A new species in the subgenus *Javanisomysis* in the genus *Anisomysis* (Crustacea: Mysida: Mysidae) for specimens collected from Lombok Island, Indonesia

**Shozo Sawamoto**1,†,*, Yukio Hanamura2‡, Rose O.S.E. Mantiri3 & Susumu Ohtsuka4

1 School of Marine Science and Technology, Tokai University, 3–20–1 Orido, Shimizu-ku, Shizuoka 424–8610, Japan
2 National Research Institute of Fisheries Science, Kanazawa-ku, Yokohama, Kanagawa 236–8648, Japan
3 Faculty of Fishery and Marines, Sam Ratulangi University, Manado, North Sulawesi, Indonesia
4 Takehara Station, Setouchi Field Science Center, Hiroshima University, Minato-machi 5–8–1, Takehara, Hiroshima 725–0024, Japan

† Present address: Tsukimi-cho 20–21, Shimizu-ku, Shizuoka, Shizuoka 424–0853, Japan
‡ Present address: Shinjo-cho 3806–40, Tanabe, Wakayama 646–0011, Japan

Received 28 January 2020; Accepted 27 April 2020 Responsible Editor: Kazutaka Takahashi
doi: 10.3800/pbr.15.238

**Abstract:** Mysid specimens collected at Lombok Island, Indonesia were examined and assessed taxonomically. These specimens share morphological characteristics with species of the subgenus *Javanisomysis* (genus *Anisomysis*). They are separable from the other four known species of the subgenus by the structure of the fourth male pleopod, and the condition and pattern of sub-segmentation in the third to eighth thoracopodal carpopropodi of both sexes. The male pleopod is long and reaches the posterior end of the sixth abdominal somite, excluding the apical barbed setae, and the first segment of the pleopod is broader in the proximal one-fourth to one-third. The third to eighth thoracopodal carpo-propodi are divided distally into two segments. The population from Lombok Island thus is considered an undescribed species of the subgenus. On the basis of characteristics of the fourth male pleopod, a key to species of the subgenus is provided.

**Key words:** *Anisomysis* (*Javanisomysis*) lombokensis, Lesser Sunda Islands, new species, taxonomy

---

**Introduction**

The genus *Anisomysis* was established by Hansen (1910) to describe *Anisomysis laticauda* collected during the Siboga Expedition. The genus was later divided by Băcescu (1973) into two subgenera, *Paranisomysis* and *Anisomysis*, based mainly on the structure of the mandibular palp. Subsequently, Băcescu (1992b) provisionally created a third subgenus *Javanisomysis* for *Anisomysis gutzui* Băcescu, 1992 (Băcescu 1992a). This subgenus was recently redefined and reinstated under the genus *Anisomysis* by Sawamoto et al. (2015) according to a combination of the following morphological characteristics: (1) serration of the anterolateral margin of the carapace; (2) unique form of the fourth male pleopodal exopod; and (3) basally un-articulated denticles on the telson.

Murano & Fukuoka (2003) created a fourth subgenus *Pseudanisomysis* that has the eye divided into two parts by a groove. However, this subgenus is regarded to be a junior synonym of the subgenus *Carnegieomysis* W Tattersall, 1943. The reason is, that the subgenus *Pseudanisomysis* contains *Anisomysis xenops* (Tattersall, 1943), which was originally described as *Carnegieomysis xenops* n. gen. & n. sp. by Tattersall (1943). Subsequently, the genus *Anisomysis* currently contains the following four subgenera, *Anisomysis*, *Paranisomysis*, *Javanisomysis* and *Carnegieomysis*.

In the subgenus *Javanisomysis*, four species are known to date; i.e., *A. (J.) baliensis* Sawamoto & Hanamura, 2017, *A. (J.) gutzui* Băcescu, 1992, *A. (J.) similis* Sawamoto, Srinui & Moriya, 2015, and *A. (J.) thurneysseni* Nouvel, 1973. These species so far have been recorded within a rather narrow and restricted geographical region, from
A new Anisomysis (Javanisomysis) from Indonesia

**Fig. 1.** *Anisomysis (Javanisomysis) lombokensis* sp. nov. A, C, G, male, holotype (MZB Cru 5056); B, D, H, L, female, allotype (NSMT-Cr 27417); E, I, K, M–O, male, paratype (NSMT-Cr 27418); J, female, paratype (NSMT-Cr 27420). A, lateral view of whole body; B, lateral view of anterior body; C, D, dorsal view of anterior body, left antero-lateral margin of carapace enlarged; E, F, dorsal view of left antennule; G–J, ventral view of right, G, I, J and left, H, antennae; K, L, external view of labrum and mandibular palps; M, left mandible; N, right maxillule; O, right maxilla.
Phuket Island in the north-east Indian Ocean down to as south as New Caledonia in the south-west Pacific.

Specimens recently collected from Lombok Island, Indonesia, have a superficial similarity to *A. (J) baliensis* known from Bali Island, which is located only 50 km to the west of Lombok Island; despite a closer distance, the most famous zoogeographical boundary named the "Wallace line", which demarcates the Asian and Australian faunal regions, runs between the two islands. Interestingly, our analysis has revealed that the two islands’ populations are different in certain features and warrant the recognition of a fifth species in the subgenus.

The results of this and other recent studies, such as Sawamoto et al. (2015) and Sawamoto & Hanamura (2017), regarding *Javanisomysis* appear to suggest a possible high endemism of this group in the Indo-Austral Archipelago, and further surveys in the region are strongly encouraged.

**Materials and Methods**

Mysid specimens were collected with a small net at a beach on the east coast of Lombok Island in Indonesia (see “Taxonomy” section for details). The mysid samples were immediately fixed in > 90% ethanol for morphological and genetic analyses.

Body length (BL) was measured from the tip of the rostrum to the distal end of the telson, excluding apical denticles, with a micrometer installed on the eyepiece of a microscope. Illustrations were made with the aid of a camera lucida, in which marginal setae of some appendages, especially the antennal scale, thoracopodal exopods and uropod, were omitted. Terminology was based mainly on Wittmann et al. (2014).

Specimens examined in this study are lodged at the Museum Zoologicum Bogoriense Research Centre for Biology, Indonesian Institute of Sciences (MZB) and the National Museum of Nature and Science, Tsukuba, Japan (NSMT).

**Taxonomy**

**Family Mysidae Haworth, 1825**

Subfamily Mysinae Haworth, 1825

Tribe Anisomysinini Wittmann, Ariani & Lagardère, 2014

Genus *Anisomysis* Hansen, 1910

Subgenus *Javanisomysis* Băcescu, 1992

Genus *Javanisomysis* Băcescu, 1992a: 20, Fig. 1A–G; Murano & Fukuoka 2003: 66; Sawamoto & Fukuoka 2005: 86 (in list); Sawamoto 2014: 6 (in list).

Subgenus *Javanisomysis* Băcescu, 1992b: 79–86, Figs. 1A–N, 2A–H; Sawamoto et al. 2015: 814–816. Sawamoto & Hanamura 2017: 120.

Type species.—*Javanisomysis gutzui* Băcescu, 1992.

**Remarks.**—The subgenus *Javanisomysis* has similar characters to the other three subgenera, where the fourth male pleopod consists of three segments, however, it is separable from them based on the combined characters of (1) spinules on the antero-lateral margin of the carapace, and (2) basally un-segmented denticles on the telson (Sawamoto et al., 2015). Based on this new finding, the diagnosis of the subgenus *Javanisomysis* provided previously by Sawamoto et al. (2015) is partly revised to state that “the length of the first segment in the fourth male pleopod is shorter than the second and third segments combined, excluding the terminal setae”.

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

http://zoobank.org/E9804FBF-DA99-4D57-9CF9-CFE5768B4FS0 (Figs. 1–5)

**Material examined.**—Holotype: adult male (BL 3.31 mm), MZB Cru 5056, allotype: adult female (BL 3.64 mm), NSMT-Cr 27417. Paratypes: 1 dissected male (BL 3.00 mm), NSMT-Cr 27418; 1 dissected male (BL 3.24 mm), NSMT-Cr 27419; 1 dissected female (BL 3.49 mm), NSMT-Cr 27420; 12 adult males (BL 2.9–3.7 mm) and 17 adult females (BL 3.1–3.7 mm), MZB Cru 5057; 9 adult males (BL 2.8–3.9 mm), 15 adult females (BL 3.1–3.9 mm), 1 immature male (BL 2.6 mm) and 4 immature females (BL 2.8–3.2 mm), NSMT-Cr 27421. All specimens collected from a sandy beach on Padak Guar (08°25.665’S, 116°42.561’E) in Lombok Island, Indonesia, on 6 June 2010 at 17:00, coll. with a small push net by Rose Mantiri.

**Description.**—Male: Tegument of body smooth. Carapace produced anteriorly into broadly rounded or sub-triangular plate (fig. 1C), armed with several spinules on antero-lateral margin, rounded at antero-lateral corner (fig. 1A, C), posterior dorsal margin excavated, leaving uncovered last thoracic somite exposed (fig. 1A). Eyes large, cornea globular, not concealed by anterior part of carapace (fig. 1A, C). Antennular peduncle robust, second segment shortest (fig. 1E), first and second segments with minute projection bearing setae dorsally (fig. 1E). Antennal scale over-reaching anterior end of antennular peduncle, including male lobe (fig. 1A, C), and narrowly lanceolate, setose all around, slightly curved outward, with rounded apex, apical suture present, nearly 5.3 times as long as broad (fig. 1G), and nearly 1.9 times as long as antennal peduncle (fig. 1I).

Labrum anteriorly obtuse, without process, with obtusely angulated antero-lateral parts (fig. 1K). Mandibular palp 3-segmented; second segment longest and widened near middle part, with 5 to 6 barbed setae on inner margin and 9 to 13 on outer margin (fig. 1K, table 1). Mandible, maxillule and maxilla as in fig. 1M, N and O.

First thoracopodal endopod as shown in fig. 2A; dactylus of endopod with claw, peculiar in shape, long spine constricted at near mid-length and then curved distally, fringed with minute denticles from middle to distal part. Similar claw also present on dactylus of second thoracopodal endopod (fig. 2B). Flagelliform part of first and eighth...
A new Anisomysis (Javanisomysis) from Indonesia

Fig. 2. Anisomysis (Javanisomysis) lombokensis sp. nov. A–C, male, paratype (NSMT-Cr 27418); D–F, female, paratype (NSMT-Cr 27420). A, D, first thoracopod; B, E, second thoracopod; C, F, third thoracopod.
Anisomysis (Javanisomysis) lombokensis sp. nov. A, B, male, paratype (NSMT-Cr 27418); C, D, female, paratype (NSMT-Cr 27420). A, C, fourth thoracopod; B, D, fifth thoracopod.

Fig. 3.
A new Anisomysis (Javanisomysis) from Indonesia

Fig. 4. *Anisomysis (Javanisomysis) lombokensis* sp. nov. A, B, male, paratype (NSMT-Cr 27418); C, male, paratype (NSMT-Cr 27419); D–F, female, paratype (NSMT-Cr 27420). A, D, sixth thoracopod; B, E, seventh thoracopod; C, eighth thoracopod and penis; F, eighth thoracopod.
Fig. 5. *Anisomysis (Javanisomysis) lombokensis* sp. nov. A, H, male, holotype (MZB Cru 5056); B, C, E, J, male, paratype (NSMT-Cr 27418); D, F, G, K, female, paratype (NSMT-Cr 27420); I, female, allotype (NSMT-Cr 27417). A, B, fourth male pleopod, endopod and terminal barbed setae are enlarged; C, first to third and fifth male pleopods from left to right; D, first to fifth female pleopods from left to right; E, F, telson and uropods; G, ventral view of left uropods; H–K, telson.
thoracopodal exopods composed of 7 segments (figs. 2A, 4C), while 8 in second to seventh ones (figs. 2B, C, 3A, B, 4A, B). Third to eighth thoracopodal endopods (figs. 2C, 3A, B, 4A–C) with carpopodites consistently divided distally into 2 segments, and with 2 or 3 short marginal setae fringed with minute denticles. Penis cylindrical, with 3 barbed setae close to middle one (fig. 5C). Fourth male pleopod biramous; sympod without basal lobe (fig. 5A, B); endopod minute, with 5 setae (fig. 5B), exopod long and 3-segmented, reaching posterior end of sixth abdominal somite, excluding terminal barbed setae (fig. 1A); first segment broadest at around proximal one-fourth to one-third, then narrowing towards second segment, without projection at broadest corner; second segment shortest; third segment sub-equal to or slightly shorter than first segment, but combined length of second and third segments longer than first segment (fig. 5A, B), with apical 2 barbed setae of different forms, inner seta robust in proximal part and then abruptly tapering, slightly shorter than outer seta, both setae armed with barbs along both margins around middle part towards distal end (fig. 5B).

Table 1. Intraspecific variation in the number of setae on the second segment of the mandibular palp and denticles on the telson of the type specimens of Anisomysis (Javanisomysis) lombokensis sp. nov.

| Sex | Body length (mm) | Frontal plate | No. of setae on mandibular palp | No. of denticles on telson |
|-----|------------------|---------------|-------------------------------|---------------------------|
|     |                  |               | left                          | right                     |                               |
|     |                  |               | outer margin                 | inner margin              | outer margin                 | inner margin                 |                               |
| Male| 2.95             | rounded       | 10                            | 4                         | 10                           | 5                           | 23                            |
|     | 2.98             | rounded       | 11                            | 5                         | 12                           | 5                           | 27                            |
|     | 3.00\(^2\)       | triangular    | 10                            | 4                         | 11                           | 3                           | 28                            |
|     | 3.24\(^3\)       | rounded       | 9                             | 4                         | 9                            | 3                           | 25                            |
|     | 3.27             | triangular    | 11                            | 5                         | 11                           | 6                           | 22                            |
|     | 3.31\(^4\)       | rounded       | 11                            | 5                         | 11                           | 5                           | 24                            |
|     | 3.36             | triangular    | 11                            | 5                         | 11                           | 4                           | 28                            |
|     | 3.45             | rounded       | 10                            | 5                         | 11                           | 5                           | 28                            |
|     | 3.49             | triangular    | 12                            | 6                         | 9                            | 5                           | 28                            |
|     | 3.60             | triangular    | 10                            | 4                         | 12                           | 4                           | 27                            |
|     | 3.62             | triangular    | 12                            | 5                         | 9                            | 4                           | 32                            |
|     | 3.67             | triangular    | 10                            | 5                         | 10                           | 5                           | 27                            |
|     | 3.71             | rounded       | 11                            | 5                         | 13                           | 5                           | 26                            |
| Male | Range           | 2.95–3.71     | 9–12                          | 4–6                       | 9–13                         | 3–6                         | 22–32                         |

| Female | Body length (mm) | Frontal plate | No. of setae on mandibular palp | No. of denticles on telson |
|--------|------------------|---------------|-------------------------------|---------------------------|
|        |                  |               | left                          | right                     |                               |
|        |                  |               | outer margin                 | inner margin              | outer margin                 | inner margin                 |                               |
| Female | 3.07             | triangular    | 9                             | 5                         | 9                            | 5                           | 23                            |
|        | 3.22             | rounded       | 10                            | 5                         | 11                           | 4                           | 28                            |
|        | 3.24             | triangular    | 10                            | 5                         | 12                           | 5                           | 23                            |
|        | 3.24             | triangular    | 11                            | 5                         | 11                           | 6                           | 27                            |
|        | 3.36             | triangular    | 10                            | 4                         | 11                           | 4                           | 26                            |
|        | 3.44             | triangular    | 11                            | 4                         | 10                           | 4                           | 28                            |
|        | 3.49\(^5\)       | rounded       | 10                            | 5                         | 11                           | 5                           | 21                            |
|        | 3.49             | triangular    | 11                            | 5                         | 12                           | 4                           | 28                            |
|        | 3.56             | triangular    | 10                            | 5                         | 10                           | 5                           | 25                            |
|        | 3.60             | triangular    | 10                            | 6                         | 10                           | 5                           | 28                            |
|        | 3.64\(^6\)       | triangular    | 11                            | 6                         | 11                           | 6                           | 28                            |
|        | 3.67             | triangular    | 11                            | 6                         | 10                           | 5                           | 32                            |
|        | 3.78             | triangular    | 12                            | 6                         | 11                           | 6                           | 33                            |
|        | 3.85             | triangular    | 13                            | 6                         | 12                           | 5                           | 25                            |
| Female | Range           | 3.07–3.85     | 9–13                          | 4–6                       | 9–12                         | 4–6                         | 21–33                         |

\(^1\)Triangular and rounded means sub-triangular and broadly rounded frontal plate, respectively; \(^2\)paratype (NSMT-Cr 27418); \(^3\)paratype (NSMT-Cr 27419); \(^4\)holotype (MZB Cru 5056); \(^5\)paratype (NSMT-Cr 27420); \(^6\)allootype (NSMT-Cr 27417).
| Species/Morphological characters | A. (J.) gutzui | A. (J.) similis | A. (J.) thurneysseni | A. (J.) baliensis | A. (J.) lomboakensis sp. nov. |
|--------------------------------|---------------|----------------|-------------------|----------------|--------------------------|
| Carapace                        | Produced anteriorly into broadly rounded or rounded triangular plate | Same as A. gutzui | Produced anteriorly into obtuse triangular plate | Same as A. gutzui | Same as A. gutzui |
| Antennal scale, length to width to peduncle | Narrowly lanceolate, setose all around, slightly curved outward; nearly 6.5 times longer than wide; nearly 2.0 times in male, nearly 2.5 times in female longer than antennal peduncle | Same as A. gutzui; ratio 5.0–5.5 times longer than wide; nearly 2.0 times in male, nearly 2.3 times in female longer than antennal peduncle | Nearly straight in male, slightly curved outwards in female; nearly 6 times longer than wide; nearly 2.3 times in male, and nearly 2.4 times in female longer than antennal peduncle (based on figs. 4 and 5) | Same as A. gutzui; nearly 5.3 times in male, 6.5 times in female longer than wide; nearly 1.9 times in male, and nearly 2.2 times in female longer than antennal peduncle |
| Mandibular palp, 2nd segment     | 3–5 barbed setae along inner margin in both sexes, and 8–10 in male and 7 or 8 along outer margin in female | 3–5 barbed setae along inner margin in male and 3 or 4 in female, and 5–9 along outer margin in both sexes | 11 barbed setae along inner margin, and 9 along outer margin (based on fig. 7) | 3–5 barbed setae along inner margin in both sexes, and 7–10 in male and 6–9 along outer margin in female | 3–6 barbed setae along inner margin in male and 4–6 in female, and 9–13 along outer margin in both sexes |
| Thoracic endopods               | 3rd to 8th thoracopod carpopropodi divided distally into 2 segments | 3rd to 8th thoracopod carpopropodi in male, and 3rd to 6th in female distinctly divided distally into 2 segments | 3rd to 8th thoracopod carpopropodi un-divided in both sexes | 3rd and 4th thoracopod carpopropodi in male, 3rd to 7th carpopropodi in female divided distally into 2 segments | 3rd to 8th thoracopod carpopropodi in both sexes divided distally into 2 segments |
| Length of 4th male pleopod      | Reaching posterior 3/4 of 6th abdominal somite excluding apical barbed setae | Same as A. gutzui | Reaching mid-length of 6th abdominal somite | Reaching or slightly over-reaching posterior margin of 6th abdominal somite, excluding apical barbed setae | Same as A. baliensis |
| 4th male pleopod                | Endopod minute, with 6 setae; 1st segment of exopod becoming gradually broadened towards distal 1/3, then narrowing distally, with small, blunt projection at widest corner; 1st segment shorter than 3rd one | Endopod minute, with 7 setae; 1st segment of exopod same as A. gutzui but without projection at widest corner; length ratio to third one same as A. gutzui | Endopod minute, with several setae; 1st segment of exopod cylindrical, sub-equal in length to 3rd one | Endopod minute, with 5 setae; 1st segment of exopod cylindrical, slightly longer than 3rd one | Endopod same as A. baliensis; 1st segment of exopod becoming gradually broadened towards proximal 1/4 to 1/3, then narrowing distally, without projection at widest corner; 1st segment sub-equal or slightly longer than 3rd one |
| Telson                          | Nearly half length of 6th abdominal somite, linguiform, as long as wide, excluding apical 2 denticles, fringed with 22–26 in male and 21–24 in female basally un-articulated denticles in distal 1/3 to 1/2, apical 2 denticles slightly longer than others | Nearly half length of 6th abdominal somite, linguiform, narrow at base, widened towards proximal 1/3, as long as wide or slightly longer than width, excluding apical 2 denticles, fringed with 17–25 in male and 16–26 in female basally un-articulated denticles in distal 1/3 to 1/2, apical 2 denticles same as A. gutzui | Length ratio unknown, linguiform, narrow at base, widened towards proximal third, ca. 1.5 times longer than width, excluding apical 2 denticles, fringed with 21 or 22 in male and 18–23 in female basally un-articulated denticles in distal 1/3, denticles nearly same in length, apical denticles somewhat irregular in size and in arrangement especially in males | Nearly 2/3 of 6th abdominal somite in length, linguiform, narrow at base, widened towards proximal 1/3, 1.2–1.3 times longer than width, excluding apical 2 denticles, fringed with 22–24 in male and 19–26 in female basally un-articulated denticles in distal 2/5, apical 2 denticles same as A. gutzui or sub-equal to others | Nearly 3/5 of 6th abdominal somite in length, linguiform, nearly as long as wide at broadest part (1.1–1.3) excluding apical 2 denticles, fringed with 22–32 in male and 21–33 in female basally un-articulated denticles in distal 2/5, apical 2 denticles same as A. gutzui or sub-equal to others |
| Body length (mm)                | Male 3.0–3.2; female 2.5–3.0 | Male 2.3–3.4; female 2.6–3.6 | Male 3.3–3.7; female 3.5–3.7 | Male 2.4–3.2; female 2.5–3.2 | Male 2.8–3.9; female 3.1–3.9 |
| Source of data                  | Sawamoto et al. (2015) | Sawamoto et al. (2015) | Nouvel (1973) | Sawamoto & Hanamura (2017) | Present study |
Uropodal exopod longer than endopod (fig. 5E). Uropodal endopod without spine at statocyst region of ventral side. Telson nearly 0.6 times as long as sixth abdominal somite (fig. 1A), linguiform, nearly as long as wide at broadest part (1.1–1.3 times, excluding apical 2 denticles), fringed with 21–33 basally un-articulated denticles in distal two-fifths, of which apical 2 denticles slightly longer than remaining ones (fig. 5H) or sub-equal to others (fig. 5J), without plumose setae distally (fig. 5H, J). Number of telson denticles is positively correlated with body length (table 1).

Female: Tegument of body as in male. Carapace produced anteriorly into broadly rounded or sub-triangular plate (fig. 1D), armed with several spinules on anterolateral margin, rounded at anterolateral corner (fig. 1B), posterior dorsal margin excavae, leaving uncovered last thoracic somite (fig. 1B). Eyes large, cornea globular, not concealed by anterior part of carapace (fig. 1B, D). Antennular peduncle slender, second segment shortest (fig. 1F), first and second segments with minute projection bearing setae dorsally (fig. 1F). Antennal scale over-reaching anterior end of antennular peduncle (fig. 1B, D), narrowly lanceolate, setose all around, slightly curved outward, with rounded apex, apical suture present, nearly 6.5 times as long as broad (fig. 1H, J), and nearly 2.2 times as long as antennal peduncle (fig. 1I).

Labrum anteriorly obtuse without process, with obtusely angulated anterolateral parts (fig. 1L). Mandibular palp as in male; second segment with 4 to 6 barbed setae on inner margin and 9 to 13 on outer margin (fig. 1L, table 1).

First thoracopodal endopod as shown in fig. 2D; dactylus of endopod with claw, peculiare in shape, long spine constricted at near mid-length and then curved distally, fringed with minute denticles from middle to distal part (fig. 2D). Similar claw also present on dactylus of second thoracopodal endopod (fig. 2E). Flagelliform part of first and eighth thoracopodal exopods composed of 7 segments (figs. 2D, 4F), while 8 in second to seventh ones (figs. 2E, F, 3C, D, 4D, E). Third to eighth thoracopodal endopods (figs. 2F, 3C, D, 4D–F) with carpopropodus consistently divided distally into 2 segments, and with 2 or 3 short marginal setae fringed with minute denticles. Oostegite on seventh thoracopod (fig. 4E) smaller than that of eighth (fig. 4F).

Abdominal somites smooth, first 5 ones sub-equal in length, and sixth longest, about 2 times longer than fifth. Pleopods uniramous, un-segmented, with plumose setae in first through fifth (fig. 5D), among them, first one bilobate, widened distally and broader than others (fig. 5D), second one smallest while fifth longest; form of fifth pleopod similar to that of male (fig. 5C), except for position of 2 pairs of setae along outer distal margin, distal pair of setae noticeably apart from middle one (fig. 5D).

Uropodal exopod extending beyond endopod (fig. 5F, G) by 1/8 of its length (fig. 5G). Uropodal endopod without spine at statocyst region of ventral side (fig. 5G). Telson nearly 0.6 times as long as sixth abdominal somite, linguiform, nearly as long as wide at broadest part (1.1–1.3 times, excluding apical 2 denticles), fringed with 21–33 basally un-articulated denticles in distal two-fifths, of which apical 2 denticles slightly longer than remaining ones (fig. 5I) or sub-equal to others (fig. 5K), without plumose setae distally (fig. 5I, K). Number of telson denticles is positively correlated with body length (table 1).

**Etymology.**—This species is named after the type locality, Lombok Island.

**Distribution.**—This species is so far only known from Lombok Island.

**Remarks.**—The anterior margin of the carapace is sub-triangular or broadly rounded in males, while it is mostly sub-triangular in females (table 1). In the morphological characteristics (table 2), the anterior margin of the carapace of the new species is allied to *Anisomysis* (Javanisomysis) *gutzui*, *A. (J) similis* and *A. (J) baliensis*, while is different from *A. (J) thurneysseni* which has an obtuse triangular plate. The two-segmented third to eighth thoracopod carpopropodi in the male also showed a closer similarity to *A. (J) gutzi* and *A. (J) similis*. A similar condition was observed in females of the new species, but it differs between the known species; i.e., *A. (J) thurneysseni* with un-divided third to eighth thoracopodal carpopropodi in both sexes, while, more or less, having two-segmented carpopropodi in *A. (J) gutzi* on the third to fifth, *A. (J) similis* on the third to sixth, and *A. (J) baliensis* on the third to seventh ones.

Sexual dimorphism was observed in the fifth pleopod in the new species, while a similar feature has not been found in the other species, excluding *A. (J) thurneysseni*, in which the detailed structure remains totally unknown.

In addition, the fifth pleopod is armed with two pairs of setae on the distal half of the outer margin, of which the distal pair is arising from close to the middle one in *A. (J) gutzi* and *A. (J) similis* (Sawamoto et al. 2015), while noticeably apart from one to another in *A. (J) baliensis* (Sawamoto & Hanamura 2017) as observed in females of the present species.

In the new species, the length of the fourth male pleopod is similar to *A. (J) baliensis*, extending slightly beyond the sixth abdominal somite. However, this pleopod barely reaches a point at the posterior three-fourths of that somite in *A. (J) gutzi* and *A. (J) similis*, or the mid-length in *A. (J) thurneysseni*.

A noticeable difference is also found in the first segment of the fourth male pleopod. The new species has a broad part at around the proximal one-third, while a similar structure is present at the distal one-third in *A. (J) gutzi* and *A. (J) similis*. The segment of the fourth pleopod is cylindrical in *A. (J) thurneysseni* and *A. (J) baliensis*. Moreover, the first segment of the fourth male pleopod is slightly longer than the third segment in the new species and *A. (J) baliensis*, but it is slightly shorter in *A. (J) gutzi* and *A. (J) similis*, or sub-equal in *A. (J) thurneysseni*. A new *Anisomysis* (Javanisomysis) from Indonesia 247
Nevertheless, the first segment is consistently shorter than the second and third segments combined, across the members of the subgenus *Javanisomysis*.

Key to the subgenera of the genus *Anisomysis* Hansen, 1910
(slightly revised from Murano & Fukuoka 2003)

1 Body rather robust, gibbous; eye large, with cornea divided into two parts by groove. .................................................. *Carnegieomysis* WM Tattersall, 1943
— Body slender; eye globular, with cornea not divided into two portions .............................................................. 2

2 Carapace with spinules on antero-lateral margin; telson with un-articulated denticles on lateral margin .......... *Javanisomysis* Băcescu, 1992
— Carapace without spinules on antero-lateral margin; telson with articulated denticles on lateral margin ........ 3

3 Mandibular palp with second segment armed with triangular processes on mesial margin ................................................. *Paranisomysis* Băcescu, 1973
— Mandibular palp with second segment armed with normal setae on both margins, no triangular processes ........ *Anisomysis* Băcescu, 1973

Key to the species of the subgenus *Javanisomysis*
Băcescu, 1992

**Male**

1 Fourth pleopod reaching or slightly over-reaching posterior end of 6th abdominal somite, excluding apical barbed setae ................................................................. 2
— Fourth pleopod falling far short, barely reaching mid-length or posterior 3/4 of 6th abdominal somite, excluding apical barbed setae ......................................................... 3

2 First segment of 4th pleopod without broadened part. *A. (J.) baliensis* Sawamoto & Hanamura, 2017
— First segment of 4th pleopod with broadened part. *A. (J.) lombokensis* sp. nov.

3 First segment of 4th pleopod without broadened part. *A. (J.) thurneysseni* Nouvel, 1973
— First segment of 4th pleopod with broadened part ................................................................. 4

4 Broadened part of first segment of 4th pleopod without any trace of projection .................................................. *A. (J.) similis* Sawamoto, Srinui & Moriya, 2015
— Broadened part of first segment of 4th pleopod with distinct projection .......................................................... *A. (J.) gutzui* Băcescu, 1992

**Female**

1 3rd to 8th thoracopod carpopropodi undivided. Telson ca. 1.5 times longer than wide at broadest part excluding apical 2 denticles ............................................................... *A. (J.) thurneysseni* Nouvel, 1973
— 3rd to 5th thoracopod carpopropodi divided distally into at least 2 segments. Telson as long as or slightly longer than wide at broadest part (1.0–1.3 times) excluding apical 2 denticles ................................................................. 2

2 6th thoracopod carpopropod undivided ........................................... *A. (J.) similis* Sawamoto, Srinui & Moriya, 2015
— 6th thoracopod carpopropod divided distally into 2 segments ............................................................................... 3

3 7th thoracopod carpopropod undivided ........................................... *A. (J.) gutzui* Băcescu, 1992
— 7th thoracopod carpopropod divided distally into 2 segments ............................................................................... 4

4 8th thoracopod carpopropod undivided ........................................... *A. (J.) baliensis* Sawamoto & Hanamura, 2017
— 8th thoracopod carpopropod divided distally into 2 segments ............................................................................... *A. (J.) lombokensis* sp. nov.

**Acknowledgements**

We acknowledge our sincere gratitude to Dr. Yasuhiro Senga, School of Marine Science and Technology, Tokai University, for his kind support during the laboratory work. We thank two anonymous reviewers for helpful comments and advice on the manuscript. This study was partially supported by a grant of Core-to-Core Program of the Japan Society of Promotion of Science (JSPS).

**References**

Băcescu M (1973) *Anisomysis levi* n. sp. from the Red Sea and the dichotomic key of the species belonging to the genus, with description of a new taxon, *Paranisomysis* n. sg. Revue Roumaine de Biologie, Série de Zoologie 18(3): 173–180.

Băcescu M (1992a) *Javanisomysis gutzui* n. g., n. sp. (Crustacea, Mysidacea), of Java Sea. In: “Patru Naturalistîi Români în Indonezie, Expoziția temporara, 21. IV.–30.X. 1992″: 20–21.

Băcescu M (1992b) *Javanisomysis gutzui*, n. sg., n. sp., Mysidacé grégaire des eaux Indonésiennes. Revue Roumaine de Biologie, Série de Biologie Animale 37: 79–86.

Hansen HJ (1910) The Schizopoda of the Siboga Expedition. Siboga-Expeditie 37: 1–77.

Murano M, K Fukuoka (2003) A systematic study on the genus *Anisomysis* (Crustacea: Mysida: Mysidae), with descriptions of six new species. Bulletin of National Science Museum of Tokyo, Series A 29: 65–102.

Nouvel H (1973) Un Mysidacé nouveau de la Nouvelle-Calédonie: *Anisomysis thurneysseni* n. sp. Bulletin du Muséum National d’Histoire Naturelle, 3e série, Zoologie 124: 1453–1459.

Sawamoto S (2014) Current status of mysid taxonomy in Southeast Asia. Marine Research in Indonesia 39: 1–14. DOI: http://dx.doi.org/10.14203/mri.v39i1.80.

Sawamoto S, K Fukuoka (2005) Lists of mysid species and references for their identification in Southeast Asian waters. Bulletin of Institute of Oceanic Research and Development, Tokai University No. 26: 79–93. [In Japanese with English abstract.]

Sawamoto S, Y Hanamura (2017) A new species of the subgenus *Javanisomysis* in the genus *Anisomysis* Hansen, 1910 (Mysida, Mysidacea) from a sandy beach in Bali, Indonesia. Bulletin of National Museum of Nature and Science, Series A 43: 119–128.

Sawamoto S, K Srinui, M Moriya (2015) Re-definition of the
A new 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. Crustaceana 88 (7–8): 809–838.

Tattersall WM (1943) Biological results of the last cruise of the “Carnegie IV”. The mysids. In: Ault JP (Commander), Scientific results of cruise VII of the “Carnegie” during 1928–1929, Biology IV. Publications of the Carnegie Institution of Washington 555: 61–72.

Wittmann KJ, AP Ariani, JP Lagardère (2014) Orders Lophogastrida Boas, 1883, Stygiomysida Tchindonova, 1981, and Mysida Boas, 1883 (also known collectively as Mysidacea). In: Von Vaupel Klein JC, Charmantier-Daures M and Schram FR (eds) Treatise on zoology—anatomy, taxonomy, biology. The Crustacea. Revised and updated, as well as extended from the Traité de Zoologie, 4B. Brill, Leiden, pp. 189–396.