

One Newly Recorded Spider of the Genus *Pacifiphantes* from Korea (Araneae: Linyphiidae)

Seung-Tae Kim*, Joon Namkung¹, Joon-Ho Lee and Hong-Hyun Park²

Entomology program, School of Agricultural Biotechnology, Seoul National University, Seoul 151-921, Republic of Korea

¹933 Wabu-eup, Namyangju 472-902; ²Dept. of Entomology, NIAST, RDA, Suwon, 441-707, Republic of Korea

한국산 *Pacifiphantes*속의 1 미기록종(거미목: 접시거미과)

김승태* · 남궁준¹ · 이준호 · 박홍현²

서울대학교 농생명공학부 곤충학 전공, ¹남양주시 와부읍 933, ²농업과학기술원 농업해충과

ABSTARCT : One tiny spider species belonging to Linyphiidae, *Pacifiphantes zakharovi* Eskov et Marusik, 1994 is newly recorded to the Korean spider fauna. The genus *Pacifiphantes* is the first record from Korea.

KEY WORDS : Description, Linyphiidae, *Pacifiphantes zakharovi*, Korea

초 록 : 지금까지 국내에 알려져 있지 않던 접시거미과의 미기록종인 점봉접시거미(*Pacifiphantes zakharovi* Eskov et Marusik, 1994)(신칭)을 기재하였다. *Pacifiphantes*속은 한국에서는 처음으로 기록되는 속이다.

검색어 : 기재, 접시거미과, *Pacifiphantes zakharovi*, 한국

The genus *Pacifiphantes* of Linyphiidae was erected by Eskov and Marusik (1994), who designated as *Pacifiphantes zakharovis* based on the male from southern Russian Far East as type species. To date, only 2 valid species of this genus, *P. magnificus* (Chamberlin et Ivie, 1943) and *P. zakharovi*, has been recorded in the world (Platnick 2004).

The *Pacifiphantes* spiders can be distinguished by the very short embolus and suprategular apophysis as well as by the not protruding epigyne with a clearly delimited parma (Eskov and Marusik 1994). They are often numerous in the localities where they live, and are not very conspicuous. They live secluded, usually on the ground in forest and bank of stream, in grass and loose ground litter, and build small and delicate webs.

The present paper describe 1 unrecorded spider species *P. zakharovi* belonging to the genus *Pacifiphantes* which is the first record from Korea.

Materials and Methods

The external morphology was examined and illustrated using a stereoscopic microscope; measurements were made with an ocular micrometer in mm. Body measurements are listed as "length × width". Leg measurements are given as Leg # total length (femur, patella + tibia, metatarsus and tarsus). Pedipalp measurements are given as total length (femur, patella + tibia, cymbium). In the leg measurements "-" indicates a missing segment. The following abbreviations are used: E, CS and SA = embolus, cephalothoracic sulci and suprategular apophysis; AER, PER = anterior and posterior eye rows. Female genitalia was illustrated after dissolving extraneous tissue with 10% KOH solution for 24 hours.

*Corresponding author. E-mail: stkim2000@hanmail.net

Taxonomic Account

Family Linyphiidae Blackwall, 1859

Genus *Pacifiphantes* Eskov et Marusik, 1994

점봉점서거미속(신칭)

Pacifiphantes Eskov & Marusik, 1994: 49, type *P. zakharovi* Eskov & Marusik, 1994

Pacifiphantes zakharovi Eskov et Marusik, 1994 점봉점서거미(신칭)(Figs. 1-10)

Pacifiphantes zakharovi Eskov & Marusik, 1994: 49,

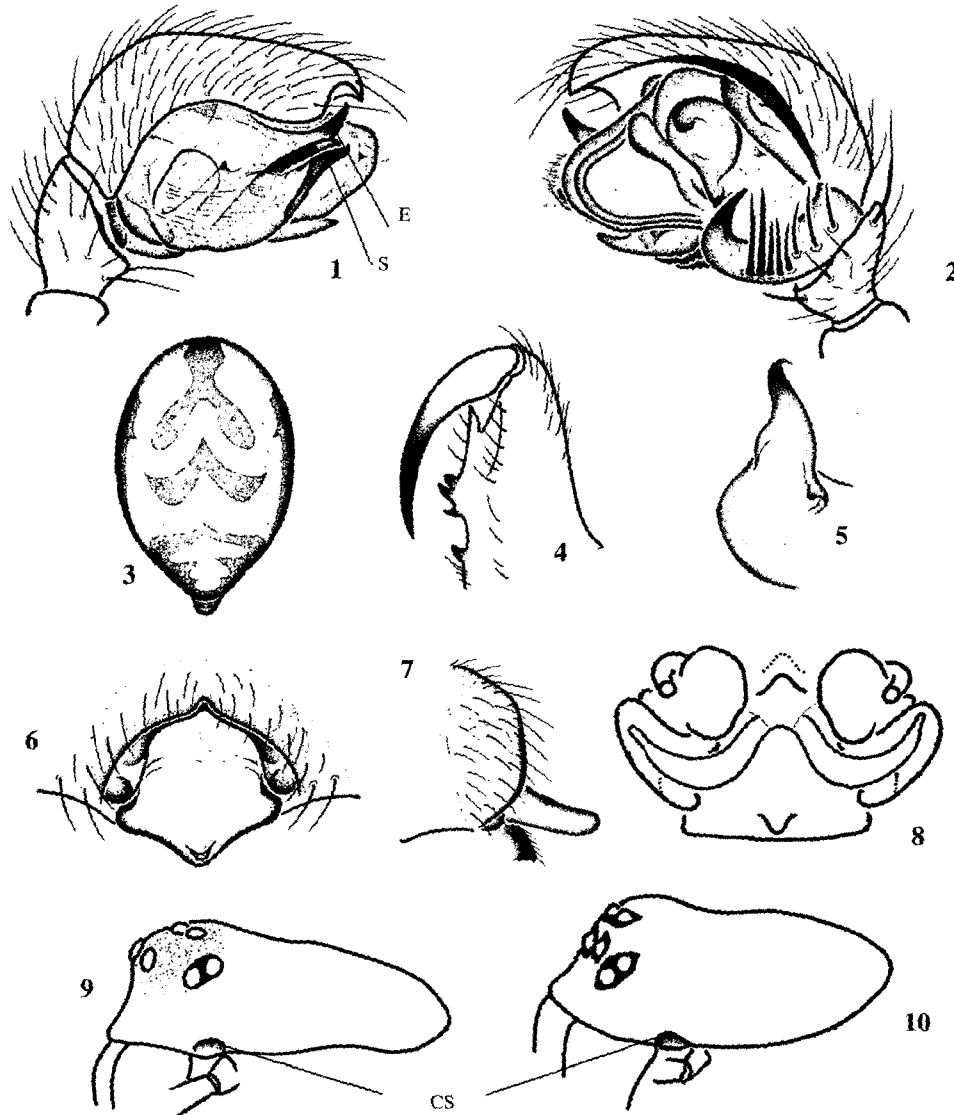
f. 41-44; Marusik & Koponen, 2000: 62

Kaestneria rahmanni Tao, Li & Zhu, 1995: 247, f. 82-90; Song, Zhu & Chen, 1999: 181, f. 100H-I, M

Specimens Examined - 1 Female and 1 male from Jumbong-san (Mt.), Gangwon-do, Korea (28 August 1999; S.T. Kim and J.H. Lee), deposited in the Laboratory of Insect Ecology, Seoul National University, Seoul, Korea.

Measurements

Female - Body length 1.21. Carapace 0.46×0.39 . Abdomen 0.77×0.56 . Chelicerae 0.84×0.32 . Endite



Figs. 1-10. *Pacifiphantes zakharovi* Eskov et Marusik, 1994. 1. Left male palp, prolateral view; 2. Left male palp, retrolateral view; 3. Female abdomen, dorsal view; 4. Male chelicera; 5. Suprategular apophysis of the male palpal organ; 6. Female epigynum, ventral view; 7. Female epigynum, lateral view; 8. Female genitalia, ventral view; 9. Cephalothoracic sulci, male; 10. Cephalothoracic sulci, female.

0.39 × 0.25. Labium 0.21 × 0.05. Sternum 0.84 × 0.74. Eye row length: AER 0.07. PER 0.11. Legs: I, 6.63 (1.86, 2.07, 1.65, 1.05); II, 6.06 (1.75, 1.89, 1.47, 0.95); III, 4.81 (1.40, 1.51, 1.16, 0.74), IV, 6.03 (1.75, 1.86, 1.51, 0.91); Pedipalp, 1.68 (0.49, 0.56, -, 0.63)

Male - Body length 1.19. Carapace 0.60 × 0.44. Abdomen 0.63 × 0.42. Chelicerae 0.85 × 0.36. Endite 0.53 × 0.32. Labium 0.23 × 0.07. Sternum 0.91 × 0.88. Eye row length: AER 0.08. PER 0.11. Legs: I, 8.73 (2.34, 2.56, 1.98, 1.85); II, 7.67 (2.13, 2.20, 2.13, 1.21); III, - (0.99, -, -, -); IV, - (1.35, -, -, -); Pedipalp, 1.64 (0.50, 0.50, -, 0.64).

Description

Female - Carapace dark brown. Cervical groove black and indistinct, and median groove black. Both of the eye rows nearly straight. Cephalothoracic sulci elliptically shaped, located anteriorly on margin of carapace, between chelicerae and pedipalpal trochanters (Fig. 10). Chelicerae dark brown, armed with 5 promarginal teeth and 4 very small retromarginal teeth. Sternum convex, blackish brown. Legs yellowish brown without distinct pattern, leg formula I-II-IV-III. Abdomen ovoid and dull grayish brown, sharply defined black chevron and transverse bar patterns dorsally, venter black, a broad longitudinal stripe laterally. Spinneret dark brown, surrounded with black marking. Posterior median plate of epigynum projected conspicuously as seen laterally (Fig. 7). Genitalia shown in Fig. 8.

Male - Similar to female in general appearance, but with smaller and slender body with longer legs. Position of cephalothoracic sulci as in female (Fig. 9). Chelicerae armed with 4 promarginal teeth, 3 at

middle part in row and 1 at basal part of chelicerae (Fig. 4). Palpal organ with 8 long and thick hairs projected from basal part of J-shaped paracymbium (Fig. 2). Suprategular apophysis hook-shaped (Fig. 5).

Distribution - Korea (Jumbong-san (Mt.), Gangwon-do), China, Russia

Ecological remarks - This species was collected in the plant debris at the mountain side (800 m altitude).

Acknowledgements

This work was supported by the Brain Korea 21 Project.

Literature cited

- Eskov, K.Y. and Y.M. Marusik. New data on the taxonomy and faunistics of North Asian linyphiid spiders (Aranei Linyphiidae). *Arthropoda Selecta* 2: 41~79.
- Marusik, Y.M. and S. Koponen. 2000. New data on spiders (Aranei) from the Maritime Province, Russian Far East. *Arthropoda Selecta* 9: 55~68.
- Platnick, N.I. 2004. The world spider catalog, version 4.5. American Museum of Natural History, online at <http://research.amnh.org/entomology/spiders/catalog81~87/index.html> [cited 25 May 2004].
- Song, D.X., M.S. Zhu and J. Chen. 1999. The Spiders of China. Hebei Sci. Technol. Publ. House, 640pp, Shijiazhuang.
- Tao, Y., S.Q. Li and C.D. Zhu. 1995. Linyphiid spiders of Changbai Mountains, China (Araneae: Linyphiidae: Linyphiinae). *Beitr. Araneol.* 4: 241~288.

(Received for publication 2 June 2004;
accepted 20 August 2004)