenus in the genus *Anisomysis*. The subgenus *Javanisomysis* is allied to the subgenus *Anisomysis* in the forms of the body, eye, antennular peduncle, and mandibular palp, but is separable in the following characteristics: carapace armed with spinules on the antero-lateral margin; in the fourth male pleopodal exopod the first segment as long as or slightly shorter than the third segment, excluding the terminal setae; and the telson with un-articulated denticles on the lateral margin. In addition, *A. (J.) similis* n. sp. is described on the basis of specimens collected from Phuket, Thailand. The new species can be separated from *A. (J.) gutzui* as follows: the fourth male pleopod without a projection at the expanded corner on the first segment, the telson distally triangular in shape, and an undivided carpropodus of the sixth thoracopodal endopod in females. *Anisomysis (A.) thurneyseni* Nouvel, 1973 also shares with the new species such remarkable features as those in the spinules on the carapace, denticles on the telson, and the length of the first segment relative to the third one in the fourth male pleopodal exopod; and accordingly this species is also considered to be a member of the subgenus *Javanisomysis*. This subgenus thus currently contains three species, *A. (J.) gutzui* Băcescu, 1992, *A. (J.) similis* n. sp. and *A. (J.) thurneyseni* Nouvel, 1973.

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## RÉSUMÉ

*Anisomysis (Javanisomysis) gutzui* Băcescu, 1992 est considérée comme une espèce caractéristique, dont le quatrième pléopode mâle possède un exopodite uni-segmenté et pas d'endopodite. L'espèce a été placée dans le genre valide *Javanisomysis* sur la base des caractéristiques du quatrième pléopode mâle ; cependant, la définition du genre était insuffisante. Dans la présente étude, le ré-examen du genre *Javanisomysis* a été réalisé à partir des paratypes empruntés en Roumaine, dans leur lieu de dépôt. Nous avons trouvé que les principales caractéristiques des types sont communes avec celles des espèces du genre *Anisomysis*, en particulier la forme de l'écaille antennaire, celle du labre, des endopodites des thoracopodes, et du quatrième pléopode mâle. À partir de ces résultats, le genre *Javanisomysis* est réinstauré comme sous-genre du genre *Anisomysis*. Le sous-genre *Javanisomysis* est apparenté au sous-genre *Anisomysis* par la forme du corps, de l'oeil, du pédoncule antennulaire et du palpe mandibulaire, mais s'en distingue par les caractéristiques suivantes : carapace armée de spinules sur la marge antéro-latérale ; exopodite du quatrième pléopode mâle avec le premier segment aussi long ou légèrement plus court que le troisième segment, en excluant les soies terminales ; enfin, telson avec des denticules uni-articulés au bord latéral. De plus, *A. (J.) similis* n. sp. est décrite à partir de spécimens collectés à Phuket, Thaïlande. La nouvelle espèce peut être séparée de *A. (J.) gutzui* par les caractères suivants : quatrième pléopode mâle sans projection à l'angle dilaté du premier segment, telson de forme triangulaire distalement, et carpopropode de l'endopodite du sixième thoracopode uni-segmenté chez la femelle. *Anisomysis (A.) thurneyseni* Nouvel, 1973 partage aussi avec la nouvelle espèce des traits remarquables comme les spinules sur la carapace, les denticules sur le telson, et la longueur du premier segment par rapport au troisième sur l'exopodite du quatrième pléopode mâle ; et en conséquence, cette espèce est aussi considérée comme un membre du sous-genre *Javanisomysis*. Ce sous-genre comprend ainsi aujourd'hui trois espèces, *A. (J.) gutzui* Băcescu, 1992, *A. (J.) similis* n. sp. et *A. (J.) thurneyseni* Nouvel, 1973.

## INTRODUCTION

*Javanisomysis gutzui* is a disputable species for its taxonomic status. The species was described by Băcescu (1992b) as a new subgenus and a new species, and was included provisionally in the genus *Anisomysis* Hansen, 1910, based on specimens collected on the coast of Pari Island, Java Sea, Indonesia. According to the original author, the fourth male pleopod of this subgenus has no endopod and a rigid, un-segmented exopod with two terminal barbed setae of different form and, thus, differed from the other species of the genus *Anisomysis* (Băcescu, 1992b). Murano & Fukuoka (2003) carried out a systematic study of the genus *Anisomysis* and concluded that the subgenus *Javanisomysis* should be recognized as a valid genus on the basis of the characteristic structure of the fourth male pleopod. Following their proposal, *Javanisomysis gutzui*, not as *A. (J.) gutzui*, is included in the list of mysid species of Southeast Asian waters (Sawamoto & Fukuoka, 2005; Sawamoto, 2014).

Recently, we found the name of *Javanisomysis gutzui* in a scientific report by Georgescu & Danis (1994), in which they expressed their appreciation to Professor Băcescu who gave them specimens of *J. gutzui* for their study. This means that Professor Băcescu had accommodated his specimens to the new genus in the same

year as he reported the species under a new subgenus. However, they did not mention any taxonomic literature reporting the new genus *Javanisomysis* in their article, including the references. In the list of Müller (1993), neither *Anisomysis* (*J.*) *gutzui* nor *J. gutzui* was included, but in Anderson (2010) the study of Băcescu (1992a) describing *Javanisomysis gutzui* n. g., n. sp. was listed. In Băcescu (1992a) the diagnosis of the new genus and the new species was described and illustrated with figures, but without a discussion to rank up the subgenus *Javanisomysis* and references.

Mees (2012, 2015) separated the subgenus *Javanisomysis* from the genus *Anisomysis* and accepted it as a valid genus. Mees (2015) indicated the genus *Javanisomysis* on the basis of the record of Anderson (2008); consequently, *J. gutzui* is accepted as a valid species on the basis of Price (2001). These two articles were accessed through Mees (2015); however, there was no argument to rank up from the subgenus to the genus in the articles.

After 1992, there have been no records of occurrence of *Javanisomysis gutzui*. During the years 2004 to 2009, the first author (SS) has had opportunities to sample mysids in coastal waters in Southeast Asian countries, but no specimens of this or allied species were obtained. On 3 April 2009, the second author (KS) collected more than 60 specimens of a mysid closely allied to *J. gutzui* with a hand net during daytime at 1.5 m depth on a sandy beach at Lam Panwa, Phuket, Thailand (7°48'14.6"N 98°24'26.1"E). In December 2010, the third author (MM) collected a lot of mysid specimens in Phuket, Thailand. These mysids were closely related to the species sampled in the same island in 2009, because male specimens possessed an elongated fourth pleopod with the first segment of the exopod expanded in the distal part. The expansion of the pleopod was also shown in *J. gutzui* (cf. Băcescu, 1992a), but the specimens of Phuket were different in having a segmented-exopod and a small endopod.

In the present paper, the descriptions of Băcescu (1992a, b) are compared with the paratype specimens deposited in the "Grigore Antipa" National Museum of Natural History, Bucharest, Romania, and the genus *Javanisomysis* is re-described as a subgenus in the genus *Anisomysis*. Specimens collected from Thailand are also described as a new species in the subgenus *Javanisomysis*.

#### MATERIAL AND METHODS

Mysid specimens examined in the present study were a part of the paratypes (No. 752) deposited in the "Grigore Antipa" National Museum of Natural History, Bucharest, Romania and those collected in a coastal area of Phuket, Thailand in 2010. Upon sampling the latter specimens were fixed in approximately 10% buffered seawater formalin solution and preserved prior to the taxonomic analysis.

Body length (BL) of mysid specimens, used as the standard, is measured from the apex of the rostrum to the posterior end of the telson without apical denticles under the stretched condition of the body. Illustrations were drawn with the aid of a camera lucida. In illustrations of some appendages, especially in the antennal scale, thoracopodal exopods and uropod, marginal setae were omitted. Terminology was mainly based on Tattersall & Tattersall (1951) and Murano & Fukuoka (2003). Descriptions were based on adult specimens of both sexes unless reported otherwise. The specimens treated here are housed in the National Museum of Nature and Science, Tokyo, Japan (NSMT) and the Marine Biological Center, IORD, Tokai University, Shimizu, Japan (IORD-MBC).

#### TAXONOMIC ACCOUNT

##### Subfamily MYSINAE Haworth, 1825

Mysinae Hansen, 1910: 11-12; Ii, 1964: 263-264; Wittmann et al., 2014: 338, figs. 54.1E, 54.4J, 54.5J, 54.36A, B.

Diagnosis.— Eyes well developed, eyestalks always separate. Antennal scale variable in shape. Labrum of normal shape, rounded behind, generally broader than long and without anterior spiniform process. Mandible with normal cutting lobe. Carpopropodus of third to eighth thoracopodal endopods subdivided or exceptionally not divided. Two or 3 pairs of oostegites in female. First abdominal somite of female without lateral lamellae. Female pleopods reduced to simple, un-segmented plates; first, second and most of fifth male pleopods rudimentary, as in female; third pleopod biramous and/or reduced to different degrees; fourth male pleopod biramous, endopod un-segmented, exopod elongated and generally divided into a number of segments (in a few cases un-segmented) and furnished distally with 1 or 2 modified setae. Both rami of uropod undivided, outer margin of exopod setose all around, endopod shorter than exopod. Telson variable in shape.

Remarks.— The subfamily Mysinae consists of four tribes (Hansen, 1910); all these tribes were recently placed at the rank of the subfamily (Meland & Willassen, 2007). The subfamily Mysinae was further divided into four tribes based on the structure of antennal scale, oostegites, male pleopods and telson (Wittmann et al., 2014); i.e., Mysini, Diamysini, Anisomysini and Neomysini.

##### Tribe ANISOMYSINI Wittmann, Ariani & Lagardère, 2014

Anisomysini Wittmann et al., 2014: 339, fig. 54.19G.

Type genus.— *Anisomysis* Hansen, 1910.

Diagnosis.— Antennal scale setose all around with short apical segment. Carpopropodus of sixth thoracic endopod with 1-3 segments. Female with 2 pairs

of well-developed oostegites, rudimentary oostegite on sixth thoracic endopod. Pleopods rudimentary in both sexes except fourth male pleopod and to a minor extent also third pleopod; third male pleopod uniramous, un-segmented, mostly rudimentary as in female; exopod of fourth male pleopod apically with 1 or 2 large setae. Telson shorter than last abdominal somite, terminally rounded or with apical cleft; lateral margins bare or furnished with spines; devoid of terminal plumose setae or laminae.

### Genus *Anisomysis* Hansen, 1910

*Anisomysis* Hansen, 1910: 74; Nakazawa, 1910: 252; Ii, 1964: 548-550; Liu & Wang, 1986: 198; Liu & Wang, 2000: 265; Murano & Fukuoka, 2003: 66-67; Mees, 2012: (in list); Wittmann et al., 2014: 339; Mees, 2015: (in list).

*Cryptomysis* Hansen, 1912: 203-204.

*Kreagromysis* Illig, 1913: 271.

*Carnegieomysis* Tattersall, 1943: 68; Mees, 2012: (in list); Wittmann et al., 2014: 339; Mees, 2015: (in list).

Type species.— *Anisomysis laticauda* Hansen, 1910.

Diagnosis.— Eyes large; cornea globular or divided into two parts. Antennal scale narrowly lanceolate, with rounded apex. Labrum obtuse in front. Second segment of mandibular palp with normal setae along mesial margin or with peculiar triangular processes with tiny seta. Third to eighth thoracic endopods with carpus and propodus, undivided. Female with two pairs of oostegites. First to third and fifth pleopods of male, and all pleopods of female uniramous, with un-segmented lobe. Fourth male pleopod biramous, endopod un-segmented, exopod 3-segmented, usually extremely elongated, terminating in 2 setae of different form. Uropods slender; exopod more than 2 times longer than telson, endopod tapering, nearly equal to or shorter than exopod, usually without spines in statocyst region. Telson variable in shape.

Remarks.— Băcescu (1973) divided the genus into two subgenera, *Paranisomysis* and *Anisomysis*, on the basis of the shape of the second segment of the mandibular palp and the telson. Murano & Fukuoka (2003) proposed a new subgenus *Pseudanisomysis* separated from the subgenus *Anisomysis* on the basis of the general form of body and also the structures of the eye and the antennular peduncle. The subgenus *Pseudanisomysis* consists of 4 species, including *Anisomysis xenops*, a species formally described by Tattersall (1943) as *Carnegieomysis xenops* based on a single female specimen. In the remarks Tattersall (1943) noted that "...the exact systematic position of the species must remain uncertain until male specimens are available..." and thought that "...the species will eventually find a place in the Tribe Mysini, near to such pelagic genera as *Anisomysis*, *Cryptomysis* and *Idiomysis*". Murano (1995) re-described it based on 18 male and

22 female specimens mostly collected from waters neighbouring the type locality, comparing it with the description and illustrations of the type specimen, and subsequently placed the species in the genus *Anisomysis*. However, the subgenus *Pseudanisomysis* was recently synonymized as a junior synonym of the genus *Carnegieomysis* by Mees (2015). The subgenus *Javanisomysis*, a third subgenus in the genus *Anisomysis* proposed by Băcescu (1992b), was not accepted by Murano & Fukuoka (2003) because of the disagreement of the existing diagnoses for the genus *Anisomysis*. Murano & Fukuoka (2003) thought that the subgenus should be recognized as a valid genus. Mees (2012, 2015) regarded the subgenus *Javanisomysis* as a valid genus and the genus *Anisomysis* to contain two subgenera, *Paranisomysis* and *Anisomysis*. This system of the genus *Anisomysis* was followed by Wittmann et al. (2014), while Murano & Fukuoka (2003) recognized three subgenera, *Paranisomysis*, *Pseudanisomysis* and *Anisomysis*. We follow Murano & Fukuoka (2003) for *Pseudanisomysis* to be contained as a subgenus in the genus *Anisomysis* on the basis of Tattersall (1943) and Murano (1995). The genus *Anisomysis* currently consists of 59 species in the three subgenera (Murano & Fukuoka, 2003; Mees, 2015); 37 species in the subgenus *Anisomysis*, 18 species in the subgenus *Paranisomysis* and 4 species in the subgenus *Pseudanisomysis* (Hansen, 1910, 1912; Nakazawa, 1910; Tattersall, 1912, 1936, 1943; Illig, 1913; Zimmer, 1918; Ii, 1964; Nouvel, 1967, 1973; Băcescu, 1973, 1975; Pillai, 1973, 1976; Ledoyer, 1974; Panampunnayil, 1981, 1984, 1993; Liu & Wang, 1983; Murano, 1983, 1987, 1990, 1994, 1995; Wang, 1989; Fukuoka & Murano, 1997; Murano & Fukuoka, 2003; Wooldridge & Mees, 2004; Wooldridge & Victor, 2004; Biju, Panampunnayil & Prabhakaran, 2006; Connell, 2009; Hanamura & Tsutsui, 2012). Among the 59 species, the elongated fourth male pleopod is undescribed for 4 species in the subgenus *Anisomysis* including *Anisomysis* (*A.*) *brevicauda* and 2 in the subgenus *Paranisomysis*. *A.* (*A.*) *brevicauda* is the species of which the third male pleopod is elongated (Wang, 1989).

#### Subgenus **Javanisomysis** Băcescu, 1992

Subgenus *Javanisomysis* Băcescu, 1992b: 79-86, figs. 1A-N, 2A-H.

Genus *Javanisomysis* Băcescu, 1992a: 20, fig. 1A-G; Murano & Fukuoka, 2003: 66; Sawamoto & Fukuoka, 2005: 86 (in list); Mees, 2012: (in list); Sawamoto, 2014: 6 (in list); Wittmann et al., 2014: 339; Mees, 2015: (in list).

Type species.— *Anisomysis* (*Javanisomysis*) *gutzui* Băcescu, 1992.

Diagnosis.— Eyes globular, not divided into two portions. Carapace with spinules along antero-lateral margin. Antennular peduncle having neither expanded lobe nor finger-like process on second segment. Second segment of mandibular palp foliate, without prominent triangular processes with subterminal seta. Fourth male pleopodal exopod with first segment as long as or slightly shorter than third segment excluding terminal setae. Telson short, linguiform, with un-articulated

denticles on lateral margin. Other features typical for species of the genus *Anisomysis*.

Remarks.— In Băcescu (1992b), the captions of figs. 1 and 2 are switched, i.e., the caption of fig. 1 is for fig. 2 (p. 81) and that of fig. 2 for fig. 1 (p. 82), according to explanations in his text. Băcescu (1992b) described it “as a new subgenus, *Javanisomysis*, which is included provisionally in the genus *Anisomysis*. This subgenus is characterized by a rigid pleopod IV ♂; widened towards simpod [*sic*], in rest cylindrical, ending with 2 phanera which are different in comparison with another representatives of the hybrid genus”. He also claimed the absence of the endopod of the fourth pleopod and was aware of the difference from the other species of the genus. In the same year, Băcescu (1992a) briefly described *Javanisomysis* as a new genus and a new species without any references in a part of the printed matter for the exposition of the national museum. All the figures shown in Băcescu (1992a) are whole body (fig. 1A), mandibular palp (fig. 1B), telson and uropods (fig. 1C), telson (fig. 1D), first pleopods (fig. 1E, F) and distal part of fourth male pleopod (fig. 1G). These figures have been possibly reproduced from those of Băcescu (1992b), except fig. 1C, in which the right uropod might be added to fig. 1F of Băcescu (1992b). In Băcescu (1992a), the diagnosis of the genus *Javanisomysis* was restricted to the forms of the pleopods and the mandibular palp. These morphological characteristics were described as a part in the diagnosis of the subgenus *Javanisomysis* (Băcescu, 1992b). But there was no argumentation to place *Javanisomysis* at a full generic rank in Băcescu (1992a).

The first author (SS) examined four male and five female paratypes of *Javanisomysis gutzui*. Among them, one male specimen had a damaged telson. The author found that several important morphological characteristics were overlooked by Băcescu (1992b). In the figures and description in Băcescu (1992b), the fourth male pleopod (figs. 1H-K, 2A) has an entire, un-segmented exopod and no endopod. The same characteristic was shown in Băcescu (1992a). The present examination of the male paratype specimens, however, demonstrated that the pleopodal endopod is actually present and the exopod is divided into 3 segments, with the tip of the exopod as shown in fig. 1K in Băcescu (1992b). The subapical articulation shown in Băcescu (1992a, b) is a part of the terminal seta. In his figure (fig. 1J), the distal third of the right side pleopod is lost. This part corresponds to near the middle point of the third segment on the present observation. The other pleopods in his fig. 1I, M and N and fig. 2A and C are showing the lateral side and fig. 1L represents the ventral side. There are several errors in the explanation of pleopods; Băcescu (1992b) indicated the first, second and fifth male pleopods as referred to fig. 1L, M and N, while Băcescu (1992a) presented the first pleopod in two figures, fig. 1E for female and fig. 1F for male. Fig. 1E is closely similar to the first male pleopod (fig. 1L) and fig. 1F is to the fifth male pleopod (fig. 1N), respectively.

In the description and figures of Băcescu (1992b), the thoracopodal exopods have been completely omitted and thoracopodal endopods are restricted to the first (as the maxilliped I, fig. 2F), the fourth (as the pereopod II, fig. 2E) and the seventh (as the pereopod V, fig. 2D).

The present observation clearly demonstrated that the morphological characteristics of the paratypes of *Javanisomysis gutzui* are closely allied to the species of the subgenera *Anisomysis*, *Paranisomysis* and *Pseudanisomysis* within the genus *Anisomysis* (see Murano & Fukuoka, 2003) in the subfamily Mysinae in having (1) the fourth male pleopod with a rudimentary endopod and a three-segmented exopod, (2) one- or two-segmented carpopropodus of the third to eighth thoracopodal endopods, (3) no spine on the statocyst region of the uropodal endopod, and (4) no plumose setae on the apical part of the telson. Therefore, *Javanisomysis* should be placed as a subgenus of the genus *Anisomysis* rather than an independent genus.

On the other hand, *J. gutzui* studied on the paratypes is clearly separable from the species of the related three subgenera by (1) the presence of spinules along the antero-lateral margin of the carapace, (2) the structure of the marginal denticles on the telson, and (3) the relative length of segments in the fourth male pleopodal exopod. The carapace of the paratypes of *J. gutzui* is armed with spinules along the antero-lateral margin in both sexes, while the species of the other three subgenera are devoid of these spinules, except *A. (A.) thurneyseni*. The telson of *J. gutzui* is armed with basally un-articulated denticles along the lateral margin of the posterior part while those denticles in the species of the other three subgenera are basally articulated except in *A. (A.) thurneyseni*. The first segment of the fourth male pleopodal exopod of *J. gutzui* is slightly shorter than the third segment excluding terminal setae, while the segment is longest in the species of the other three subgenera except *A. (A.) thurneyseni*. The length of the first and the third segments is sub-equal in the species (Nouvel, 1973), and the relative length of these segments is similar in *J. gutzui*. Therefore, *A. (A.) thurneyseni* is the species which shares those three morphological characteristics of *J. gutzui*. Though *A. (A.) brevicauda*, described without figure, is armed with the elongated third male pleopodal exopod, the first segment is longest and is as long as the other two segments combined, and the second segment is quite shorter than the third segment (Wang, 1989).

### ***Anisomysis (Javanisomysis) gutzui* Băcescu, 1992**

(figs. 1-4)

*Anisomysis (Javanisomysis) gutzui* Băcescu, 1992b: 79-83, figs. 1A-N, 2A-H; Murano & Fukuoka, 2003: 66 (taxonomical remarks).

*Javanisomysis gutzui* Băcescu, 1992a: 20, fig. 1A-G; Price, 2001: (in list); Sawamoto & Fukuoka, 2005: 86 (in list); Anderson, 2008: (in list); Sawamoto, 2014: 6 (in list).

Material examined.— Paratypes (No. 752 of “Grigore Antipa” National Museum of Natural History, Romania): 4 mature males (BL 3.0-3.2 mm) and 5 ovigerous females (BL 2.5-3.0 mm) collected at Pari Island, Java Sea, Indonesia, on March 14, 1991.

Description.— Tegument of body smooth. Carapace produced into broadly rounded or rounded triangular plate (fig. 1C-D), armed with several spinules on antero-lateral margin, rounded at antero-lateral corner (fig. 1A-C), posterior dorsal margin excavate, leaving uncovered last thoracic somite (fig. 1B). Eyes large, cornea globular, not concealed by anterior part of carapace (fig. 1C, D). Antennular peduncle more robust in male than in female, second segment shortest in both sexes (fig. 1C, D), first and second segments (fig. 1C) with minute projection with setae dorsally, first and third segments with setae at antero-lateral corner. Antennal scale reaching anterior end of antennular peduncle, excluding male lobe in male (fig. 1A, C), and over-reaching in female (fig. 1B, D), narrowly lanceolate, setose all around, slightly curved outward, with rounded apex, apical suture present, nearly 6.3 times as long as broad, nearly 2.3 times as long as antennal peduncle in male (fig. 1E) and nearly 2.7 times in female (fig. 1F).

Labrum anteriorly obtuse without process, with expanded antero-lateral parts (fig. 1H). Mandibular palp 3-segmented; second segment longest and widened near middle part, with 3 to 5 barbed setae on inner margin and 8 to 10 on outer margin in males (fig. 1G), and 4 or 5 on inner margin and 7 or 8 on outer margin in females (fig. 1H, table I). Maxillule and maxilla as in fig. 1I and K for male and in fig. 1J and L for female. First thoracopodal endopod as shown in fig. 1M for male and in fig. 1N for female; dactylus of endopod with claw, peculiar in shape, long spine constricted at near proximal third and then curved distally, fringed with minute denticles from middle to distal part (fig. 1M, N). Similar spine also present on dactylus of second thoracopodal endopod (figs. 2A, 3A). Third to seventh thoracopodal endopods in male (fig. 2B-F) and third to sixth in female (fig. 3B-E) with carpopropodus divided distally into 2 segments; carpopropodus of eighth of male ambiguously divided (fig. 2G); carpopropodi of seventh and eighth of female undivided (fig. 3F, G), third to eighth thoracopodal endopods with 2 or 3 short marginal setae fringed with minute denticles on carpopropodus in both sexes (figs. 2B-G, 3B-G); flagelliform parts of first and eighth thoracopodal exopods with 7 segments and those of second to seventh exopods with 8 segments in both sexes (figs. 1A, B, 2A-G, 3A-G). Oostegite on seventh thoracopod (fig. 3F) smaller than that of eighth (fig. 3G). Penis cylindrical, with 3 barbed setae at rounded apex (fig. 2H).

Abdominal somites smooth, first 5 ones sub-equal in length, and sixth longest, about two times longer than fifth (fig. 1A). Pleopods uniramous, un-segmented in

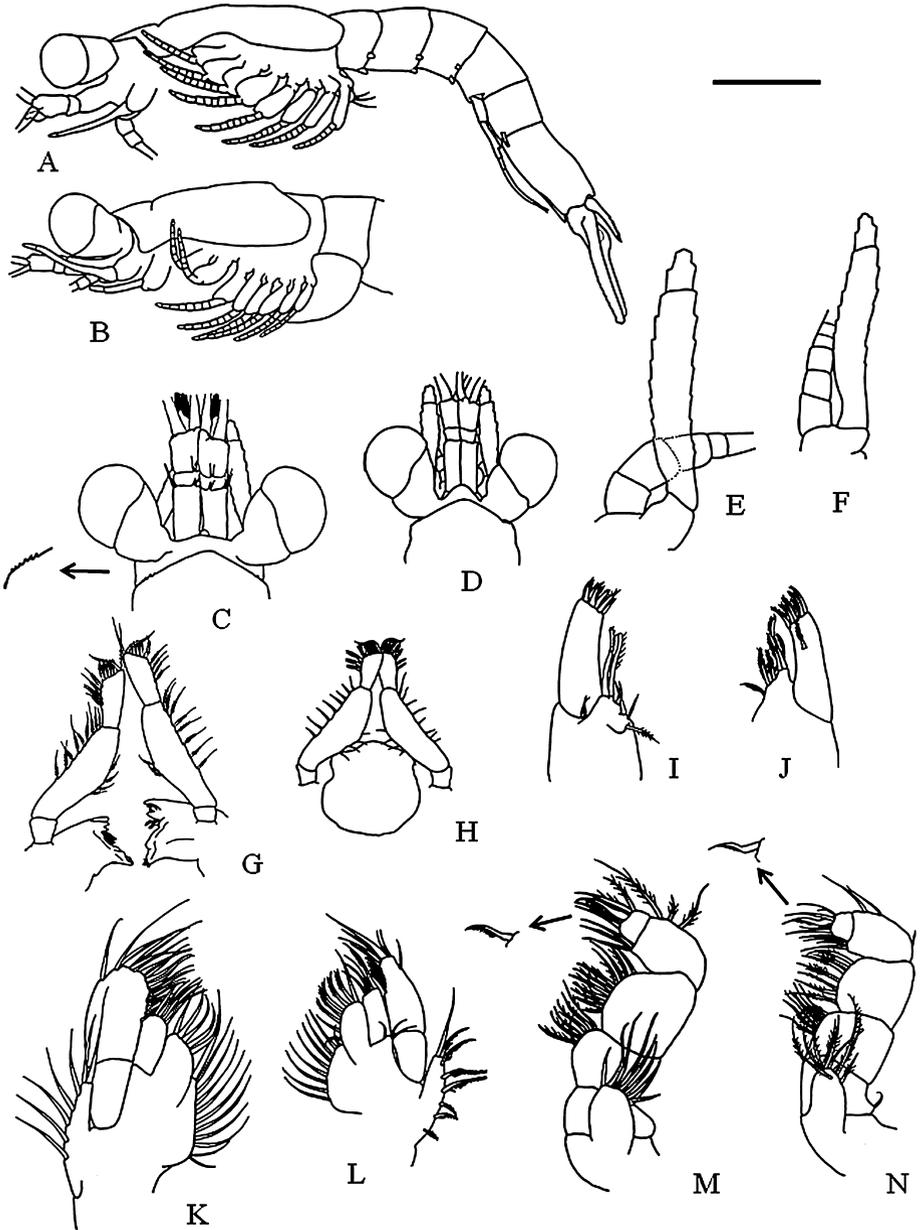


Fig. 1. *Anisomysis (Javanisomysis) gutzui* Băcescu, 1992. Paratypes, males (BL 3.0 mm: A, E, G, I, K, M; BL 3.1 mm: C) and females (BL 2.9 mm: B, D, F; BL 2.6 mm: H, J, L, N) from Pari Island, Java Sea, Indonesia. A, lateral view of whole body; B, lateral view of anterior body; C, D, dorsal view of anterior body, antero-lateral margin of C enlarged; E, F, dorsal view of antenna; G, external view of mandibles with palps; H, external view of mandibular palps and labrum; I, J, right maxillule; K, L, right maxilla; M, N, right first thoracopodal endopod, terminal claw enlarged. Scale bar; 0.5 mm for A, B; 0.4 mm for C, D; 0.2 mm for E-H; 0.1 mm for I-N.

TABLE I

Intraspecific variation in the number of setae on the second segment of the mandibular palp and denticles on the telson of paratype specimens of *Anisomysis* (*Javanisomysis*) *gutzui* Băcescu, 1992 and type-series of *Anisomysis* (*J.*) *similis* n. sp.

Sex	Body length (mm)	No. of setae on				No. of denticles on telson
		Left mandibular palp		Right mandibular palp		
		Outer margin	Inner margin	Outer margin	Inner margin	
<i>Anisomysis</i> ( <i>Javanisomysis</i> ) <i>gutzui</i> Băcescu, 1992						
Male ( <i>n</i> = 4)	3.0	8	3	9	4	22
	3.1	8	5	10	4	26
	3.1	10	4	9	4	Damaged
	3.2	8	4	8	4	24
Average	3.1	8.5	4.0	9.0	4.0	24.0
Female ( <i>n</i> = 5)	2.5	7	4	7	3	22
	2.6	8	4	8	4	Damaged
	2.8	8	4	8	4	24
	2.9	8	4	8	4	21
	3.0	8	5	7	5	21
Average	2.8	7.8	4.2	7.6	4.0	22.0
<i>Anisomysis</i> ( <i>J.</i> ) <i>similis</i> n. sp.						
Male ( <i>n</i> = 26)						
Minimum	2.3	5	3	5	3	17
Maximum	3.4	9	5	9	5	25
Average	2.7	7.0a	3.5a	7.1b	3.5c	20.6
Female ( <i>n</i> = 17)						
Minimum	2.6	6	3	5	3	16
Maximum	3.6	8	4	9	4	26
Average	3.0	7.1	3.4d	6.9e	3.2f	21.6

Note: Averages were calculated from 26 males and 17 females except: a, 23 males; b, 21 males; c, 20 males; d, 14 females; e, 16 females; and f, 13 females.

first to fifth of female (fig. 3J), and first to third and fifth of male (fig. 3H) with plumose setae, among them, first pleopod bilobate, widened distally and broader than others in both sexes (fig. 3H, J), and fifth longest in female and similar in form to male (fig. 3H, J). Fourth male pleopod biramous; sympod with basal lobe not segmented (fig. 3I); endopod minute, with 6 setae, exopod long and 3-segmented, reaching posterior three-fourths of sixth abdominal somite, excluding terminal barbed setae (fig. 1A); first segment becoming gradually broader towards distal one-third, with small, blunt projection at broadest corner, and then narrowing distally towards second segment; second segment shortest; third segment slightly longer than first segment, apically with 2 barbed setae of different form; inner seta robust in proximal part, tapering, slightly shorter than outer slender seta,

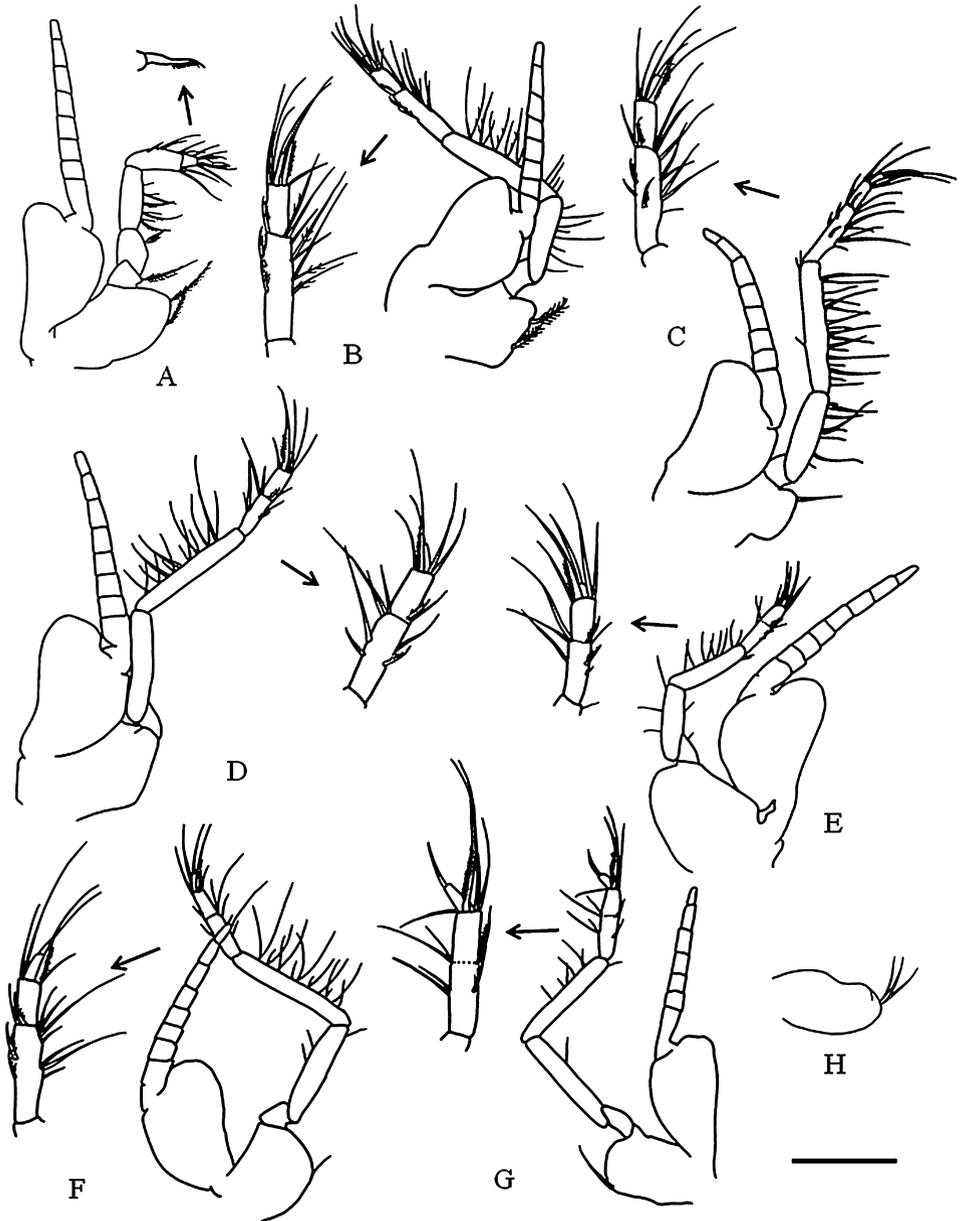


Fig. 2. *Anisomysis (Javanisomysis) gutzui* Băcescu, 1992. Paratypes, males (BL 3.0 mm, same specimen as for fig. 1: A-G; BL 3.2 mm: H). A, right second thoracopod and enlarged terminal claw; B, right third thoracopod; C, right fourth thoracopod; D, right fifth thoracopod; E, right sixth thoracopod; F, right seventh thoracopod; G, right eighth thoracopod; (distal segments of the third to the eighth endopods are enlarged); H, lateral view of right penis. Scale bar; 0.2 mm for A-H.

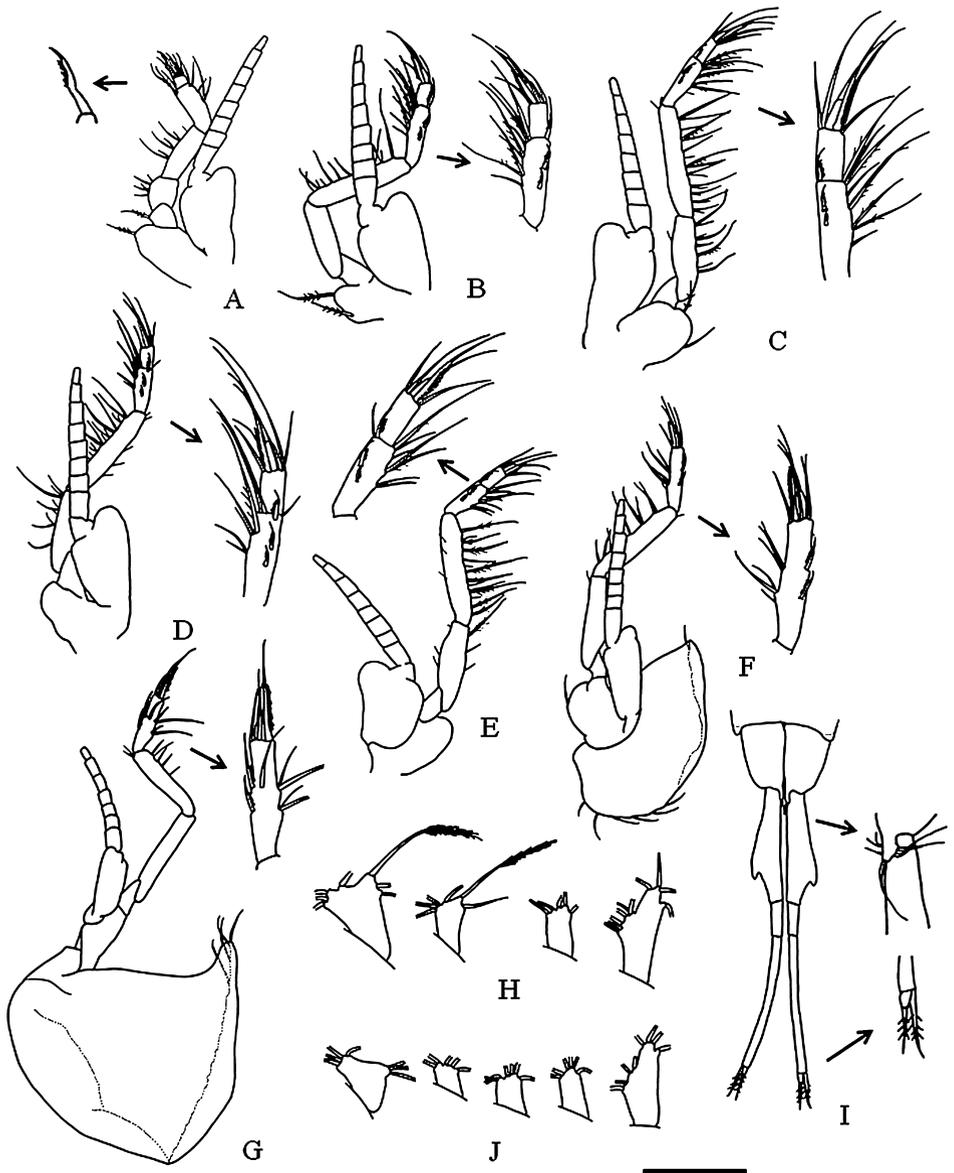


Fig. 3. *Anisomysis* (*Javanisomysis*) *gutzui* Băcescu, 1992. Paratypes, males (BL 3.2 mm, same specimen as for fig. 2: H; BL 3.0 mm, same specimen as for fig. 1: I) and female (BL 2.6 mm, same specimen as for fig. 1: A-G, J). A, right second thoracopod and a terminal claw enlarged; B, right third thoracopod; C, right fourth thoracopod; D, right fifth thoracopod; E, right sixth thoracopod; F, right seventh thoracopod with oostegite; G, right eighth thoracopod with oostegite; (distal segments of the third to the eighth endopods are enlarged); H, ventral view of right first to third and fifth male pleopods from left to right; I, ventral view of fourth male pleopod, right endopod and left apical barbed setae enlarged; J, ventral view of right first to fifth female pleopods from left to right. Scale bar; 0.2 mm for A-G, I; 0.1 mm for H, J.

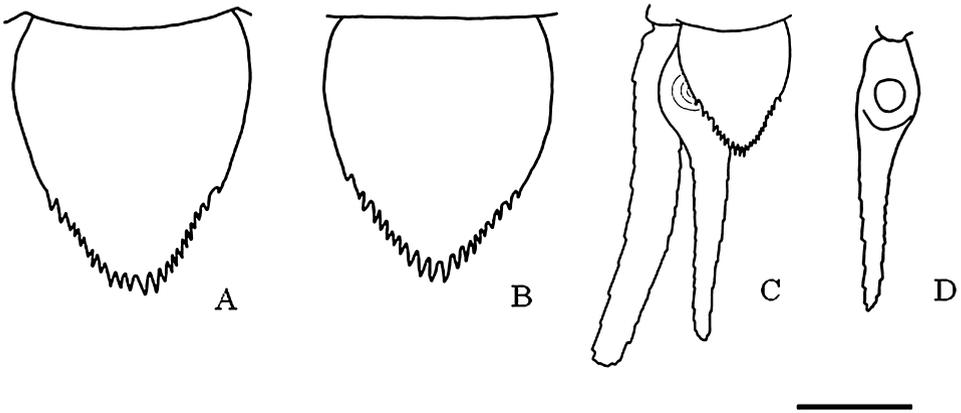


Fig. 4. *Anisomysis (Javanisomysis) gutzui* Băcescu, 1992. Paratypes, males (BL 3.2 mm, same specimen as for fig. 2: A; BL 3.0 mm, same specimen as for fig. 1: C) and females (BL 3.0 mm: B; BL 2.9 mm, same specimen as for fig. 1: D). A, B, dorsal view of telson; C, dorsal view of telson and uropod; D, ventral view of left uropodal endopod. Scale bar; 0.1 mm for A, B; 0.2 mm for C, D.

setae armed with barbs along both margins around middle part (fig. 3I). Uropodal endopod slightly shorter than exopod (fig. 4C), without spine at statocyst region of ventral side (fig. 4D). Telson nearly half length of sixth abdominal somite (fig. 1A), linguiform, nearly as long as wide at broadest part (1.0-1.1 excluding apical two denticles), fringed with 21-26 basally un-articulated denticles in distal third to half, of which apical two denticles slightly longer than remaining ones, without apical plumose setae (fig. 4A, B).

Distribution.— This species is known only from the type locality, Pari Island in Indonesia.

Remarks.— The present paratypes agreed on the main characteristics with the description of Băcescu (1992b). These are serrated antero-lateral margins of the carapace, an ornamentation with basally un-articulated denticles on the distal margin of the telson and a unique form of the proximal part of the fourth male pleopod. It is also the same as a divided carpopropodus of the fourth and a non-divided one of the seventh female thoracic endopod. However, several features are different from the description of Băcescu (1992b). These are the length ratios in the abdominal somites and the structure of some pleopods, especially the fourth male pleopod. In Băcescu's description, the first three abdominal somites are equal in length and shortest in the fourth somite, and the sixth somite is equal in length to the two preceding somites combined. In the present examination, the first five somites are sub-equal in length, and the sixth somite is longest, about two times longer than the fifth. In his description, pleopods I-III and V of the male are similar to pleopods II-V of the female, and pleopod I of male is bilobed, but that of the

female is undescribed. The second, the third and the fifth pleopods well agreed with the present observation in both sexes (fig. 3H-J). In the present observation, the first pleopod of female is bilobed and broad distally as that of male. Băcescu (1992b) may have overlooked an articulation in the exopod, as well as the presence of the endopod on the fourth male pleopod.

In Băcescu (1992b), the figures of the maxillule, the maxilla and most of the thoracopods, except the first, the fourth and the seventh thoracopodal endopods, are not shown. All the figures in Băcescu (1992a) might be reproduced from the figures of the male that appeared in Băcescu (1992b). They are fig. 1A, D, F, G, K, L, N, and are arranged as fig. 1A-D, 1G and 1E, F, respectively. Băcescu (1992a) designated fig. 1A-E as female and fig. 1F and G as male.

The body lengths of the specimens are reported as 3.5-4.5 mm in Băcescu (1992a, b). On the basis of the two figures of a whole body in dorsal view of males in Băcescu (fig. 1A, 1992a; fig. 1A, 1992b), the body lengths based on the present definition are approximately 2.1 mm and 2.6 mm, respectively. These measurements are different in that they are smaller than those of Băcescu (1992a, b) (3.5-4.5 mm), and also smaller than the present male specimens (3.0-3.2 mm, table I). This means that either the scale bars for the figures are incorrect, or his definition of the body size is different from the present one; from the apex of the rostrum to the posterior end of the telson without apical denticles. In case the scale bar for the figure is correct, the maximum length of the body, from the apex of the antennal scale to the posterior end of the uropodal exopod excluding setae, is measured for fig. 1A of Băcescu (1992b). The length is approximately 3.3 mm which is still smaller than the size range of 3.5-4.5 mm (Băcescu, 1992b). On the other hand, the size ranges of the maximum lengths of the present paratype males (3.9-4.1 mm) and paratype females (3.4-3.9 mm) are approximately same as the range of Băcescu (1992a, b). According to Băcescu (1940, footnote on page 556), the body size of mysid is measured from the apex of the antennal scale to the posterior end of the uropodal exopod excluding setae; "Nous avons mesuré toujours la taille des Mysis depuis l'apex de l'écaille de l'A<sub>2</sub> jusqu'à l'extrémité des ectopodites de l'uropode (leurs soies a part)". His definition of the body length is quite different from the present one, and the length measurements cannot be compared each other (table II).

The second segments of the mandibular palp observed in this study are armed with 8 to 10 barbed setae along the outer margin and 3 to 5 along the inner margin in males, and 7 or 8 and 3 to 5, respectively, in females (table I). The lateral margin of the telson is armed with 22 to 26 denticles in males and 21 to 24 in females (table I).

TABLE II

Comparison of morphological characters between the original description of Băcescu (1992b) and the present observation of paratypes of *Anisomysis (Javanisomysis) gutzui* and *A. (J.) similis* n. sp.

Character	<i>Anisomysis (Javanisomysis) gutzui</i>		<i>A. (J.) similis</i> n. sp.
	Băcescu (1992b)	Present observation	
Carapace	Denticles on antero-lateral part	Produced anteriorly into broadly rounded or rounded triangular plate, armed with spinules on antero-lateral margin	Produced anteriorly into broadly rounded plate, covering basal part of eyestalk, armed with spinules on antero-lateral margin
Antennule	Antennular flagellum longer than body length	Peduncle more robust in male than in female; 2 <sup>nd</sup> segment shortest in both sexes (flagella were broken)	Peduncle more robust in male than in female; 2 <sup>nd</sup> segment shortest in both sexes (length of shorter flagellum ca. 30% of BL in male, ca. 20% in female)
Antennal scale	Setose all around, slightly curved outward, 3 times longer than antennal peduncle, beyond antennular peduncle in female and reaching anterior end of male lobe in male	Narrowly lanceolate, setose all around, slightly curved outward, nearly 6.3 times longer than wide, nearly 2.3 times (male) and nearly 2.7 times (female) longer than antennal peduncle (flagellum was broken)	Narrowly lanceolate, setose all around, slightly curved outward, nearly 5.4-6.8 times longer than wide, nearly 2.0 times (male) and nearly 2.2 times (female) longer than antennal peduncle; (length of flagellum ca. 80% of BL in male, ca. 65% in female)
Eye	Globular	Large, cornea globular, uncovered by anterior part of carapace	Large, cornea globular, uncovered by anterior part of carapace
Mandibular palp	2 <sup>nd</sup> segment with 4 setae on inner margin and 9 or 10 on outer margin	2 <sup>nd</sup> segment widened near middle part, with barbed setae on both margins, 3-5 setae along inner margin and 8-10 along outer margin in male, 3-5 on inner margin and 7 or 8 along outer margin in female	2 <sup>nd</sup> segment widened near middle part, with barbed setae on both margins, 3-5 setae along inner margin and 5-9 along outer margin in male, 3 or 4 on inner margin and 5-9 along outer margin in female

TABLE II  
(Continued)

Character	<i>Anisomysis</i> ( <i>Javanisomysis</i> ) <i>gutzui</i>		<i>A. (J.) similis</i> n. sp.
	Băcescu (1992b)	Present observation	
Thoracic endopods	Size decreases posteriorly; carpopropodus of posterior endopods divided into 2 segments, while anterior ones undivided	3 <sup>rd</sup> to 7 <sup>th</sup> thoracopod carpopropodi in male and 3 <sup>rd</sup> to 6 <sup>th</sup> in female divided distally into 2 segments 8 <sup>th</sup> carpopropodus in male indistinctly divided distally into 2 segments	3 <sup>rd</sup> to 8 <sup>th</sup> thoracopod carpopropodi in male and 3 <sup>rd</sup> to 5 <sup>th</sup> in female divided distally into 2 segments
Pleopods	Tiny, five pairs; I bilobed, I-III and V of male as II-V of female (1 <sup>st</sup> pleopod is bilobate in male, but is unclear in female)	1 <sup>st</sup> pleopod bilobate, widened distally, un-segmented in 1 <sup>st</sup> to 5 <sup>th</sup> of female and 1 <sup>st</sup> to 3 <sup>rd</sup> and 5 <sup>th</sup> of male	1 <sup>st</sup> pleopod bilobate, widened distally, un-segmented in 1 <sup>st</sup> to 5 <sup>th</sup> of female and 1 <sup>st</sup> to 3 <sup>rd</sup> and 5 <sup>th</sup> of male
4 <sup>th</sup> male pleopod	Barely reaching base of telson;	Reaching posterior 3/4 of 6 <sup>th</sup> abdominal somite excluding apical barbed setae, biramous	Reaching posterior 3/4 of 6 <sup>th</sup> abdominal somite excluding apical barbed setae, biramous
Endopod	Endopod absent;	Endopod minute, with 6 setae	Endopod minute, with 7 setae
Exopod	Exopod rigid without articulation, with protrusion beyond proximal one third, with 2 terminal barbed setae	Exopod long and 3-segmented, with 2 terminal barbed setae, 1 <sup>st</sup> segment gradually broadening towards distal 1/3 and then narrowing distally, with small, blunt projection at widest corner, 1 <sup>st</sup> and 3 <sup>rd</sup> segments sub-equal in length	Exopod long and 3-segmented, with 2 terminal barbed setae, 1 <sup>st</sup> segment gradually broadening towards distal 1/3 and then narrowing distally, without projection at widest corner, 1 <sup>st</sup> and 3 <sup>rd</sup> segments sub-equal in length

***Anisomysis* (*Javanisomysis*) *similis* sp. nov.**

(figs. 5-8)

Material examined.— Holotype (NSMT-Cr-24066), adult male (BL 3.4 mm); allotype (NSMT-Cr-24067), adult female (BL 3.4 mm); paratypes (NSMT-Cr-24068), 20 males (BL 2.3-3.4 mm; dissected male, BL 2.9 mm), 11 females (BL 2.6-3.6 mm; dissected female, BL 3.6 mm), 2 immature

TABLE II  
(Continued)

Character	<i>Anisomysis (Javanisomysis) gutzui</i>		<i>A. (J.) similis</i> n. sp.
	Băcescu (1992b)	Present observation	
Telson	Short, linguiform, with on average 25 denticles	Nearly half length of 6 <sup>th</sup> abdominal somite, linguiform, as long as wide, fringed with 21-26 denticles in distal third to half, apical 2 denticles slightly longer than others	Nearly half length of 6 <sup>th</sup> abdominal somite, linguiform, narrow at base, widened towards proximal third, as long as wide or slightly longer than wide, fringed with 16-26 denticles in distal two-fifths, apical 2 denticles slightly longer than others
Body length (mm)	3.5-4.5	Male 3.0-3.2; female 2.5-3.0	Male 2.3-3.4; female 2.6-3.6

For the body length, the definition of Băcescu (1940) is different from that of the present study, so the length measurements of Băcescu (1992b) cannot be compared with those of the present paratypes. For *A. (J.) similis*, length of antennular flagellum was measured on a paratype male (BL 2.7 mm) and a paratype female (BL 3.6 mm). Length of antennal flagellum was measured on the holotype (male, BL 3.4 mm) and the same paratype female used for the measurement of the antennular flagellum.

males (BL 2.0 and 2.3 mm), 7 immature females (BL 2.4-2.7 mm) and 9 juveniles (BL 1.0-2.4 mm), paratypes (IORD-In-14001), 5 males (BL 2.6-3.2 mm) and 5 females (BL 2.6-3.6 mm), seagrass bed and coral area in Tungkhon Bay, Phuket Island, Thailand (7°48'49.7"N 98°24'18.0"E), hand net, during skin diving, 1456-1609 h, 2 December, 2010, coll. M. Moriya.

**Description.**— Tegument of body smooth. Anterior margin of carapace broadly rounded, concealing basal part of eye, or broad, blunt triangular plate partly covering basal part of eyestalk (fig. 5C-E). Carapace with spinules on antero-lateral margin (fig. 5A-E), rounded at antero-lateral corner, hardly covering basal parts of maxillule and maxilla anteriorly and leaving uncovered last thoracic somite posteriorly (fig. 5A, B). Eyes large, cornea globular, not concealed by anterior part of carapace except for proximal part of eyestalk (fig. 5C-E). Antennular peduncle more robust in male than in female (fig. 5C, D), second segment shortest in both sexes; first and second segments with minute dorsal projection with setae (fig. 5C, D); first and third segments with setae at antero-lateral corner (fig. 5C-E). Antennal scale over-reaching anterior end of antennular peduncle excluding male lobe in male (fig. 5C), and over-reaching in female (fig. 5D, E), narrowly lanceolate, setose all around, slightly curved outward, with rounded apex, apical suture present,

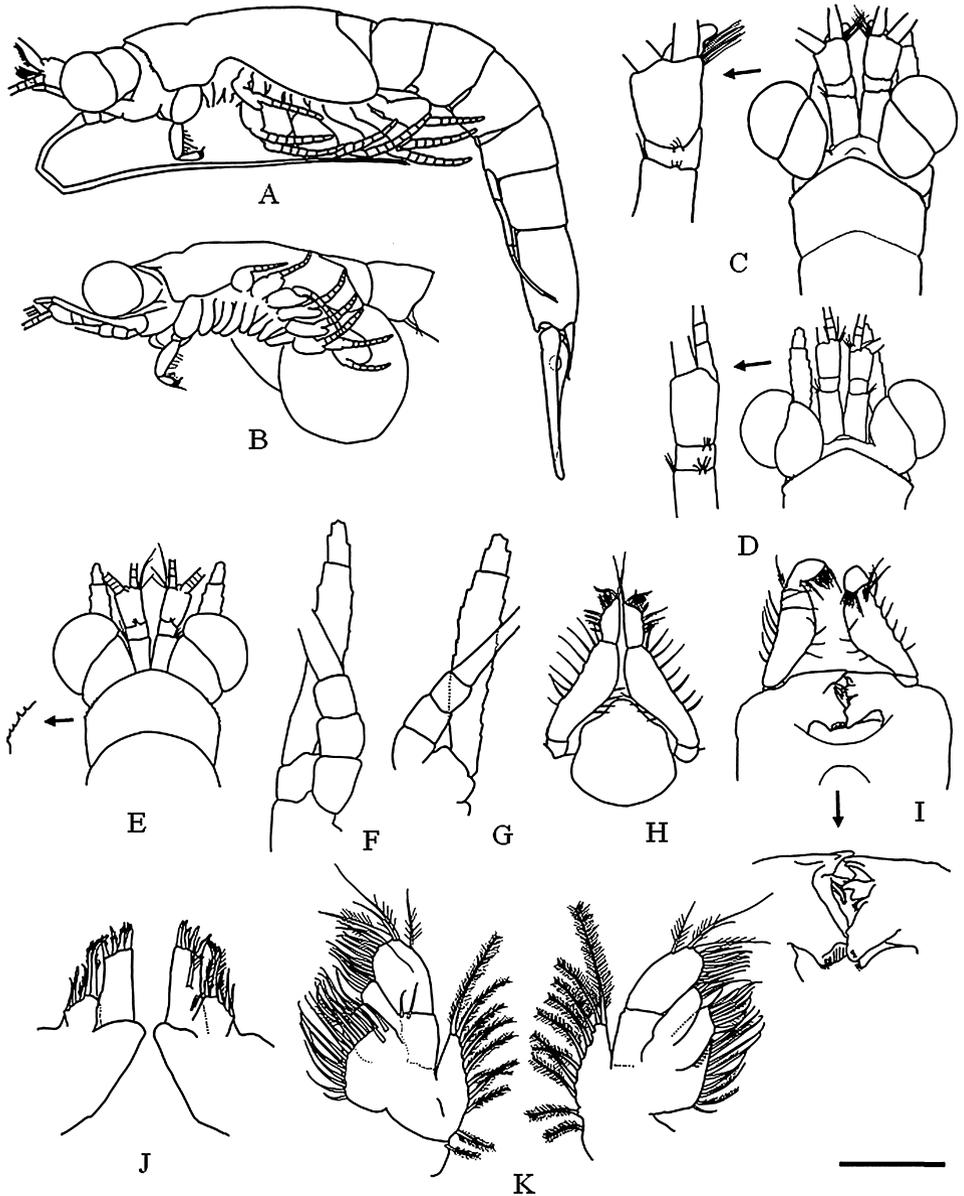


Fig. 5. *Anisomysis* (*Javanisomysis*) *similis* n. sp. Holotype, male (BL 3.4 mm: A, C, F), allotype, female (BL 3.4 mm: D, G, H), paratype, male (BL 2.9 mm: I-K) and female (BL 3.6 mm: B, E) from Phuket, Thailand. A, lateral view of whole body; B, lateral view of anterior body; C, D, dorsal view of anterior body and enlarged antennule; E, dorsal view of anterior body and antero-lateral margin of carapace enlarged; F, G, ventral view of antenna; H, external view of mandibular palps and labrum; I, external view of mandibles with palps (upper), enlarged mandibles (lower); J, right maxillule, both sides; K, right maxilla, both sides. Scale bar: 0.5 mm for A, B; 0.4 mm for C-E; 0.2 mm for F-I; 0.1 mm for J, K.

nearly 5.4-6.8 times as long as broad, nearly 2.0 times as long as antennal peduncle for male (fig. 5F) and nearly 2.2 times for female (fig. 5G).

Labrum anteriorly obtuse, without process, with expanded antero-lateral parts (fig. 5H). Mandibular palp 3-segmented; second segment longest and widened at mid-length, with barbed setae on both margins, 3 to 5 on inner margin and 5 to 9 on outer margin in males (fig. 5I), and 3 or 4 on inner margin and 5 to 9 on outer margin in females (fig. 5H, table I). Maxillule (fig. 5J), maxilla (fig. 5K) and first thoracopodal endopod (fig. 6A, J) closely allied in form between male and female. Claw of dactylus of first thoracopodal endopod peculiar in shape, long spine constricted at middle part and then curved distally, fringed with minute denticles from middle to distal part (fig. 6A). Similar spine also present on dactylus of second thoracopodal endopod (fig. 6K). Third to eighth thoracopodal endopods in male (fig. 6C-H) and third to fifth in female (fig. 7A-C) with carpopropodus divided distally into 2 segments; carpopropodi of sixth to eighth of female undivided (fig. 7D-F), third to eighth thoracopodal endopods with 2 or 3 outer marginal setae fringed with minute denticles on carpopropodus in both sexes (figs. 6C-H, 7A-F); flagelliform parts of first and eighth thoracopodal exopods with 7 segments (figs. 6H, 7F) and those of second to seventh exopods with 8 segments in both sexes (figs. 6B-G, K, 7E). Third to fifth thoracopodal endopods comparatively long and then becoming gradually shorter towards eighth. Oostegite on seventh thoracopod (fig. 7E) smaller than that of eighth (fig. 7F). Penis cylindrical, with 3 barbed setae at rounded apex (fig. 6H, I).

Abdominal somites smooth, first 5 ones sub-equal in length, and sixth longest, nearly one and half times longer than fifth (fig. 5A). Pleopods uniramous, unsegmented in first to fifth of female (fig. 8A), and first to third and fifth of male; first pleopod bilobate, widened distally and broader than remaining ones, third pleopod narrow in both sexes; fifth longest in female (fig. 8A) and similar in form to male. Fourth male pleopod biramous, reaching posterior three-fourths of sixth abdominal somite, excluding barbed setae (fig. 5A); sympod with basal lobe (fig. 7G); endopod minute, with 7 setae (fig. 7H); exopod long and 3-segmented, first segment becoming gradually broader towards distal one-third, without projection at its broadest corner, and then narrowing distally towards second segment (fig. 7G, H); second segment shortest; third segment as long as or slightly longer than first segment, apically with 2 barbed setae of different form; inner seta robust in proximal part, tapering, slightly longer than outer slender seta, setae armed with barbs along both margins around middle part (figs. 7G, H). Uropodal endopod slightly shorter than exopod (fig. 8D, E), without spine at statocyst region of ventral side (fig. 8E). Telson nearly half length of sixth abdominal somite, slightly longer than wide at widest part (1.2-1.3 excluding apical two denticles), linguiform, narrow at base, widened towards proximal third,

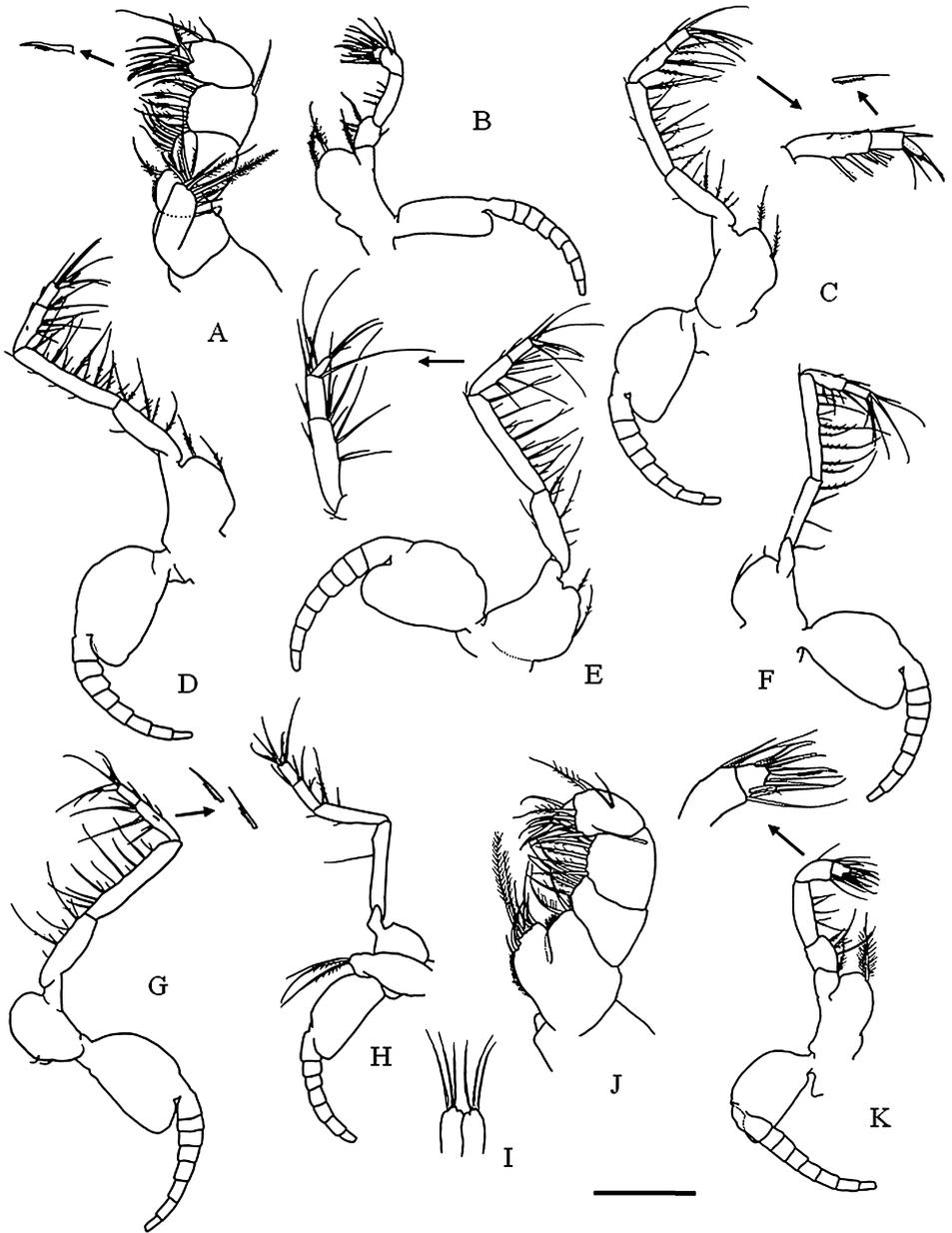


Fig. 6. *Anisomysis* (*Javanisomysis*) *similis* n. sp. Holotype, male (BL 3.4 mm: D), paratype, male (BL 2.9 mm, same specimen as for fig. 5: A-H) and female (BL 3.6 mm, same specimen as for fig. 5: J, K). A, J, right first thoracopodal endopod, terminal claw of A enlarged; B, K, right second thoracopod, distal segments of K enlarged; C, right third thoracopod, distal segments and barbed seta enlarged; D, right fourth thoracopod; E, right fifth thoracopod; F, right sixth thoracopod; G, right seventh thoracopod and barbed setae enlarged; H, right eighth thoracopod and penis; I, ventral view of penis. Scale bar: 0.2 mm for B-I, K; 0.1 mm for A, J.

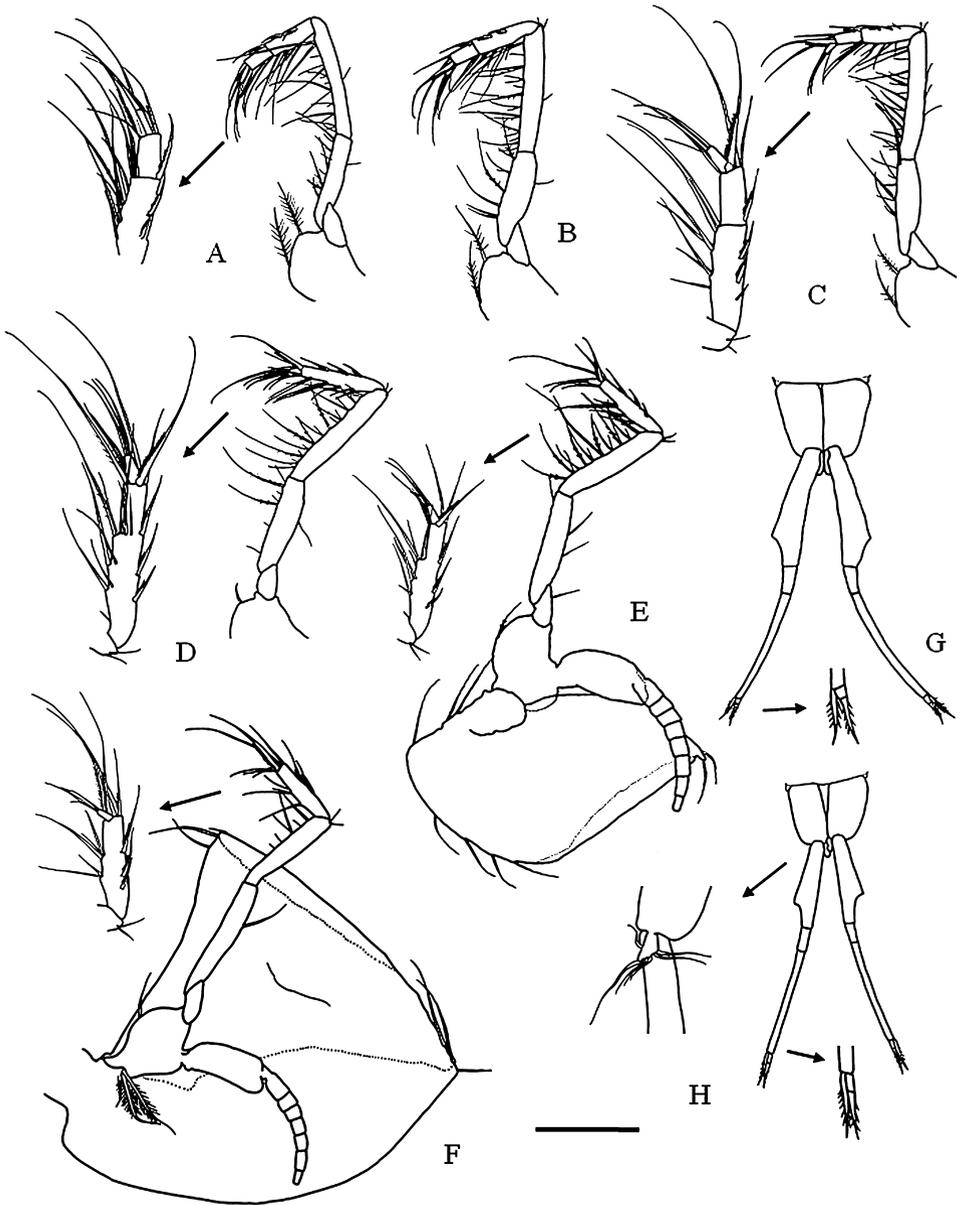


Fig. 7. *Anisomysis (Javanisomysis) similis* n. sp. Holotype, male (BL 3.4 mm: G), paratype, male (BL 2.9 mm, same specimen as for fig. 5: H) and female (BL 3.6 mm, same specimen as for fig. 5: A-F). A, right third thoracopodal endopod; B, right fourth thoracopodal endopod; C, right fifth thoracopodal endopod; D, right sixth thoracopodal endopod; E, right seventh thoracopod and oostegite; F, right eighth thoracopod and oostegite; (distal segments of the third, the fifth to the seventh endopods are enlarged); G, H, ventral view of fourth male pleopods (endopod of H and apical barbed setae of G, H are enlarged). Scale bar: 0.2 mm for A-H.

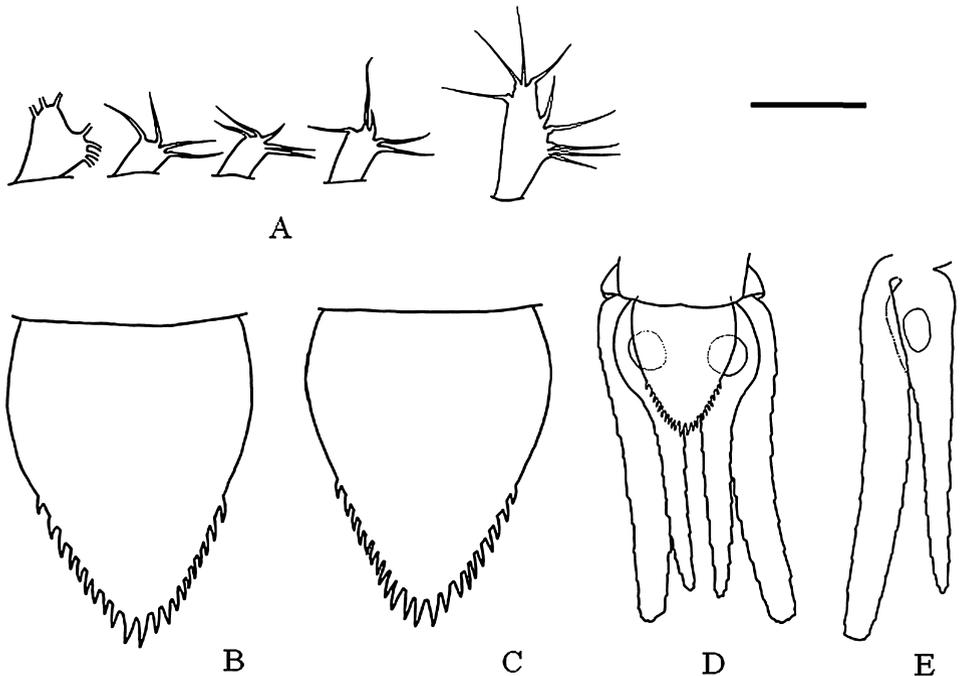


Fig. 8. *Anisomysis* (*Javanisomysis*) *similis* n. sp. Holotype, male (BL 3.4 mm: B, E), allotype, female (BL 3.4 mm: A, C), paratype male (BL 2.9 mm, same specimen as for fig. 5: D). A, ventral view of first to fifth female pleopods from left to right; B, C, dorsal view of telson; D, dorsal view of telson and uropods; E, ventral view of uropod. Scale bar: 0.1 mm for A-C; 0.2 mm for D, E.

distal half triangular in shape and lateral margin of distal two-fifths with 17 to 25 (mainly 19-21) basally un-articulated denticles in males (fig. 8B) and with 16 to 26 (mainly 20-22) in females (fig. 8C, table I), without apical plumose setae (fig. 8B, C).

**Etymology.**— This species is named after the morphological similarity to *A. (J.) gutzui*.

**Distribution.**— This species is known from Phuket, Thailand.

**Remarks.**— A female (BL 2.6 mm) of *A. (J.) similis* was the smallest breeding female among the type series. Males larger than 2.3 mm BL had a fully elongated fourth pleopod reaching three-fourths of the sixth abdominal somite. But the number of setae on the penis and those on the outer margin of the second segment of the mandibular palp was different between a smaller sized-group of 2.3-2.7 mm BL (16 specimens) and a larger sized-group of 2.8-3.4 mm BL (10 specimens). In the smaller group, 2 setae are present on the penis and 5 or 6 setae along the outer margin of the mandibular palp, while in the larger group 3 or 4 setae on the penis and 7-9 on the mandibular palp. Also in the present examination, the number of denticles on the telson (fig. 9) is more than 20 in the most specimens larger than

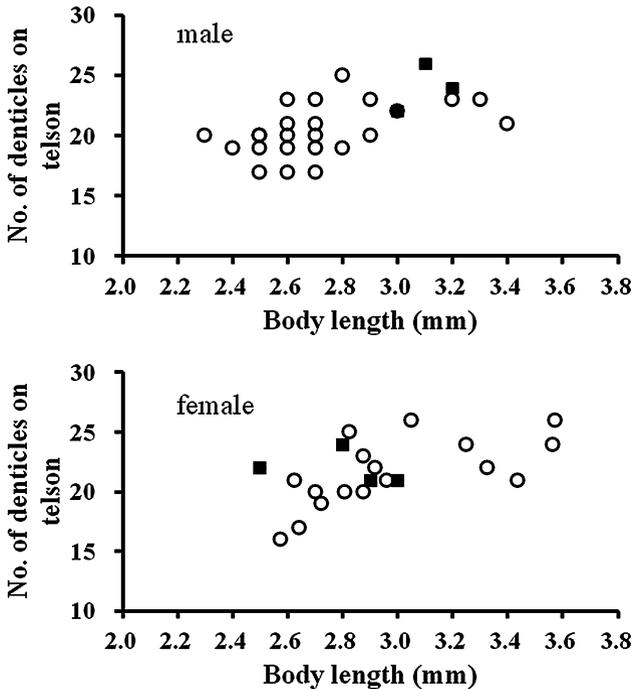


Fig. 9. Relationships between the body length and number of denticles on the telson in two species of the subgenus *Javanisomysis*. Closed squares indicate *Anisomysis (J.) gutzui* Băcescu, 1992 and open circles *A. (J.) similis* n. sp. An upper graph is for male of 3 specimens of *A. (J.) gutzui* and 26 specimens of *A. (J.) similis* and a lower graph is for female of 4 specimens of *A. (J.) gutzui* and 17 specimens of *A. (J.) similis*.

2.7 mm BL in both sexes. Females with less than 20 denticles on the telson are only 3 among 17 specimens. The number of telson denticles is more than 20 in *A. (J.) gutzui* in both sexes (fig. 9).

On the fourth male pleopod of *A. (J.) similis*, the relative lengths of each segment of the exopod to the total length of 3 segments are plotted in fig. 10. This analysis shows that the first segment occupies 42.4% on average for 26 males, the second is 12.6% and the third is 45.0%. The average lengths of the first and the second segments of the small sized-group are 42.8% and 13.1%, respectively, and are slightly longer than those of the large sized-group, 41.5% and 11.6%. The third segment is 44.1% in the small sized-group while 46.9% in the large sized-group. The third segment of the exopod tended to become longer, around 2.8-3.2 mm BL, as compared to the other two segments; nevertheless its length was slightly shorter than the combined length of the first and the second segments. The third segment was as long as or slightly longer than the first segment. Thus the third segment and the first segment are sub-equal in length. These length proportions of the pleopod of *A. (J.) gutzui* are similar to those of *A. (J.) similis* (fig. 10).

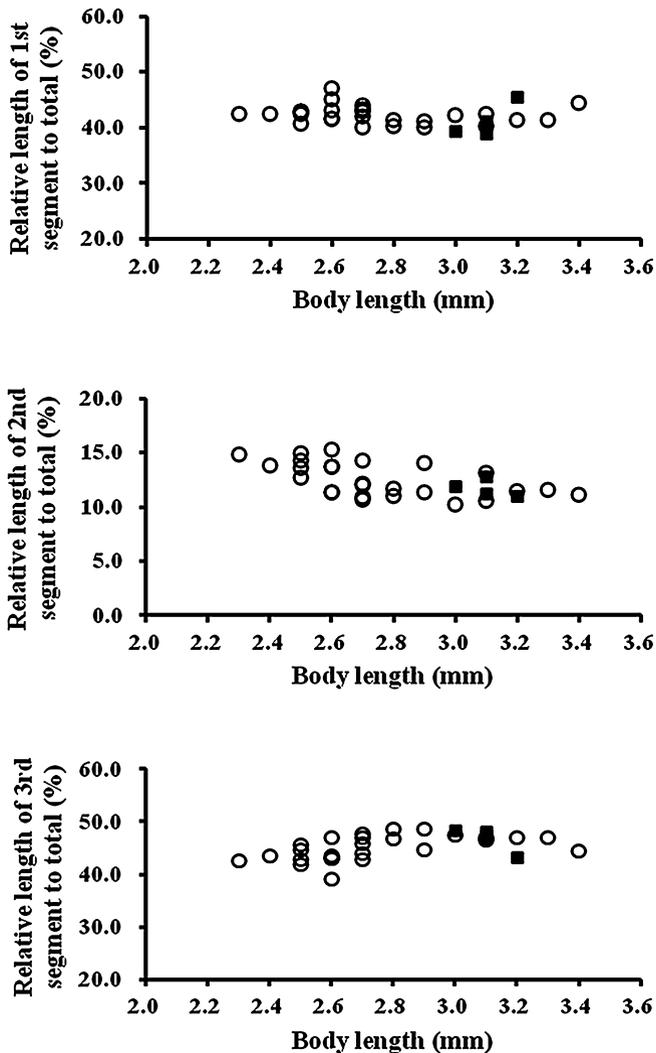


Fig. 10. Relationships between the body length and relative lengths of each three segment to the total length of the exopod of the fourth male pleopod (terminal setae excluded) in two species of the subgenus *Javanisomysis*. Closed squares indicate 4 specimens of *Anisomysis* (*J.*) *gutzui* Băcescu, 1992 and open circles 26 specimens of *A. (J.) similis* n. sp.

The paratype specimens sampled in Phuket, Thailand comprises juveniles and immatures ranging from 1.0 to 2.7 mm BL. They already provided characteristic features as those observed in mature specimens such as those in the presence of spinules on the antero-lateral margin of the carapace, the number of segments of the flagelliform part of the eight thoracopodal exopods and denticles on the distal margin of the telson. The number of segments of the flagelliform part of the

thoracopodal exopods was common through juveniles and mature specimens, and the first to the eighth exopods had 7, 8, 8, 8, 8, 8, 8 and 7 segments, respectively, but the number of denticles on the telson was still 5 in the smallest specimen.

Morphological characteristics of the two species of *Anisomysis* (*Javanisomysis*) are compared in table II. The present new species, *A. (J.) similis* is closely allied to *A. (J.) gutzui* but can be separable in the shapes of (1) the fourth male pleopod, (2) the thoracopodal endopod in female, and (3) the telson. The exopod of the fourth male pleopod of *A. (J.) similis* is not armed with a projection at the expanded corner of its first segment while *A. (J.) gutzui* has a projection at this part. The carpopropodus of the sixth thoracopodal endopod is not divided into segments in *A. (J.) similis* while it is divided into 2 segments in *A. (J.) gutzui*. The telson is rounded in *A. (J.) gutzui* while is triangular in distal half in *A. (J.) similis*. The telson of *A. (J.) similis* is proportionally longer than that of *A. (J.) gutzui* (1.2-1.3 times longer than maximum width vs 1.0-1.1).

*A. (J.) similis* is also closely allied to *A. (A.) thurneyseni* Nouvel, 1973 in several characteristics such as those in (1) the presence of spinules on the antero-lateral margin of the carapace, (2) the general form of the telson with non-articulated denticles, and (3) the proportional length of the segments in the fourth male pleopodal exopod; the first and the third segments are sub-equal in length. *A. (A.) thurneyseni* shares these remarkable features with the two species of the subgenus *Javanisomysis*. Therefore, *A. (A.) thurneyseni* Nouvel, 1973 is considered to be a third species in the subgenus *Javanisomysis*. *A. thurneyseni* is clearly distinguished from the other species of the subgenus in the fourth male pleopod barely reaching the mid-length of the last abdominal somite in contrasting to fully reaching a point of three-fourths in the congeners. The other difference observed is the form of the first segment of the exopod of the fourth male pleopod, without an expansion in *A. thurneyseni* as opposed to have a marked expansion at its distal part in *A. (J.) similis* and *A. (J.) gutzui*. The telson is approximately one and half times longer than broad at the widest part in *A. thurneyseni*, while it is approximately 1.0-1.3 times as long as broad in the two other species. The denticles on the distal part of the telson are irregular both in size and arrangement in *A. thurneyseni*, while they are regularly arranged and become longer distally in the two congeners. The carapace is armed with a bluntly pointed triangular frontal plate in *A. thurneyseni* instead of a broad triangular or a broadly rounded one in the two species of the subgenus.

Fukuoka et al. (2002) reported *A. (A.) thurneyseni* from Bali, Indonesia. However, their specimens were different from the original description of Nouvel (1973) in (1) the fourth male pleopod reaching the base of the telson, and (2) indistinctly articulated and regularly arranged apical spines on the telson.

These characteristics are also different from *A. (J.) similis* and *A. (J.) gutzui*. For specimens from Bali, further examinations are needed to clarify their true identity.

*A. (J.) similis* is also similar to *Anisomysis levi* Băcescu, 1973 with regard to the form of the telson, but the latter is different in having a long fourth male pleopod reaching the statocyst region of the uropod. Moreover, the telson of *A. levi* is different from *A. (J.) similis* in having basally articulated 12-16 spines (Băcescu, 1973).

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NOTE ADDED IN PROOF

The fact that there appear to be two papers describing *Javanisomysis gutzui* as a new species, of which one concurrently described *Javanisomysis* as a new subgenus and the other described that taxon as a new genus, makes it worthwhile to further document the history of these two publications as far as could be retrieved.

The manuscript for the article on *Javanisomysis* as a new **subgenus** (Băcescu, 1992b) was received on 15 January 1992 [as acknowledged on the last page of that paper: “Reçu le 15 janvier 1992”] and was published in the July-December issue of 1992 of the Revue Roumaine de Biologie (Série Biologie Animale), vol. **37**. The manuscript on *Javanisomysis* as a new **genus** (Băcescu, 1992a) was submitted for a publication (~a high-level catalogue) of an exposition in the Natural History Museum “Grigore Antipa”, Bucharest, held from 21 April to 30 October 1992. Thus, the article describing *Javanisomysis* as a new **genus** was published earlier, i.e., formally on 21 April 1992, than the one describing that same taxon as a new **subgenus** *Javanisomysis* [most probably somewhere between 1 July and 31 December 1992]. This is supported by the way Georgescu & Danis (1994) refer to the new species of Băcescu (1992), viz., as *Javanisomysis gutzui* and **not** as *Anisomysis (Javanisomysis) gutzui*; and furthermore by the fact that Băcescu (1992b) excludes his preceding article, i.e., Băcescu (1992a), from the references in that paper, i.e., in Băcescu (1992b).

This justifies our statement in the present paper, viz., that Băcescu (1992a) did rank **up** his new taxon *Javanisomysis* vis-à-vis his earlier delivered manuscript (that for Băcescu, 1992b) (and thus did **not** rank that taxon **down**), since in the paper that must be assumed to have been submitted first [though published later], the rank was at the level of a subgenus, while in the next manuscript [though that was published earlier] it was at the level of a full genus.