A new species of *Pardosa* (Araneae: Lycosidae) from Sadogashima Is., Japan

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Abstract — A new species, *Pardosa albomarginata*, is described from Sadogashima Is., Niigata Prefecture, Japan.

Key words — *Pardosa albomarginata*, Niigata, paddy field

Introduction

Pardosa is well studied genus in Japan (Tanaka 1993a–d, 1998, 2005), and 28 species have been recorded from the country to date. However, there have been few studies on the attached islands other than Ryukyu Is. Recently, we obtained many specimens of undescribed species of the genus from paddy fields on Sadogashima Island, the largest island near northern coast of Honshu, Japan. It is described as a new species in this paper.

Specimens were preserved in 75% ethanol, and their morphological features were observed under stereoscopic microscope M3Z (Wild Heerbrugg AG, Heerbrugg, Switzerland). The photos of male palp and epigyne were taken by digital camera EOS Kiss X7 (Canon Inc., Tokyo, Japan) connected to the stereoscopic microscope. The type series designated in this study are deposited in the collection of the Department of Zoology, National Museum of Nature and Science, Tokyo (NSMT).

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Pardosa albomarginata n. sp.

[Japanese name: Herijiro-komorigumo]
(Figs. 1–5)

Type series. All the specimens were collected by A. Ohwaki & C. Endo unless noted otherwise. Holotype. ♂, 9-VI-2011, western part of Kuninaka Plain, Sadogashima Is., Niigata Pref., Japan (NSMT-Ar 12392). Paratypes. 1♀3♂, 8-VI-2011, 2♀, 9-VI-2011, 1♀, 5-VII-2011, the same locality as the holotype (NSMT-Ar 12393–12399). 1♀1♂, 25-V-2013, Sawane, same island (N38.00615 E138.26013), Y. G. Baba & A. Tanikawa leg. (NSMT-Ar 12400–12401).

Other specimens examined. 31♀11♂, collected from the same locality as the holotype in June or July, 2011.

Etymology. The specific name is derived from the markings on the carapace.

Diagnosis. The general appearance of *P. albomarginata* (Figs. 1, 2) resembles *P. plumipes* (Thorell 1875) (see Chikuni 1989, p. 114, fig. 27), but the two can be easily distinguished by the shape of the epigyne and male palp. The septum of epigyne is much larger in *P. plumipes* (Tanaka 1993, fig. 9) compared to that in *P. albomarginata* (Fig. 3). The tegular apophysis of the male palp is more robust and larger in *P. plumipes* (see Tanaka 1993, fig. 11) compared to that in *P. albomarginata* (Fig. 5). The shape of the epigyne and male palp of *P. albomarginata* closely resemble those of *P. isago* Tanaka 1977, although the general appearances of these species are quite different from each other. The carapace of *P. albomarginata* has three white bands in the middle and on both sides (Figs. 1 and 2), while in *P. isago* the carapace appears almost uniformly dark grey in life (see Chikuni 1989, p. 115, fig. 32) and these bands remain indistinct in alcohol. The male 1st tarsus and metatarsus of *P. isago* also has many long hairs (Tanaka 1993), whereas *P. albomarginata* does not have this feature (Fig. 2).

Description. Measurements. ♂/♀, measurements in parentheses indicate the range among type series. Body 7.60 (6.80–7.60)/9.50 (7.60–11.23) long. Carapace 3.84 (3.44–3.84)/4.44 (3.96–4.69) long; 3.00 (2.56–3.00)/3.25 (3.03–3.50) wide. Length of legs [tarsus + metatarsus + tibia + patella + femur = total]: I, 1.76 + 2.28 + 2.20 + 1.32 + 2.80 = 10.36/1.88 + 2.50 + 2.56 + 1.64 + 3.24 = 11.82; II, 1.68 + 2.28 + 2.04 + 1.32 + 2.76 = 10.08/1.88 + 2.40 + 2.36 + 1.60 + 3.20 = 11.44; III, 1.60 + 2.60 + 2.00 + 1.24 + 2.68 = 10.12/1.88 + 3.04 + 2.32 + 1.52 + 3.08 = 11.84; IV, 2.16 + 4.08 + 2.84 + 1.40 + 3.48 = 13.96/2.12 + 4.24 + 3.20 + 1.48 + 3.64 = 14.68. Abdomen 3.60 (2.92–3.60)/4.69 (3.60–5.94) long; 2.12 (2.00–2.36)/3.13 (2.44–3.94) wide.

Figs. 1–5. *Pardosa albomarginata* n. sp. 1, female with egg sac (paratype, NSMT-Ar 12400); 2, male (paratype, NSMT-Ar 12401); 3, epigyne, ventral view (paratype, NSMT-Ar 12397); 4, same, dorsal view; 5, male palp, ventral view (holotype, NSMT-Ar 12392). Scales = 5 mm (1–2); 0.25 mm (3–5).

Female and male. Carapace longer than wide [length divided by width 1.28 (1.28–1.34)/1.37 (1.29–1.42)]. Median ocular area wider than long [length divided by width 0.58 (0.57–0.58)/0.57 (0.56–0.59)]; wider in front than behind [anterior width divided by posterior width 1.28 (1.28–1.31)/1.33 (1.32–1.35)]. Labium wider than long [length divided by width 0.65 (0.59–0.74)/0.84 (0.60–0.84)]. Sternum slightly longer than wide [length divided by width 1.12 (1.12–1.20)/1.12 (1.08–1.17)]. Length of leg I divided by length of carapace 2.70 (2.64–2.84)/2.66 (2.29–2.66). Male palp (Fig. 5): tegular apophysis small, with small process projecting basally. Abdomen longer than wide [length divided by width 1.70 (1.46–1.70)/1.50 (1.48–1.57)]. Epigyne (Figs. 3–4): width of septum between pockets wider than near base.

Distribution. Japan (Sadogashima Is., Niigata Pref.).

Notes. The epigyne and male palp of *P. albomarginata* resemble the figures of *P. lyrifera* Schenkel 1936 made by several authors (Yu & Song 1988, figs. 1–2; Chen & Zhang 1991, figs. 206.1–4; Kim & Yoo 1997, figs. 9, 22–23, 40–41; Yin et al. 1997, fig. 105; Kim 1999, p.1, fig. 7–9; Song et al. 1999, figs. 195Q, 196A; Hu 2001, figs. 94.1–4; Song et al. 2001, figs. 156A–D), but these figures do not agree with the original one described by Schenkel (1936, fig. 77). The epigyne of *P. lyrifera* appears to have a large septum,

but all of the figures made by the above authors do not have such a large septum. Thus, these identifications seem to be wrong, and it is likely that these specimens seem to be conspecific with *P. albomarginata* or another species not described yet.

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