

Description of the Male of *Alloclubionoides ovatus* (Arachnida: Araneae: Amaurobiidae) from Korea

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ABSTRACT

The first known males of the spider *Alloclubionoides ovatus* (Paik, 1976) from Korea are described with detailed illustrations, spination of each leg and trichobothrium patterns. Males have a large conductor expanded curvedly 'p'-shaped with thin membrane of distal end surrounded the linear embolus and slender embolus penetrating tegulum.

Key words: Coelotinae, *Alloclubionoides*, Korea, taxonomy

INTRODUCTION

The genus *Alloclubionoides* Paik, 1992 is the typical Palearctic taxon of the subfamily Coelotinae and includes a total of 23 species from a variety of Asian countries (Korea, 12 species; China, six; Russia, four; Japan, one) (Kim and Lee, 2006; Kim, 2007; Kim et al., 2007; Platnick, 2008). More than eight species of this genus were described only from male or female specimens (Platnick, 2008). During a survey of the spider fauna of Korea, spiders of the genus *Alloclubionoides* were collected from pitfall traps in natural forests and caves. Here, the male of *Alloclubionoides ovatus* (Paik, 1976) is described for the first time. Females and males were collected with pitfall traps (plastic cups, height 6.3 cm, diameter 8 cm) in shrubs in Mugyeongsejae, Korea. Specimens examined in this paper will be deposited in the National Institute of Biological Resources (NIBR), the Arachnological Institute of Korea (AIK) and the Laboratory of Biodiversity, Hanyang University (LBHU).

The descriptive terminology and spination of legs follow that of Kim and Lee (2006). Abbreviations used: a, apical; AER, anterior eye row; ALE, anterior lateral eye; AME, anterior median eye; d, dorsal view; CDA, conductor dorsal apophysis; CFR, cymbium furrow rate, cymbial furrow/cymbial length $\times 100$; d, dorsal view; Eye ratio, longest eye row/carapace width $\times 100$; p, prolateral view; PER, posterior eye row; PLE, posterior lateral eye; PME, posterior median eye; r, retrolateral view; RTA, retrolateral tibial apophysis.

SYSTEMATIC ACCOUNTS

Order Araneae Clerck, 1757

Family Amaurobiidae Thorell, 1870

Genus *Alloclubionoides* Paik, 1992

Alloclubionoides Paik, 1992, p. 8.

Ambanus Ovtchinnikov, 1999, p. 63.

Type species: *Alloclubionoides coreana* Paik, 1992

Remarks. Paik (1992) noted generic name (compound word of allo- (Greek prefix)+*Clubionoides* (a generic name of gnaphosid spider from Nearctic region) as feminine and species name of type species, *coreanus*, but it was amended by ICZN (Platnick, 2008).

***Alloclubionoides ovatus* (Paik, 1976) (Figs. 1A-I)**

Coelotes ovatus Paik, 1976: 80.

Ambanus ovatus: Ovtchinnikov, 1999: 64; Namkung, 2001: 399.

Specimens examined. One male and one female (NIBR), one male and one female (AIK), 11 males and 12 females (LBHU), 1 December, 2007, Mt. Joryeongsan (GPS: 36° 48'N, 128° 03'E), Mungyeong city, Chungcheongbuk-do, leg. B.W. Kim. These specimens were collected on the ground among stones and leaf litter by pitfall trap.

Measurements (mm). Male: Habitus length 10.0; carapace length 4.5, carapace width 2.9, carapace height 1.5; clypeal height 0.2; cheliceral length 2.1, cheliceral width 0.9, cheliceral fang length 1.1; endite length 1.4, endite width 0.8; labium length 0.7, labium width 0.7; sternum length 2.3, sternum width 1.7. AER 0.8, PER 1.0, AME 0.12, ALE 0.21, PME 0.19, PLE 0.19. Eye formula ALE > PLE = PME > AME. Palp 4.8 (femur 1.5, patella 0.5, tibia 0.7,

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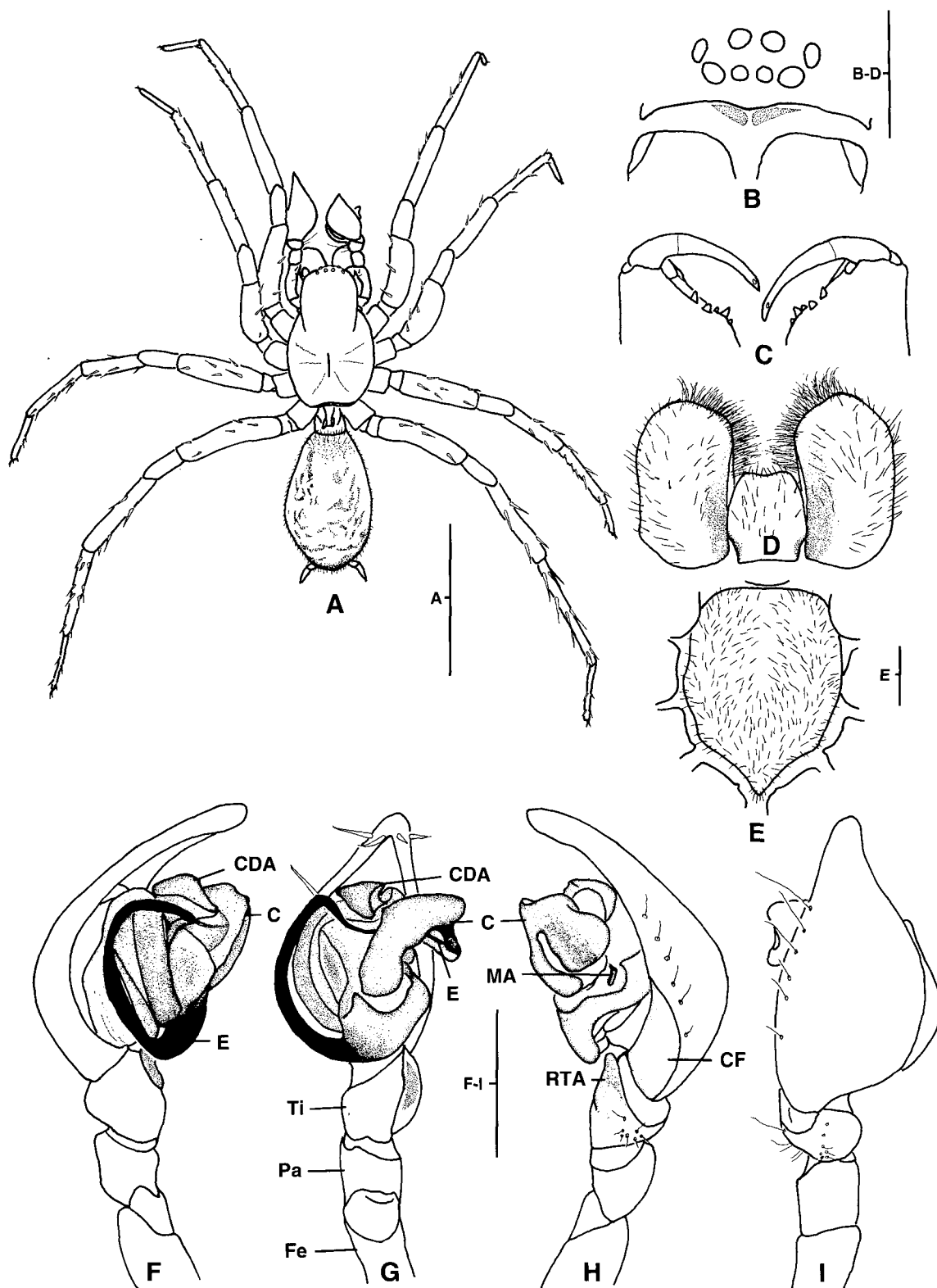


Fig. 1. *Alloclubionoides ovatus* (Paik, 1976) from Korea, male. A, Habitus, dorsal view; B, Eye area and clypeus, front view; C, Chelicerae, left part, posterior view; D, Endites and labium, ventral view; E, Sternum, ventral view; F-I, Palp, left, prolateral (F), ventral (G), retrolateral (H) and dorsal view (I); Note: C, conductor; CDA conductor dorsal apophysis; CF, cymbial furrow; E, embolus; Fe, femur; MA, median apophysis; Pa, patellar; RTA, retrolateral tibial apophysis; Ti, tibia. Scale bars=5 mm (A), 1 mm (B-I).

cymbium 2.1). First leg 6.5 (femur 1.8, patella 0.7, tibia 1.5, metatarsus 1.6, tarsus 0.9), second leg 6.1 (1.7, 0.7, 1.3, 1.5, 0.9), third leg 5.6 (1.5, 0.7, 1.1, 1.5, 0.8), fourth leg 7.9 (2.0, 0.8, 1.7, 2.3, 1.1). Leg formula IV>I> II>III. Abdomen length 4.6, abdomen width 2.8, abdomen height 2.8.

Description. Male: Medium-sized spider smaller than female. Carapace elongate, 1.6 times longer than wide, moderately narrowed in eye area, with distinct longitudinal fovea at middle (Fig. 1A). AER straight, PER slightly procurved in frontal view; AME smaller than other eyes, separated by as much as their diameter, eye ratio 34 (Fig. 1B). Clypeal height 1.9 times as long as AME diameter, with pair of eyebrow-shaped chila (Fig. 1B). Chelicerae with numerous long setae; lateral condyle yellowish brown; three promarginal teeth, middle one largest; two retromarginal teeth subequal in size (Fig. 1C). Endites reddish brown, widest at mid part; labium quadrangular, widest at the middle part (Fig. 1D). Sternum shield-shaped, widest at second coxae, 1.4 times as long as wide, and slightly projected between 4th coxae (Fig. 1E). Palp without claw; tibia with 13 trichobothria in two rows (5d-8r), cymbium six in one (7r), femur with three spines (0-1-2 on dorsal). Legs yellowish-brown without ring patterns; length of leg I (patella+tibia) always shorter than carapace length; trochanters not notched; tibiae with 21-24 trichobothria in four rows (5p-5d-5d-6r on leg I, 6p-5d-6d-7r on II, 4p-6d-6d-5r on III, 5p-6d-5d-5r on IV), metatarsi seven to eight in one row (seven on leg I-III, eight on IV), tarsi seven to eight in one row (eight on leg I, seven on II-IV); tarsal organ situated close to distal end of tarsus, slightly anterior of distal trichobothrium; tarsi with three claws, upper claws with 10-13 side teeth (13 on leg I, II, 10 on III, IV), lower with one. Leg spination: leg I femur with four spines (two, 1-1 on dorsal; two, 0-0-2 on prolateral), tibia seven with one small spine half as long as others on anterior ventral (one, 0-0-1 on prolateral; 2-2-2a on ventral), metatarsus eight (two, 0-1-0-1 on prolateral; six, 2-2-2 on ventral), tarsus without spine; leg II femur with four spines (two, 1-1-0 on dorsal; two, 0-1-1 on prolateral), tibia seven (two, 0-1-1 on prolateral; six, 1-2-2a on ventral), metatarsus 10 (three, 0-1-0-2 on prolateral; six, 2-2-2 on ventral; one, 0-1-0 on retrolateral), tarsus without spine; leg III femur with six spines (2-2-2 on dorsal), tibia 10 (two, 1-1 on prolateral; six, 2-2-2a on ventral; two, 0-1-1 on retrolateral), metatarsus 16 (ten, 1-2-2 on prolateral and retrolateral; six, 2-2-2 on ventral), tarsus five (two, 1-1 on prolateral; two, 0-1-1 on ventral; one, 0-1-0 on retrolateral); leg IV femur with five spines (1-2-2 on dorsal), tibia 10 (two, 1-1 on prolateral; six, 2-2-2a on ventral; two, 0-1-1 on retrolateral), metatarsus 14 (five, 1-2-2 on prolateral; six, 2-2-2 on ventral; three, 1-2-0

on retrolateral), tarsus six (two, 0-1-1 on prolateral, ventral, retrolateral). Abdomen ovoid with scattered brownish yellow spots, faintly chevrons on dorsal side (Fig. 1A). Cribellum absent.

Male palp (Figs. 1F-I); patellar apophysis absent; RTA modified without intermediate tibial apophysis (ITA); CFR, 38%, cymbial furrow (0.8 mm) without distal projection; subtegulum cylindrically sclerotized and longitudinally situated on tegulum; conductor large, expanded curvedly 'p'-shaped, with thin membrane of distal end surrounded the linear embolus; conductor dorsal apophysis triangular, situated on upper embolus; embolus long and slender, wound clockwise direction, originating posteriorly and penetrating tegulum; median apophysis small, thin membrane situated on lower conductor.

Distribution. Korea (Mt. Sopaiksan, Mt. Joryeongsan).

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REFERENCES

- Kim, B.W. and W. Lee, 2006. Two poorly known species of the spider genus *Ambanus* (Arachnida: Araneae: Amaurobiidae) in Korea. *J. Nat. Hist.*, 40: 1425-1442.
- Kim, B.W., 2007. Description of *Ambanus jaegeri* sp. n. and of the male of *A. euini* (Paik) from Korea (Arachnida: Araneae: Amaurobiidae). *Rev. Sui. Zool.*, 114(4): 703-719.
- Kim, B.W., W. Lee and T.S. Kwon, 2007. A new species of the genus *Ambanus* (Arachnida: Araneae: Amaurobiidae) from Korea. *Proc. Biol. Soc. Washington*, 120(3): 327-336.
- Paik, K.Y., 1976. Five new spiders of genus *Coelotes* (Araneae: Agelenidae). *Educational J. Kyungpook Nat. Univ.*, 18:77-88.
- Platnick, N.I., 2008. The world spider catalog, version 8.5 [online]. American Museum of Natural History, New York. Available from <http://research.amnh.org/entomology/spiders/catalog/index.html> (accessed 5 March 2008).

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