

Three New Species of Genus *Pardosa* from Korea  
(Araneae : Lycosidae)

Tae Ho Jo\* and Kap Yong Paik\*\*

(\*Dept. of Biology, Graduate School, Kyungpook University

\*\*Dept. of Biology, Coll. of Sci. and Engin., Keimyung University)

긴마디늑대거미屬의 3新種 (蜘蛛目 : 늑대거미科)

曹台鎬\* · 白甲鏞\*\*

(\*慶北大學校 大學院 生物學科 · \*\*啓明大學校 理工大學 生物學科)

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摘 要

1979年 10月까지 우리나라 全域에서 採集된 긴마디늑대거미屬 (*Pardosa*) 4,300 個體를 整理한 結果 3新種 *Pardosa herbosa* n. sp. (풀늑대거미), *P. Koreana* n. sp. (한국늑대거미), *P. hanrasanensis* n. sp. (한라늑대거미)가 發見되었기에 그 記載와 함께 報告한다. 우리나라 긴마디늑대거미屬은 위 3新種이 追加되어 12種이 記錄된다.

INTRODUCTION

So far, nine species of the genus *Pardosa* have been reported from Korea by several investigators. In the present studies the authors examined about 4,300 specimens of *Pardosa* which were collected by the authors and deposited in Kyungpook University.

As a result of this study they found three species which are new to science. Type-specimens are deposited in Dept. of Biology, College of Education, Kyungpook National University, Daegu, Korea.

TERMINOLOGY

BL : Body length

CW : Carapace width

SL : Sternum length

CL : Carapace length

CI : Carapace index

SW : Sternum width

SI : Sternum index	AL : Abdomen length
AW : Abdomen width	AI : Abdomen index
LBL : Labium length	LBW : Labium width
LBI : Labium index	EDL : Endite length
EDW : Endite width	EDI : Endite index
EDCI : Endite converging index	CPW : Cephalic width
CPWI : Cephalic width index	EAI : Eye area index
ERI : Eye row index	AER : Anterior eye row
PER : Posterior eye row	AME : Anterior median eye
ALE : Anterior lateral eye	PME : Posterior median eye
PLE : Posterior lateral eye	
dAME (dPME) : The diameter of AME (PME)	
LF : Leg formula	LFI : Leg formular index
Leg I I/C : Total length of leg I/ Length of carapace	
Fem. I I/C : Femur length of leg I/ Length of carapace	
AME-AME (AME-ALE, PME-PME) : The distance between AME and AME (AME and ALE, PME and PME)	
MOQ (POQ) : Median (Posterior) ocular quadrangle	
AS, PS, HI : Anterior side, Posterior side, Height of MOQ (POQ)	

## DESCRIPTIONS

### *Pardosa herbosa* n. sp.

**Measurement** (mm): Female (Holotype); BL 4.69, CL 2.45 CW 1.83, AL 2.38 AW 1.66, SL 1.10 SW 0.97, LBL 0.24 LBW 0.31, EDL 0.51 EDW 0.31, CPW 1.20, AER 0.53, PER 1.12, Leg I 7.00 (1.95, 0.82, 1.77, 1.54, 1.05), II 6.63 (1.79, 0.82, 1.64, 1.54, 1.02), III 6.40 (1.74, 0.74, 1.43, 1.66, 0.95), IV 10.25 (2.55, 0.90, 2.35, 3.21, 1.38), Palp 2.95 (0.92, 0.49, 0.72, ..., 0.90)

Male (Allotype); BL 4.35, CL 2.42 CW 1.73, AL 2.10 AW 1.28, SL 1.09 SW 0.85, LBL 0.26 LBW 0.31, EDL 0.54 EDW 0.32, CPW 1.14, AER 0.49, PER 1.10, Leg I 6.19 (1.64, 0.74, 1.54, 1.46, 0.97), II 5.48 (1.59, 0.72, 1.43, 0.95, 0.92), III 5.93 (1.56, 0.67, 1.36, 1.61, 0.87), IV 8.75 (2.18, 0.82, 2.02, 2.69, 1.20), Palp 2.67 (0.90, 0.46, 0.59, ..., 0.90)

**Female (Holotype)**; Carapace dark brown, with yellow median band; marginal and submarginal patterns distinct; median groove red-brown, CI 78. Side of face vertical, CPWI 66. AER weakly procurved in frontal view, and shorter than the second eye row; PER strongly recurved. ERI 47; EAI 93. Eye ratio, PME>PLE>AME>ALE (21:17:6:5). MOQ, PS>HI>AS (54:29:16). POQ, PS>AS>HI (67:54:51). AME-AME, AME-ALE and Clypeus respectively 0.7, 0.4 and 1.7 times of dAME. PME-PME 0.9 times

of dPME.

Chelicerae yellowish brown, with dark brown stripes on frontal side; with 3 teeth on each margin, the proximal one of the promarginal teeth very minutes and indistincts. Endite brown. EDI 61. EDCI 59. Labium greyish brown, with the basal articular notches about one-fifth its length, LBI 129. Sternum pale brown, with a narrow dark line along the margins, SI 85.

Legs yellowish brown, with annulations; 4 on femora and tibiae, 3 on metatarsi, 1 on patellae. LF 4, 1, 2, 3, LFI 100:95:91:146. Leg I I/C 2.99, Fem. I I/C 0.82. Abdomen ovoid; dorsum greyish brown with yellow lanceolate pattern and speckles distinct. AI 70.

Epigynum and genitalia as shown in Fig. 1.

**Male (Allotype)**; Coloration and structure like that of female, but the body size rather

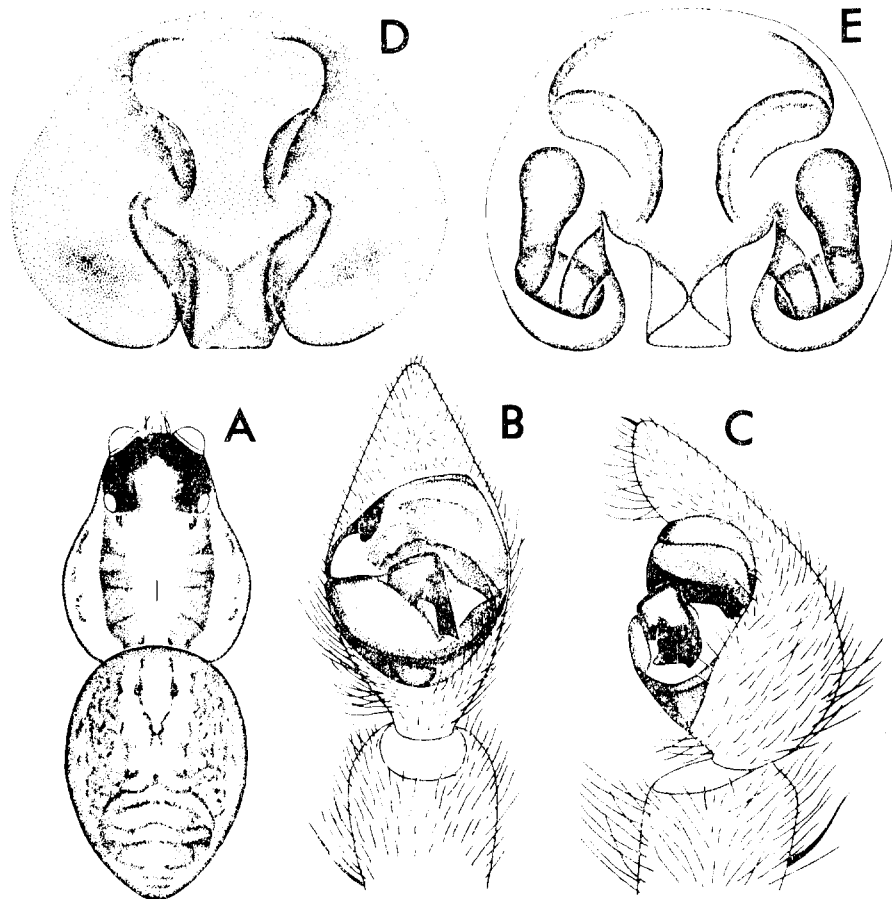


Fig. 1. *Pardosa herbosa* n. sp

A: Holotype B: Male, Palp, Ventral view C: Same, Ectal view D: Female, Epigynum, Ventral view E: Female, Genitalia, Dorsal view

smaller than female. ERI 45, EAI 97. Eye ratio, PME>PLE>AME>ALE (20:15:6:5). MOQ, PS>HI>AS (53:27:16). POQ, PS>AS>HI (64:53:52). AME-AME, AME-ALE and Clypeus respectively 0.8, 0.4 and 1.6 times of dAME. PME-PME 0.8 times of dPME. LBI 119. EDI 59. EDCI 41. SI 78. LF 4, 1, 3, 2. LFI 100:89:96:141. Leg I I/C 2.68, Fem. I I/C 0.73. AI 61.

Median apophysis of palp characteristic; tarsi with one claw.

**Etymology.** The specific name derived from latin adjective "herbosus" that means grassy.

**Specimens examined.** Holotype: ♀, 15-VII-1964. Socheon, Bongwha-gun, Kap Yong Paik. Allotype: ♂, 15-VI-1975. Mt. Geumjeongsan, Busan city, Jae Ho Kim. Paratypes: 1 ♀, 24-VI-1979. Mt. Jirisan, Gurae-gun, 6 ♀♀, 23-IX-1978. Pocheon-gun, 3 ♀♀, 23-VI-1978. Tongdosa, Yangsan-gun, 1 ♂ 1 ♀, 21-VII-1979. Jeju Is., Tae Ho Jo. 1 ♂, 3-VII-1979. Daegu city, 2 ♀♀, 10-VII-1978. Jigjisa, Geumreung-gun, Suck Rak Sohn. 6 ♀♀, same data to Holotype, 2 ♀♀, 30-VI-1964. Jeju Is., Kap Yong Paik. 1 ♀, 2-X-1958. Mt. Gasan, Chilgog-gun, 1 ♀, 15-VIII-1957. Mt. Sobaegsan, Yeongju-gun, Eui In Paik. 1 ♀, 9-IX-1964. Gwangreung, Yangju-gun, Yong Ki Kim. 1 ♀, 21-VIII-1975. Seomyeon, Uljin-gun, Bo Keun Seo. 5 ♂♂, same data to Allotype, Jae Ho Kim. 1 ♀, 23-IX-1979. Jeju Is., Eun Sug Kim.

**Remarks:** This species resembled to *Pardosa astrigera* L. Koch, 1878, but the yellow median band of carapace is very wider than the latter species (Bosenberg und Strand, 1906). The epigynal guide of the former species is quadrangle, and that of the latter species is pentagonal (Yaginuma, 1974).

The median apophysis of palp of *Pardosa herbosa* is not so slender as *P. astrigera*, while, that of the former species is rectangular (Fox, 1935).

This species mainly lives in grassland.

### ***Pardosa Koreana* n. sp.**

**Measurement** (mm): Female (Holotype); BL 6.57, CL 3.08 CW 2.63, AL 3.89 AW 2.22, SL 1.58 SW 1.21, LBL 0.43 LBW 0.49, EDL 0.82 EDW 0.43, CPW 1.53, AER 0.68, PER 1.22, Leg I 11.01 (2.93, 1.36, 2.83, 2.63, 1.46), II 10.66 (2.83, 1.31, 2.63, 2.68, 1.46), III 10.36 (2.73, 1.26, 2.42, 2.63, 1.52), IV 14.68 (3.53, 1.41, 3.38, 4.54, 2.02), palp 3.84 (1.17, 0.67, 0.95, ..., 1.23)

Male (Allotype); BL 4.60, CL 2.45 CW 2.00, AL 2.45 AW 1.55, SL 1.28 SW 1.05, LBL 0.27 LBW 0.32, EDL 0.61 EDW 0.34, CPW 1.21, AER 0.54, PER 1.00, Leg I 8.18 (2.12, 1.01, 2.07, 2.07, 1.11), II 7.88 (2.02, 0.96, 1.87, 2.07, 1.11), III 8.28 (2.07, 0.96, 1.82, 2.37, 1.16), IV 11.17 (2.68, 1.06, 2.53, 3.48, 1.62), Palp 2.94 (0.95, 0.51, 0.56, ..., 1.00)

**Female (Holotype);** Carapace dark greyish brown when alive, but brown in alcohol; median and marginal light bands less distinct than the other species; median groove dark

red-brown, distinct. CI 85. Sides of face slightly slanting, CPWI 58.

AER slightly procurved in frontal view and shorter than the second eye row; PFR strongly recurved. ERI 56, EAI 80. Eye ratio,  $PME > PLE > AME > ALE$  (20:18:10:7).  $MOQ, PS > HI > AS$  (54:34:24).  $POQ, PS > AS > HI$  (73:54:52).  $AME-AME, AME-ALE$  and Clypeus respectively 0.6, 0.2 and 1.0 times of dAME.  $PME-PME$  0.8 times of dPME. Clypeus with four bristles in transverse row.

Chelicerae brown, with 3 teeth on each margin, but the proximal one of the promarginal teeth very minutes. Endite brown, EDI 52, EDCI 78. Labium brown, suffused with dark grey, with basal articular notches about one-fourth its length; wider than the length. LBI

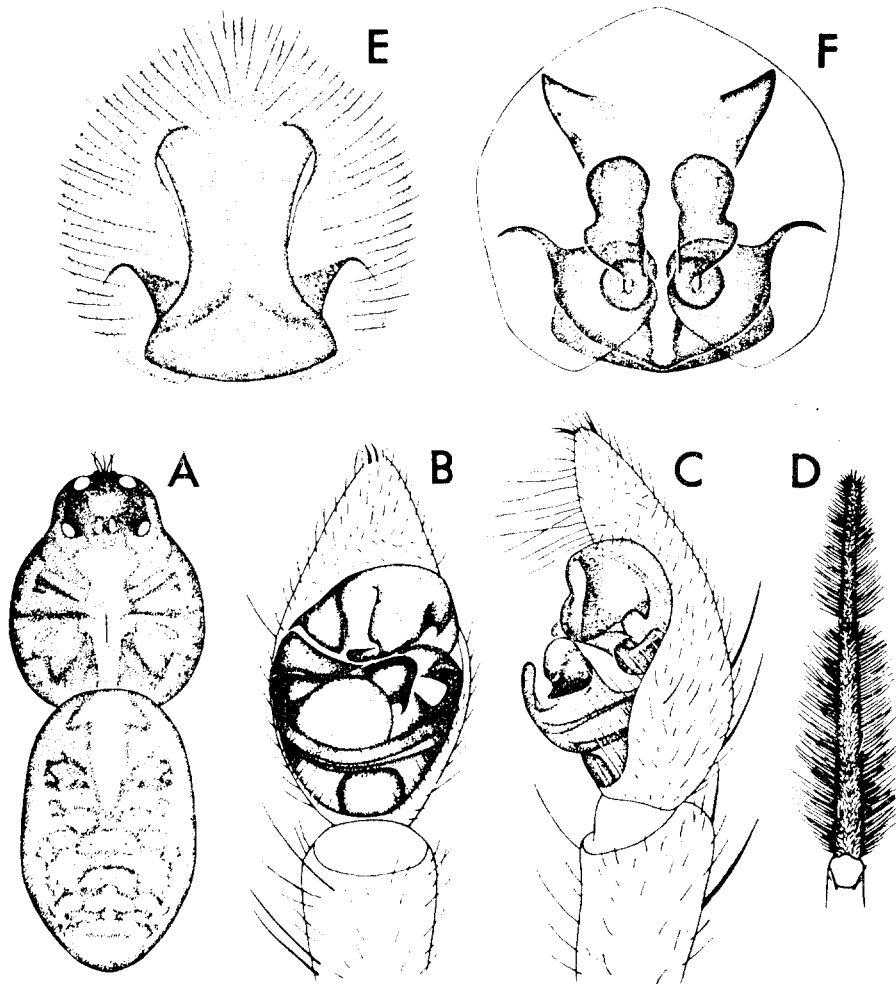


Fig. 2. *Pardosa Koreana* n. sp.

A: Holotype B: Male, Palp, Ventral view C: Same, Ectal view D: Male, 1st Leg, Ventral view E: Female, Epigynum, Ventral view F: Female, Genitalia, Dorsal view

116. Sternum brownish yellow, SI 77. Legs brown with annulations; 4 on femora and tibiae, 3 on metatarsi. LF 4, 1, 2, 3. LFI 100:97:94:133. Leg I I/C 3.46, Fem. I I/C 0.92.

Abdomen ovoid; dorsum black-brown, lanceolate cardiac mark distincts, and about five pairs of same colored speckles followed the cardiac pattern; about six pairs of white pubescent spots run on the both sides of above mentioned mark; venter greyish yellow.

AI 57. Guide of epigynum longer than the width, spatulate shape. Genitalia with one pair of small spermathecae.

**Male (Allotype):** General features similar, but considerably smaller than the female. ERI 54, EAI 83. Eye ratio, PME>PLE>AME>ALE (18:15:8:6). MOQ, PS>HI>AS (45:29:20). POQ, PS>AS>HI (60:45:43). AME-AME, AME-ALE and Clypeus respectively 0.6, 0.1 and 0.9 times of dAME. PME-PME 0.8 times of dPME. LBI 119, EDI 56, EDCI 50, SI 83, LF 4, 3, 1, 2. LFI 100:96:101:137. Leg I I/C 2.71, Fem. I I/C 0.87. Leg I with many long straight hairs on metatarsi and tarsi. AI 59.

Tarsi of palp with bristles and two claws; median apophysis triangular shape in ventral view.

**Etymology.** The specific name derived from "Korea".

**Specimens examined.** Holotype: ♀, 11-VIII-1978. Heunggusa, Yecheon-gun, Tae Ho Jo. Allotype: ♂, same data to holotype, Tae Ho Jo. Paratypes: 8♀♀ 4♂♂, 10-VIII-1978. Wando Is., Wandogun, 3♀♀, same data to holotype, 1♀, 28-VI-1979. Bogyongs-sa, Yeongil-gun, Suck Rak Schn. 1♀, 22-VII-1962. Chungju city, Joon Namkung. 1♀, 15-X-1977. Bogyongs-sa, Yeongil-gun, 2♀♀, 14-VII-1978. Wando Is., Wando-gun, Bo Keun Seo.

**Remarks:** This species has a resemblance to *Pardosa monticola* (Clerck, 1758). *P. koreana* has a broaden median band between the posterior eyes, but that of *P. monticola* is very narrow (Lockett and Millidge, 1951). The median apophysis of palp of the former species does not branched as the latter species (Tongiorgi, 1966a and 1966b). This species allied to *P. isago* Tanaka, 1977 in external feature, but it differs from the *P. isago* as follows; In *P. koreana*, submarginal band of carapace narrow and indistinct, epigynal guide longer than the width.

#### ***Pardosa hanrasanensis* n. sp.**

**Measurement** (mm): Female (Holotype); BL 5.32, CL 2.53 CW 1.77, AL 3.13 AW 1.94, SL 1.16 SW 0.96, LBL 0.31 LBW 0.34, EDL 0.60 EDW 0.34, CPW 1.12, AER 0.48, PER 0.97, Leg I 7.33 (2.02, 0.91, 1.77, 1.57, 1.21), II 7.13 (1.92, 0.91, 1.72, 1.57, 1.16), III 7.08 (1.87, 0.81, 1.57, 1.82, 1.11), IV 10.61 (2.58, 0.91, 2.47, 3.28, 1.52), Palp 2.91 (0.87, 0.49, 0.72, ..., 0.97)

Male (Allotype); BL 4.08, CL 2.17 CW 1.53, AL 2.10 AW 1.24, SL 1.00 SW 0.82, LBL 0.22 LBW 0.28, EDL 0.49 EDW 0.25, CPW 0.94, AER 0.43, PER 0.84, Leg I

6.29 (1.63, 0.72, 1.53, 1.48, 1.01), II 5.80 (1.58, 0.69, 1.36, 1.33, 0.96), III 5.59 (1.43, 0.64, 1.26, 1.51, 0.87), IV 8.41 (2.02, 0.74, 1.83, 2.62, 1.28), Palp 2.50 (0.77, 0.45, 0.49, ..., 0.79)

**Female (Holotype)**; Carapace dark brown, with distinct yellowish brown median, marginal and submarginal bands; margin of the thoracic parts narrowly hemmed with black; median groove dark reddish brown. CI 70. Sides of face almost vertical, CPWI 63. AER slightly procurved in frontal view, PER strongly recurved. ERI 49, EAI 87. Eye ratio, PME>PLE>AME>ALE (17:14:6:5). MOQ, PS>HI>AS (46:30:27). POQ, PS>AS>HI (58:46:45). AME-AME, AME-ALE and Clypeus respectively 0.4, 0.4, and 1.3 times of dAME. PME-PME same to dPME.

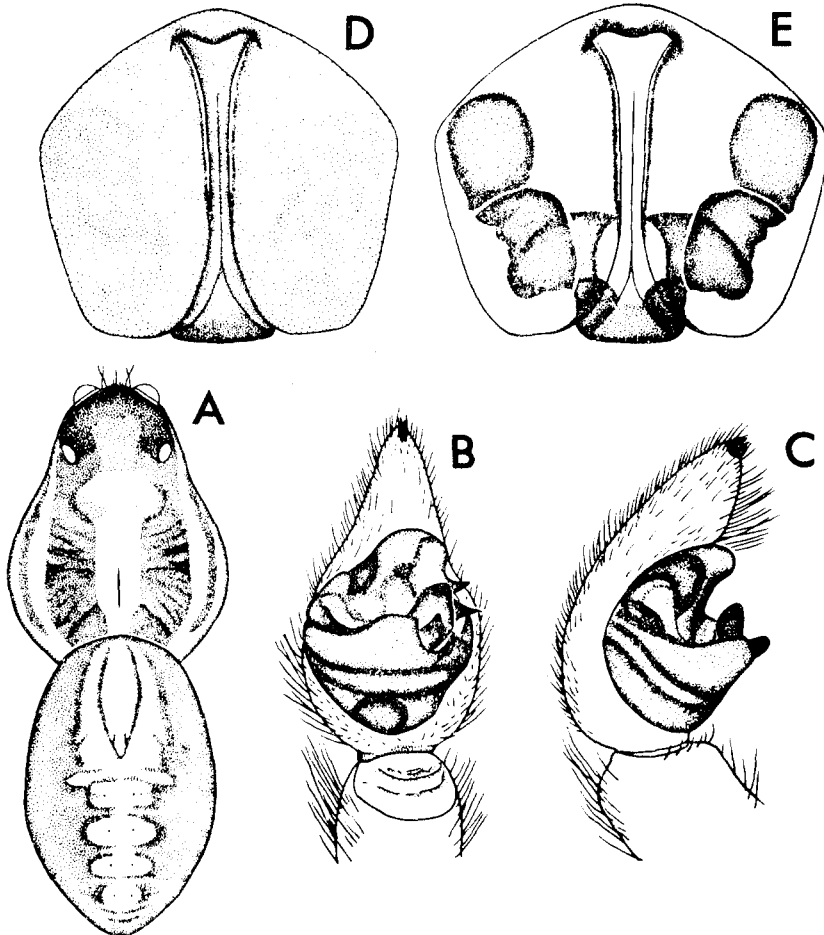


Fig. 3. *Pardosa hanrasanensis* n. sp.

A: Holotype B: Male, Palp, Ventral view C: Same, Inner view D: Female, Epigynum, Ventral view E: Female, Genitalia, Ventral view

Chelicerae yellow-brown, with dark brown stripes in frontal and ectal sides; 3 teeth on each margin but the proximal one of the margin very minute. Endite greyish brown; longer than width, EDI 55. Labium brown, with basal articular notches about one-fifth its length, LBI 111. Sternum yellowish brown, with dark oval mark in the center, SI 83. Leg brown, with faint annulations on femora and tibiae, and one longitudinal dark stripe on both sides of femora. LF 4, 1, 2, 3. LFI 100:97:97:145. Leg I I/C 2.90, Fem. I I/C 0.77.

Abdomen ovoid; dorsum blackish brown, with brown lanceolate cardiac mark and ovoid speckles, chevrons arranged alternatively followed the cardiac mark; venter yellowish brown.

The septum of epigynum narrow and longitudinal, broaden in anterior and posterior distal parts. Genitalia with one pair of crooked large spermathecae.

**Male (Allotype):** Body rather smaller and darker than the female. Carapace; median, marginal and submarginal bands brown and not conspicuous as female, CI 71. AME-AME same to dAME. ERI 52, EAI 89. Legs rather shorter than the female, LF 4, 1, 2, 3, LFI 100:92:89:134.

**Etymology.** The specific name derived from the mountain Hanrasan where the type-specimen was collected.

**Specimens examined.** Holotype; ♀, 8-VIII-1958. Mt. Hanrasan, Jeju Is., Hi Jong Lee. Allotype; ♂, same data to holotype. Hi Jong Lee. Paratype; 1♀, same data to holotype. Hi Jong Lee.

**Remarks:** This species is closely related to *Pardosa bifasciata* (C. L. Koch, 1834), but they differ in that the former species has crooked patterns of the large spermatheca, and the posterior epigynal guide does not extend toward lateral margin as *P. bifasciata* (F. and M. Dahl, 1927).

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