

Preliminary List of Terrestrial Isopod Crustaceans from the Northern Mariana Islands, Micronesia

Noboru Nunomura

Toyama Science Museum
1-8-31, Nishinakano-machi, Toyama 939, Japan

Abstract Terrestrial isopods collected from the northern Mariana Islands were studied, and 19 species belonging to 8 families were recorded, although identification has not been completed. All of them are records for the first time from the northern Marianas.

Key words: Northern Mariana Islands, Isopods, terrestrial.

The northern Mariana Islands are located in the western Pacific between 16°22'N and 20°32'N. A faunal survey of the terrestrial soil animals on the islands was carried out by scientists from the Natural History Museum and Institute, Chiba, during the period from 10 May to 11 June, 1992. This short paper preliminarily reports isopods collected during the expedition. The taxonomic research is difficult and has not yet been completed, because both the taxonomic and biogeographical studies on the terrestrial isopod crustaceans in Micronesia, including the Marianas and their neighboring areas, have been largely ignored. Therefore, accurate identification may be left to future studies.

Methods

The islands investigated were, from north to south, Uracas, Maug North, Maug East, Maug West, Asuncion, Agrihan, Pagan, Alamagan, Guguan, Sarigan and Anatahan. Sampling was carried out using a Tullgren funnel, hand-sorting and other methods in the terrestrial environment and splash zones in coastal areas. Terrestrial isopod crustaceans were collected together with other soil animals. Later, the specimens were handed over to me for identification. See Kurozumi (1994) for detailed information on the sampling sites and their abbreviation forms. The specimens are deposited at the Natural History Museum and Institute, Chiba.

Results

Nineteen species belonging to 8 families were recorded as a result of the study. Information about the materials includes the number of specimens examined, name of the island and sampling site, date in 1992 and collector. Abbreviations of the collectors are as follows: AA = Akira Asakura, SM = Shinya Miyano, TF = Tatsuo Furuki and TK = Taiji Kurozumi.

List of Collected Species

Family Ligiidae

1. *Ligia* sp. (aff. *yamanishii* Nunomura, 1990)

Material examined. 1 ex., AGRIHAN, st. B, splash zone, May 29, AA.

Family Trichoniscidae

2. *Trichoniscidae* sp.

Material examined. 2 exs., AGRIHAN, Ag-1, east valley, alt. 35 m, May 28, TK; 1 ex., AGRIHAN, Ag-2, north west coast, alt. 200 m, May 29, TK; 1 ex., AGRIHAN, Ag-4, center of the islands, alt. 400 m, May 31, TF; 1 ex., PAGAN, P-3, southwest coast, alt. 10 m, May 25, TK; 14 exs., ALAMAGAN, southwest slope, alt. 330 m, May 19, TK; 1 ex. (cephalon lacking), ALAMAGAN, southwest coast, June 9, TK; 1 ex., ANATAHAN, southwest slope, May 13, TK.

Family Scyphacidae

3. *Alloniscus* sp.1 (aff. *boninensis* Nunomura,

1984)

Material examined. 5 exs., ASUNCION, southwest coast, June 7, TK.

4. *Alloniscus* sp. 2

Material examined. 2 exs., MAUG, E. Is, June 2, TK; 1 ex., ALAMAGAN, Al-3, southwest coast, alt. 5 m, June 9, TK.

Family Philosciidae

5. *Setaphora* sp. 1

Material examined. 1 ex., ASUNCION, southwest coast, June 7, TK; 17 exs., AGRIHAN, Ag-1, west slope, alt. 35 m, May 25, TK; 1 ex., AGRIHAN, west coast, May 28, TK; 1 ex., AGRIHAN, Ag-2, northwest slope, alt. 200 m, May 29, TK; 11 exs., AGRIHAN, Ag-3, southwest slope, alt. 400 m, May 29, TK; 3 exs., AGRIHAN, Ag-4, center of the island, alt. 400 m, May 31, TK; 1 ex., PAGAN, P-1, west coast, 55 m, May 24, TK; 1 ex. (young), PAGAN, P-2, southwest slope, alt. 225 m, May 25, TK; 36 exs., PAGAN, P-3, southwest coast, alt. 10 m, May 25, TK; 27 exs., PAGAN, southwest coast, May 25, TK; 13 exs., ALAMAGAN, Al-1, southwest slope, alt. 365 m, May 19, TK; 6 exs., ALAMAGAN, Al-2, southwest slope, alt. 250 m, May 19, TK; 6 exs., ALAMAGAN, Al-3, southwest coast, alt. 5 m, June 9, TK; 2 exs., ALAMAGAN, southwest slope, June 9, SM; 1 ex., GUGUAN, G-1, southwest valley, alt. 60 m, May 17, TK; 5 exs., GUGUAN, G-2, southwest slope, alt. 220 m, May 17, TK; 2 exs., SARIGAN, S-2, west slope, alt. 270 m, May 15, TK; 1 ex., SARIGAN, west slope, alt. 110–315 m, May 15, TK; 2 exs., SARIGAN, S-3, center of the island, alt. 300 m, May 15, TK; 60 exs., ANATAHAN, An-2, northwest valley, alt. 165 m, May 11, TK; 1 ex., ANATAHAN, An-3, southwest slope, alt. 165 m, May 12, TK.

6. *Setaphora* sp. 2

Materials examined. 2 exs., MAUG, E Is., northwest coast, June 2, TK; 2 exs., MAUG, E Is., northwest coast, June 2, TK; 1 ex., AGRIHAN, west coast, May 28, TK; 2 exs., ALAMAGAN, southwest slope, June 9, SM; 1 ex., SARIGAN, west slope, alt. 110–315 m, May 15, TK.

7. *Setaphora* sp. 3

Materials examined. 1 ex., AGRIHAN, village, May 30, TK.

8. Philosciidae sp.

Material examined. 1 ex., AGRIHAN, village, May 30, TK.

Family Oniscidae

9. Oniscidae sp.

Material examined. 1 ex., PAGAN, P-3, southwest coast, alt. 10 m, May 25, TK; 1 ex., PAGAN, southwest coast, alt. 0–200 m, May 25, TK.

Family Trachelipidae

10. *Nagurus* sp. 1

Material examined. 1 ex., MAUG, E Is., M-1, ridge, June 2, TK; 1 ex., MAUG, E Is., west side, June 5, TK; 2 exs., MAUG, W Is., M-2, ridge, alt. 105 m, June 5, TK; 2 exs., AGRIHAN, Ag-3, northwest coast, alt. 10 m, May 29, TK; 4 exs., GUGUAN, G-1, southwest valley, alt. 60 m, May 17, TK.

11. *Nagurus* sp. 2

Material examined. 1 ex., MAUG, E Is., northwest side, June 2, TK; 1 ex., ANATAHAN, An-1, northwest coast, alt. 10 m, May 11, TK; 6 exs., ANATAHAN, An-2, northwest slope, alt. 105 m, May 11, TK.

12. *Nagurus* sp. 3

Material examined. 1 ex., MAUG, E Is., M-1, ridge, June 2, TK.

13. *Nagurus* sp. 4

Material examined. 1 ex., ALAMAGAN, west coast, June 9, SM.

Family Porcellionidae

14. *Porcellionides pruinosus* (Brandt, 1833)

Material examined. 1 ex., MAUG, E Is., west side, June 4, TK; 1 ex., MAUG, E Is., west side, June 5, TK; 1 ex., ASUNCION, west coast, June 1, TK; 10 exs., ASUNCION, southwest coast, June 7, TK.

Family Armadillidae

15. *Hybodillo* sp.

Material examined. 3 exs., PAGAN, P-1, west coast, alt. 55 m, May 24, TK; 1 ex., ALAMAGAN, Al-3, southwest coast, June 9, TK; 7 exs., GUGUAN, G-1, southwest slope, alt. 60 m, May 17, TK; 32 exs., GUGUAN, G-2, southwest peak, alt. 220 m, May 17, TK.

16. *Sphaerillo* sp. 1

Material examined. 8 exs., PAGAN, P-1, west

coast, alt. 55 m, May 24, TK; 1 ex., PAGAN, west coast, May 24, SM; 4 exs., PAGAN, Gakeyama, May 24, TK.

17. *Sphaerillo* sp. 2

Material examined. 2 exs., MAUG, E Is., M-1, ridge, alt. 120 m, June 2, TK; 1 ex., MAUG, E Is., west slope, June 4, TK; 3 exs., MAUG, E Is., west slope, June 5, TK; 1 ex., ASUNCION, southwest coast, June 7, TK; 1 ex., AGRIHAN, north coast, May 29, TK; 4 exs., AGRIHAN, west coast, May 28, TK; 2 exs., AGRIHAN, west coast, May 28, SM; 1 ex., AGRIHAN, north coast, May 31, TK; 3 exs., SARIGAN, west slope, alt. 110–315 m, May 15, TK; 1 ex. (young), SARIGAN, west slope, May 15, SM; 1 ex. (young), ANATAHAN, An-2, northwest valley, alt. 165 m, May 11, TK; 1 ex., ANATAHAN, An-3, southwest slope, May 12, TK.

18. *Sphaerillo* sp. 3

Material examined. 4 exs., GUGUAN, G-1, southwest valley, alt. 60 m, May 17, TK; 2 exs., GUGUAN, G-2, southwest peak, alt. 220 m, May 17, TK; 2 exs., GUGUAN, west slope, May 18, SM.

19. *Sphaerillo* sp. 4

Material examined. 2 exs., PAGAN, southwest coast, alt. 0–200 m, May 25, TK; 8 exs., ANATAHAN, northwest coast, May 11, TK.

Juveniles including manca stage (species could not be identified)

4 exs., ASUNCION, As-1, west slope, alt. 190 m, June 1, TK; 1 ex., AGRIHAN, Ag-3, northwest coast, alt. 10 m, May 29, TK; 1 ex., PAGAN, P-2, southwest slope, alt. 225 m, May 25, TK; 2 exs., PAGAN, P-3, southwest coast, alt. 10 m, TK; 1 ex., PAGAN, P-3, southwest coast, alt. 10 m, TK; 2 exs., ANATAHAN, An-1, northwest coast, alt. 10 m, May 11, TK; 1 ex., ANATAHAN, An-2, northwest valley, alt. 185 m, May 12, TK; 2 exs., ANATAHAN, An-3, southwest slope, alt. 60 m, May 12, TK.

Discussion

As a result of the study, 19 species belonging to 8 families were recorded from the northern Mariana Islands, although accurate identification is not yet complete. As a whole, the terrestrial isopod fauna of these islands seems to be similar to those of the Ryukyu and Ogasawara (Bonin) Islands (Nunomura, 1983, 1984,

1986, 1987, 1990, 1992) at both the family and genus level. However, as for the species level, almost all the species are considered to be endemic to the northern Mariana Islands. The number of genera common to Melanesia (Vandel, 1973) is lower than that to the northern Mariana Islands.

Acknowledgments

I wish to express my gratitude to Mr. Taiji Kurozumi and other scientists of the Natural History Museum and Institute, Chiba, for their kindness in giving me the opportunity to study such an interesting collection.

References

- Kurozumi, T. 1994. Preliminary report on soil macrofauna from the northern Mariana Islands, Micronesia. In Asakura, A and T. Furuki (eds.), Biological Expedition to the Northern Mariana Islands, Micronesia. Nat. Hist. Res., Special Issue (1): 103–106.
- Nunomura, N. 1983. Studies on the terrestrial isopod crustaceans in Japan. I. Taxonomy of the families Ligiidae, Trichoniscidae and Olibiridae. Bull. Toyama Sci. Mus. 5: 23–68.
- Nunomura, N. 1984. Studies on the terrestrial isopod crustaceans in Japan. II. Taxonomy of the family Scyphacidae. Bull. Toyama Sci. Mus. 6: 1–43.
- Nunomura, N. 1986. Studies on the terrestrial isopod crustaceans in Japan. III. Taxonomy of the families Scyphaciade (continued), Marinoniscidae, Halophilosciidae, Philosciidae and Oniscidae. Bull. Toyama Sci. Mus. 9: 1–72.
- Nunomura, N. 1987. Studies on the terrestrial isopod crustaceans in Japan. IV. Taxonomy of the Trachelipidae and Porcellionidae. Bull. Toyama Sci. Mus. 11: 1–76.
- Nunomura, N. 1990. Studies on the terrestrial isopod crustaceans in Japan. V. Taxonomy of the families Armadillidiidae, Armadillidae and Tylidae. Bull. Toyama Sci. Mus. 13: 1–58.
- Nunomura, N. 1991. Studies on the terrestrial isopod crustaceans in Japan. VI. Further supplements to the taxonomy. Bull. Toyama Sci. Mus. 14: 1–26.
- Nunomura, N. 1992. Studies on the terrestrial isopod crustaceans in Japan. VII. Supplements to the taxonomy-3. Bull. Toyama Sci. Mus. 15: 1–23.
- Vandel, A. 1973. Les isopodes terrestres (Oniscoidea) de la Mélanésie. Zool. Verhadel. 125: 1–160.