

広島大学学術情報リポジトリ

Hiroshima University Institutional Repository

Title	Argulus japonicus (Branchiura: Argulidae) parasitic on a freshwater minnow, Opsariichthys platypus (Cyprinidae): the second record from Shikoku, western Japan
Author(s)	Nagasawa, Kazuya
Citation	Biogeography , 19 : 150 - 152
Issue Date	2017-09-20
DOI	
Self DOI	
URL	http://ir.lib.hiroshima-u.ac.jp/00044327
Right	(c) 日本生物地理学会論文ファイルの利用は著作権の範囲内に限り認められます。
Relation	



***Argulus japonicus* (Branchiura: Argulidae) parasitic on a freshwater minnow, *Opsariichthys platypus* (Cyprinidae): the second record from Shikoku, western Japan**

Kazuya Nagasawa*

Graduate School of Biosphere Science, Hiroshima University,
1-4-4 Kagamiyama, Higashi-Hiroshima, Hiroshima 739-8528, Japan

Abstract. An immature female of *Argulus japonicus* Thiele, 1900 was collected from the caudal fin of a freshwater minnow, *Opsariichthys platypus* (Temminck & Schlegel, 1846), in a brook, Kochi Prefecture, Shikoku, western Japan. This is the second record of *A. japonicus* from Shikoku and a new prefectural record for the species in Japan.

Key words: *Argulus japonicus*, Branchiura, fish parasite, *Opsariichthys platypus*, Shikoku, new prefectural record

Shikoku is one of the four major islands of Japan with 18,297 km². Many species of freshwater fishes are found in Shikoku (*e.g.*, 199 species recorded from the Shimanto River, Otsuka *et al.*, 2010), but little information is available on their parasites, especially crustacean parasites. Only three species of them have so far been recorded from this island: one copepod, *Lernaea cyprinacea* Linnaeus, 1758 (Lernaeidae) (Kasahara, 1962; Nagasawa, 2013) and two branchiurans, *Argulus japonicus* Thiele, 1900 (Nagasawa *et al.*, 2010) and *Argulus coregoni* Thorell, 1864 (both Argulidae) (Nagasawa & Ikeda, 2011; Yuasa, 2014). During a parasitological survey of freshwater fishes in Shikoku, a specimen of *A. japonicus* was collected from the caudal fin of a freshwater minnow, *Opsariichthys platypus* (Temminck & Schlegel, 1846) (Cypriniformes: Cyprinidae). This is the second record of *A. japonicus* from this island.

The infected fish, 72 mm in standard length, was collected in a brook (the Nakayama River,

33°29'23"N, 133°24'26"E), a tributary of the Hage River within the Niyodo River system, at Hasuike, Tosa, Kochi Prefecture, on 21 April 2017. The fish was transported alive to the laboratory of Hiroshima University, Higashi-Hiroshima, where the specimen of *A. japonicus* was carefully removed from the fish, fixed and preserved in 70% ethanol. The specimen is deposited in the Crustacea (Cr) collection of the National Museum of Nature and Science, Tsukuba, Ibaraki Prefecture (NSMT-Cr 25568). The scientific and common names of fishes used in this paper follow Nakabo (2013) and Froese & Pauly (2017), respectively.

The specimen of *A. japonicus* collected (Fig. 1) is an immature female, measuring 3.2 mm long and 2.2 mm wide. The species was originally described by Thiele (1900) based on a female specimen from Tokyo, Japan, where the species has so far been recorded from various species of cyprinids from various localities (Nagasawa, 2009, 2011; Nagasawa *et al.*, 2012; Yamauchi & Shimizu, 2013). Recently, it was also found on Amur catfish, *Silurus asotus* Linnaeus, 1758 (Siluriformes: Siluridae) in captivity (Nagasawa

*Corresponding author: ornatus@hiroshima-u.ac.jp

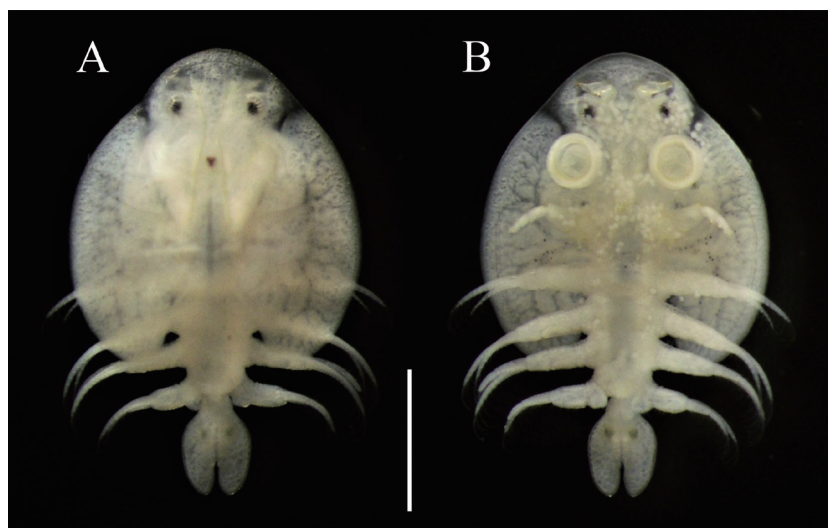


Fig. 1. *Argulus japonicus*, immature female, NSMT-Cr 25568, from the caudal fin of *Opsariichthys platypus* in a brook, Kochi Prefecture, Shikoku. Alcohol-preserved specimen. A, dorsal view; B, ventral view. Scale bar: 1 mm.

et al., 2010; Yamauchi *et al.*, 2011). In Shikoku, *A. japonicus* has been recorded only from Ehime Prefecture (Nagasawa *et al.*, 2010), and the present collection represents the first record of the species from Kochi Prefecture. The collection is also the second record of *A. japonicus* from *O. platypus* because this fish species has only recently become recognized as a host of *A. japonicus* (Nagasawa & Sato, 2014). In the brook where the specimen of *A. japonicus* was collected, two other cyprinids, dark chub, *Candidia temminckii* (Temminck & Schlegel, 1846), and gimbuna, *Carassius* sp., were observed and may serve as hosts for *A. japonicus* as well.

References

- Froese, R. & Pauly, D. (Eds), 2017. FishBase. World Wide Web electronic publication. www.fishbase.org, version (06/2017). (Accessed on 16 June 2017).
- Kasahara, S., 1962. Studies on the biology of the parasitic copepod *Lernaea cyprinacea* Linnaeus and the methods for controlling this parasite in fish-culture ponds. *Contr. Fish. Lab., Fac. Agri., Univ. Tokyo*, **3**: 103–196. (In Japanese with English abstract).
- Nagasawa, K., 2009. Synopsis of branchiurans of the genus *Argulus* (Crustacea, Argulidae), ectoparasites of freshwater and marine fishes, in Japan (1900–2009). *Bull. Biogeogr. Soc. Japan*, **64**: 135–148. (In Japanese with English abstract).
- Nagasawa, K., 2011. The biology of *Argulus* spp. (Branchiura, Argulidae) in Japan: a review. In Asakura, A. *et al.* (Eds), *New Frontiers in Crustacean Biology*, Proceedings of the TCS Summer Meeting, Tokyo, 20–24 September 2009. *Crust. Monogr.*, **15**: 15–21.
- Nagasawa, K., 2013. *Lernaea cyprinacea* (Copepoda: Lernaeidae) parasitic on freshwater fishes in Ehime Prefecture, Shikoku, Japan. *Biosphere Sci.*, **52**: 55–58.
- Nagasawa, K. & Ikeda, Y., 2011. First record of the fish ectoparasite *Argulus coregoni* Thorell (Crustacea: Branchiura) from Shikoku, Japan. *Biosphere Sci.*, **50**: 55–58.
- Nagasawa, K. & Sato, H., 2014. Two crustacean parasites, *Argulus japonicus* (Branchiura) and *Lernaea cyprinacea* (Copepoda), from freshwater

- fishes in Gunma Prefecture, Japan, with a new host record for *A. japonicus*. *Bull. Gunma Mus. Nat. Hist.*, **18**: 65–68.
- Nagasawa, K., Katahira, H. & Mizuno, K., 2010. New host and locality of the fish ectoparasite *Argulus japonicus* (Crustacea, Branchiura, Argulidae) in Japan, with a note on its heavy infection. *Biogeography*, **12**: 17–20.
- Nagasawa, K., Murase, T., Yanagi, S. & Maeno, K., 2012. *Argulus japonicus* Thiele (Crustacea, Branchiura) from Kyushu, western Japan, with a note on its heavy infection of koi carp (*Cyprinus carpio*) and Japanese crucian carp (*Carassius cuvieri*). *Biosphere Sci.*, **51**: 15–20. (In Japanese with English abstract).
- Nakabo, T. (Ed), 2013. *Fishes of Japan with Pictorial Keys to the Species. Third Edition*. 1 + 2428 pp., Tokai Univ. Press, Hadano. (In Japanese).
- Otsuka, T., Nomura, S. & Sugimura, M., 2010. *Fish-guide of Shimanto-gawa*. 163 pp., Miyamiyanma Club, Tokyo. (In Japanese).
- Thiele, J., 1900. Diagnoses neuer Arguliden-Arten. *Zool. Anz.*, **23**: 46–48.
- Yamauchi, T. & Shimizu, M., 2013. New host and distribution records for the freshwater fish ectoparasite *Argulus japonicus* (Crustacea: Branchiura: Argulidae). *Comp. Parasitol.*, **80**: 136–137.
- Yamauchi, T., Nakano, H. & Nagasawa, K., 2011. Infection with *Argulus japonicus* on Amur catfish *Silurus asotus* in an aquarium. *Japan. J. Limnol.*, **72**: 211–214. (In Japanese with English abstract).
- Yuasa, A., 2014. [Diseases of culture amago salmon and control of infectious diseases]. *Newslet. Tokushima Pref. Fish. Res. Inst.*, **88**: http://www.pref.tokushima.jp/_files/00596572/s_dayori88-3.pdf

(Received June 26, 2017; Accepted August 22, 2017)