

## A New Leucosiid Crab of the Genus *Nursia* from the Ryukyu Islands

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**Abstract** A new species of the family Leucosiidae, *Nursia alata*, is described on the specimens from muddy flat of Ishigaki-jima and Iriomote-jima Islands in the southern Ryukyu Islands. This small species, with at most 3.7 mm in the width of carapace, is very close to *N. mimetica* Nobili known from Rikitea, but distinguished from it by combination of some features, e.g., contour of the carapace with the strongly developed front, epibranchial region and posterior margin, and details of the concavo-convex dorsal surface.

**Key words:** Crustacea, Brachyura, Leucosiidae, *Nursia alata*, Ryukyu.

More than 20 years ago, two collections of small crabs from muddy flats of Ishigaki-jima and Iriomote-jima Islands in the Yaeyama group, the Ryukyu Islands, were sent to the junior author for identification by Mr. Jiyusei Kanamoto of the Marine Biological Station, Ehime University and by Prof. Tadashige Habe of the Faculty of Marine Sciences, Tokai University. They were parts of the specimens sorted out from the materials for the studies on the subtropical brackish water ecosystem. Then, one of the leucosiid crabs was not identified to the species, but only to the genus *Nursia*.

Recently, we asked Prof. Danièle Guinot of the Muséum National d'Histoire Naturelle, Paris (MNHN) to get the chance to examine the type specimen of *N. mimetica* Nobili from Rikitea in the Tuamotu Archipelago which seems to be the most close relative of the species from the Ryukyu Islands, but is poorly known only by the original and additional descriptions in 1906 and 1907. Through her courtesy the authors received a syntype female for direct comparison, although in the original description were recorded two females. She suggested us that another syntype was deposited in the Museo Regionale di Scienze Naturali, Torino. To our inquiry to Dr. Lisa Levi, she kindly replied that there was neither the specimen nor the record of acceptance.

The direct comparison of the specimens from the Ryukyu Islands with the syntype of *N. mimetica* revealed that the specimens from the Ryukyu Islands were very

close to the species in question, but different in some characters mentioned below. In this paper the specimens from the Ryukyu Islands is described under the name of *N. alata*.

Before going into the description the authors wish to tender their acknowledgements to Drs. Danièle Guinot and Lisa Levi for kind assistance in the identification of the new species. Thanks are also due to Dr. Tadashige Habe, the Honorary Curator, the National Science Museum, Tokyo (NSMT), and Dr. Jiyusei Kanamoto, the Assistant Professor, the Marine Biological Station, Ehime University, for the valuable specimens.

Family Leucosiidae

Genus *Nursia* Leach, 1817

*Nursia alata* sp. nov.

[New Japanese name: Tsubasa-rokkaku-kobushi]

(Figs. 1 A–C, 2)

**Material examined.** Holotype, male (NSMT-Cr 12451), length of carapace including posterior lobes, 2.6 mm; breadth of carapace, 3.7 mm. Paratype, male (NSMT-Cr 12452), length of carapace including posterior lobes, 2.5 mm; breadth of carapace, 3.7 mm. — Nagura Bay, Ishigaki-jima I., Ryukyu Is.; Oct. 12, 1977; J. Kanamoto leg. Paratype, male (NSMT-Cr 12453), length of carapace including poste-

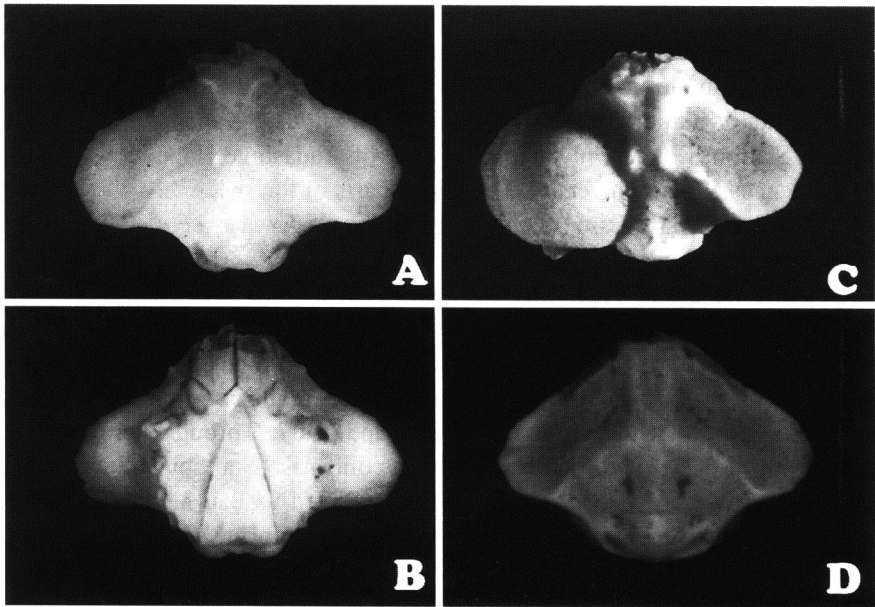


Fig. 1. *Nursia alata* sp. nov. A, B, Holotype, male (NSMT-Cr 12451; 2.6×3.7 mm), in dorsal and ventral views; C, paratype, male (NSMT-Cr 12452; 2.5×3.7 mm).

*Nursia mimetica* Nobili, 1906. D, Syntype, ovig. female (MNHN-B 17102; 2.6×3.7 mm).

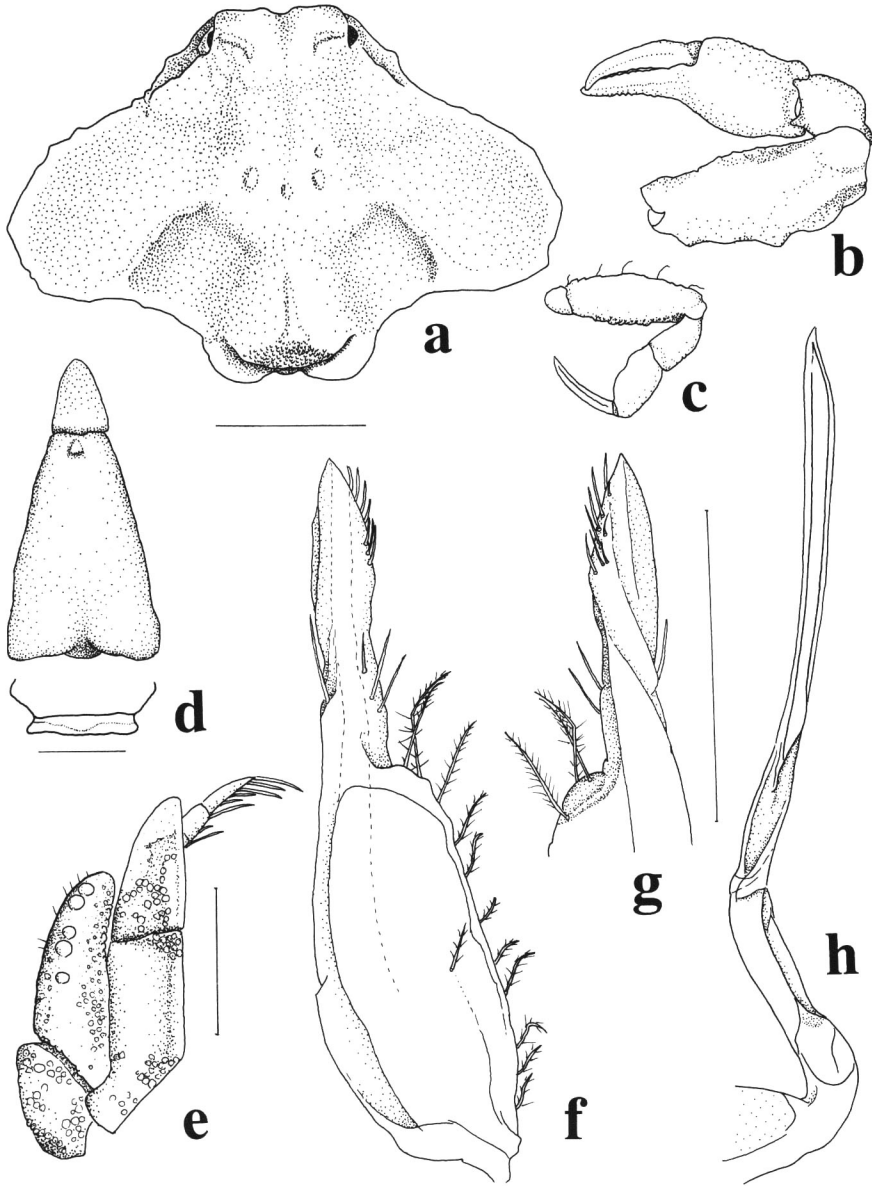


Fig. 2. *Nursia alata* sp. nov., holotype, male. a, Carapace, in dorsal view; b, right cheliped; c, right first ambulatory leg; d, abdomen; e, right third maxilliped; f, right first pleopod in sternal view; g, distal part of same in ventral view; h, right second pleopod. Scale for a-c=1 mm; scales for d, e and f-h=0.5 mm.

rior lobes, 2.6 mm; breadth of carapace, 3.8 mm. — Iriomote-jima I., Ryukyu Is.; May 5, 1977; T. Habe leg.

**Description of holotype.** Carapace dilated bulb-shaped, about 1.5 times broader than long; maximum breadth of carapace at junction of antero- and posterolateral margins; dorsal surface densely covered with minute and flat granules, provided with three ridges radiating from median part to posterior and posterolateral margins, *viz.*, two curved oblique ridges extending from cardiac region to each posterolateral margin and a longitudinal cardio-intestinal ridge; rim of carapace finely granulated. Front strongly developed, divided into two truncated lobes with a median shallow notch, one fourth as wide as carapace, slightly narrower than posterior margin. Pterygostomial margin developed, forming contour of carapace, elevated at the middle, with weak notch at posterior end. Gastric region weakly demarcated, with shallow longitudinal median groove. Cardiac region armed with two longitudinal small prominences. Epibranchial region foliaceous, sloped toward margin, but somewhat upturned; metabranchial region deeply concave. Intestinal region prominent, fallen triangular pyramid-shaped, beyond posterior margin. Anterolateral margin of carapace weakly angulated at its posterior third. Posterolateral margin gently converged for anterior third, but abruptly for posterior part. Posterior margin trilobated distinctly; lobe of each side semicircular, well-developed; median one small, situated at lower position, almost concealed under intestinal prominence.

Chelipeds stout, equal in shape and size, hardly covered with minute granules; posterior margin of merus sinuated; wrist short; palm bulgy; fingers slightly shorter than palm, its upper surface seemingly smooth, but covered with microscopical granules, both cutting edges with several teeth, immovable finger rimmed with low of rather minute granules on lower margin; tip of movable finger crossed on immovable one.

Ambulatory legs similar in shape, gradually decreasing in length from 1st to 4th, entirely covered with granules except for dactyli; each merus frilled with sparse hairs on upper margin, as long as combination of carpus and propodus; each carpus slightly shorter than propodus; each propodus as long as dactylus.

Third maxilliped narrow, wholly covered with microscopical granules; granules on merus weakened to distal point; ischium slightly shorter than merus along inner margin, rather convex longitudinally; merus naturally upturned; several larger beaded granules along distal two thirds of outer margin of exopod, with short hairs.

Abdomen elongate triangular, entirely covered with minute granules; abdominal formula 1+2+R+T; proximal two segments linear, indistinctly separated; main fused segment long, gently convex outward at each side of basal third, with a small triangular prominence just near distal margin; terminal segment triangular.

First pleopod not well calcareous, almost translucent; proximal three fifths broadened outward, with pulvose setae on outer margin; distal part narrow, with simple setae, sharply pointed at tip. Second pleopod slender, thin, slightly longer than first pleopod, distal two thirds set in first pleopod, but apex never protruded from tip

of first pleopod, proximal third exposed, curved ventrally.

**Notes on paratypes.** The paratype specimens are two males obtained from Ishigaki-jima and Iriomote-jima Islands, their size being almost equal to the holotype. Both specimens are infested by bopyrid parasites in the left branchial chamber and thus the carapace is strongly deformed with a spherical swelling at left branchial region. Compared with the holotype, the merus of the cheliped is slender, the frontal prominence is somewhat weaker, and the lobes of the posterior margin is smaller. These features seem to be caused by the parasite.

**Remarks.** The genus *Nursia* is hitherto composed of 16 species and 3 subspecies from the Indo-West Pacific waters. In these *Nursia* species, *N. mimetica* Nobili, 1906 from Rikitea, which was noted as mimicking the fragment of algae *Halimeda*, is very close to our new species. In the present paper the authors compared the specimens from the Ryukyu Islands with the syntype female preserved in the Muséum National d'Histoire Naturelle, Paris. The new species may be distinguished from the latter by that 1) the surface between the ridges is more deeply concave, 2) the lateral expansion is stronger so as to make the general contour of the carapace different, 3) the prominence of the cardiac region is stronger, and 4) the posterior margin is distinctly trilobated.

According to Serène & Soh (1976), the genus *Nursia* is still heterogeneous and will have to be limited to the species of the group A of Ihle (1918), composed of *N. lar* (Fabricius), *N. plicata* (Herbst), *N. sinuata* Miers, *N. blanfordi* Alcock and *N. nasuta* Alcock. It is probable that some species such as *N. rhomboidalis* (Miers) and *N. minor* (Miers), recently transferred to this genus, are also referred to the group A.

In this new species it is remarkable that the size of the carapace is obviously smaller than the species of the group A of Ihle (1918), and the second male pleopod is set in the first pleopod and is longer than the first pleopod. These features are not seen in some *Nursia* species, e.g., *N. plicata* (Herbst), *N. sinuata* Miers and *N. rubifera* Müller, as represented by Stephensen (1945), Campbell & Stephensen (1970) and Tirmizi & Kazmi (1979) respectively, so that after the detailed examination of the male pleopods of the other *Nursia* species a new genus may be established for this new species and *N. mimetica*.

**Etymology.** The name *alata* is Latin for "wing", alluding to the strongly developed lateral expansions of the carapace.

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