

Carniella coreana sp. nov., a new comb-footed spider (Araneae: Theridiidae) from Korea

Seung Tae Kim^{1,*} and Jung Sun Yoo²

¹Life and Environment Research Institute, Konkuk University, Seoul 05029, Republic of Korea

²Division of Animal Resources, National Institute of Biological Resources, Incheon 22689, Republic of Korea

*Correspondent: stkim2000@hanmail.net

A new species of Theridiidae, *Carniella coreana* sp. nov., is described and illustrated from Korea. The male of this newly described species is most similar to *Carniella tsurui* Ono, 2007 in the general shape of its palp, but can be distinguished by the winding structure of the embolus and broad tipped and twisted embolic apophysis. The genus *Carniella* Thaler & Steinberger, 1988 is newly recorded to Korean spider fauna.

Keywords: Araneae, Theridiidae, *Carniella coreana* sp. nov., description, Korea

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INTRODUCTION

Only thirteen spiders of the genus *Carniella* Thaler & Steinberger, 1988 of Theridiidae have been described worldwide (World Spider Catalog, 2018). Most of the spiders belonging to this genus have been described in Southeast Asia (Indonesia, Thailand, and Taiwan). One species has been described in Europe, four in China, and one from Angola in Africa (Table 1).

During the survey of the rice field spider fauna, males of the genus *Carniella* was collected by pitfall traps trapped at levees around rice ecosystem. In this paper, the male of *C. coreana* sp. nov. is described as a new species with measurements and morphological illustrations. The external morphology was examined using a stereoscopic dissecting microscope (LEICA, S8APO) and illustrated. Photographs of the body were taken with a CANON 650D with 60 mm macro-lens. Measurements of each part of the body were taken with an ocular micrometer scale and are recorded in millimeters. Scale bars in the figures are also recorded in millimeters. Leg and palp (left) measurements are given as “leg number, total length (femur, patella + tibia, metatarsus, tarsus)”. Abbreviations used are as follows: ALE = anterior lateral eye; AME = anterior median eye; PLE = posterior lateral eye; PME = posterior median eye; AER = anterior eye row and PER = posterior eye row in eye region. The examined specimens were deposited in the collection of National Institute of Biological resources (NIBR), Korea.

Table 1. Described spiders of the genus *Carniella*.

Scientific name	Described gender	Distribution
<i>C. brignolii</i>	♀♂	Belgium, Switzerland, Germany, Austria, Romania
<i>C. detriticola</i>	♀	Angola
<i>C. foliosa</i>	♂	China
<i>C. forficata</i>	♂	China
<i>C. globifera</i>	♀♂	Indonesia
<i>C. krakatauensis</i>	♂	Indonesia
<i>C. orites</i>	♀	Thailand
<i>C. schwendingeri</i>	♂	Thailand
<i>C. siam</i>	♀♂	Thailand
<i>C. strumifera</i>	♀♂	China
<i>C. tsurui</i>	♂	Taiwan
<i>C. weyersi</i>	♀	China, Indonesia

TAXONOMIC ACCOUNT

Family Theridiidae Sundevall, 1833

Genus *Carniella* Thaler & Steinberger, 1988

턱꼬마거미속 (신칭)

Body length about 1 mm; clypeus with an outgrowth; trichobothrium of metatarsus III absent; male palp with retrobasal paracymbium; female with an unpaired genital opening (Wunderlich, 2008).

Type species: *Carniella brignolii* Thaler & Steinberger, 1988.

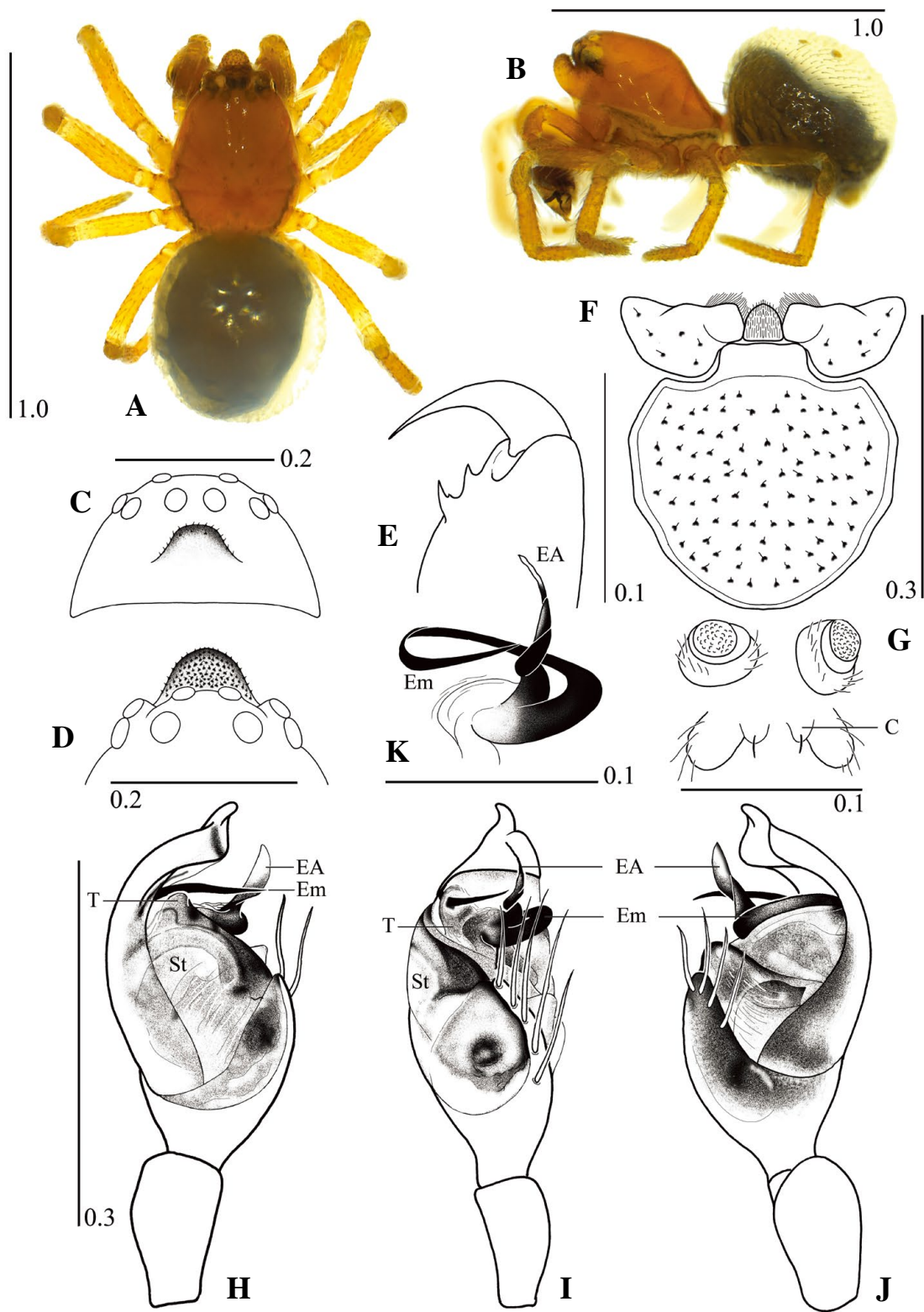


Fig. 1. *Carniella coreana* sp. nov. male (holotype) from Gangwon-do, Korea.: A. Body, dorsal view (paratype in habitus). B. Body, lateral view (paratype in habitus). C. Carapace, frontal view. D. Eye area, dorsal view. E. Left chelicera, ventral view. F. Endite, labium and sternum, ventral view. G. Spinnerets. H. Left palp, prolateral view. I. Same, ventral view. J. Same, retrolateral view. K. Embolic part, ventral view. C, colulus; EA, embolic apophysis; Em, Embolus; St, subtegulum. Scale bars in mm.

***Carniella coreana* sp. nov.**

한국턱꼬마거미 (신칭) (Fig. 1A-K)

Type materials. Holotype: ♂ from Jangheung-ri, Jangheung-eup, Cheorwon-gun, Gangwon-do, Korea (127°15'30.5"E, 38°11'59.8"N), 20 May 2017, S.T. Kim and S.Y. Lee. Paratype: 2♂♂, same data as holotype; 1♂, same data as holotype, 30 May 2017, S.T. Kim and S.Y. Lee.

Etymology. The specific epithet is a noun in apposition derived from the Korea where the types were collected.

Diagnosis. The male of newly described species is most similar to *C. tsurui* Ono, 2007 in the general shape of its palp, but can be easily distinguished by winding structure of embolus and broad tipped and twisted embolic apophysis.

Measurements. Total length 1.10 (habitus). Carapace 0.52 long, 0.40 wide. Eye; ALE 0.04, AME 0.02, PLE 0.03, PME 0.03; AME-AME 0.02, AME-ALE 0.03, AME-PME 0.03, PME-PME 0.06, PME-PLA 0.03, ALE-PLA contiguous; AER 0.22, PER 0.23. Chelicera 0.19 long, 0.09 wide. Endite 0.08 long, 0.14 wide. Labium 0.05 long, 0.04 wide. Sternum 0.27 long, 0.30 wide. Legs; I, 1.05 (0.32, 0.36, 0.20, 0.17); II, 0.96 (0.32, 0.32, 0.14, 0.18); III, 0.79 (0.24, 0.26, 0.12, 0.17); IV, 1.04 (0.31, 0.37, 0.16, 0.20). Abdomen 0.60 long, 0.52 wide.

Description. Male (holotype). Carapace: dark yellowish brown, oval, lustrous, several long setae at middle, longer than wide; head region flat, thoracic region with black marginal stripes slope gently; cervical furrow and radial furrow distinct, fovea indistinct, slightly depressed (Fig. 1A, B); clypeal outgrowth round, small warts with a short hair dorsally (Fig. 1A-D). Eyes: ALE largest, interdistance between PME-PME farthest; PER slightly longer than AER; AER almost straight and PER recurved from front, AER recurved and PER almost straight from above. Chelicera: weak, dark yellowish brown; two promarginal teeth, lower tooth larger with small projection (Fig. 1E). Endite and labium: dark yellowish brown, endite wider than long (Fig. 1F). Sternum: dark yellowish brown, round, slightly convex, wider than long; covered densely with small warts bearing a short hair; not protrude between fourth coxae (Fig. 1F). Legs: short and thick, yellowish brown, semi-trans-

parent, hairy without spines, no annuli; I≠IV-II-III. Abdomen: grayish brown, globular, hairy, no particular pattern with two pairs of muscle impressions, longer than wide (Fig. 1A, B); venter grayish brown. Spinnerets: pale grayish brown, anterior spinnerets largest and posterior ones poorly developed; colulus small with a pair of setae (Fig. 1G). Male palp (Fig. H-J): tibia short and simple without spines and trichobothria; cymbium slender and semi-transparent with long transparent setae, distally modified with a finger-shaped process; embolus filate and winding with a twisted and broad tipped embolic apophysis (Fig. 1K).

Ecological remarks. Present species was collected by pitfall traps at levees around traditional rice ecosystem.

Distribution. Korea (new record).

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