

On three *Agelena* species from China (Araneae, Agelenidae)

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Summary

Three species of agelenid spiders from China are described: *Agelena bifida* sp. nov., *A. agraulosa* Wang & Wang, 1991, and *A. limbata* Thorell, 1897. *Agelena aglaosa* Wang & Wang, 1991 (holotype female) is a synonym of *A. limbata* (syn. nov.). The male of *A. aglaosa* is redescribed as *A. bifida* sp. nov.

Introduction

Further collection of agelenid spiders and examination of the type specimens of two *Agelena* species described by Wang & Wang (1991) have shown that the female holotype and two female paratypes of *Agelena aglaosa* Wang & Wang, 1991, were misidentified. *A. aglaosa* is a synonym of *A. limbata* Thorell, 1897. In this paper, the male allotype of *A. aglaosa* is described as a new species: *Agelena bifida* sp. nov. Also *A. limbata* Thorell, 1897 and *A. agraulosa* Wang & Wang, 1991 are redescribed and illustrated. The terms used in describing the structures of genitalia are mostly based on Gering (1953). All measurements are in mm. Leg measurements are shown as: total length (femur, patella+tibia, metatarsus, tarsus).

Agelena bifida, sp. nov. (Figs. 1–5)

Agelena aglaosa: Wang & Wang, 1991: 41, figs. 8–9 (♂ only, not ♀ holotype).

Types: Male holotype and female allotype from Jiuzhaigou, Sichuan Province, China (16 August, 1990, X. P. Wang & X. A. Hu), deposited in American Museum of Natural History.

Etymology: The specific name refers to the bifid structure of the conductor.

Diagnosis: This new species seems closest to *A. opulenta* L. Koch, 1878 and *A. choi* Paik, 1965 (Paik, 1978). The female epigynum has two large atria separated by a short median septum, posterior edge of the epigynal plate narrow, male palp with embolus situated distally on the tegulum. It can be distinguished from the above two species by the shape of the epigynal atria and spermathecae, small diverticula situated at the base of the copulatory bursae, the strong conductor which is bifid proximally, and the broad membranous apophysis between the embolus and conductor.

Male: Total length 7.98. Carapace 3.59 long, 2.67 wide. Eye sizes and interdistances: AME 0.16, ALE 0.17, PME 0.13, PLE 0.14; AME-AME 0.28, AME-ALE 0.26, PME-PME 0.36, PME-PLE 0.32, ALE-PLE 0.25. Both eye rows strongly procurved. Promargin of chelicera with 3 teeth, retromargin with 2. Leg formula

IV-I-II-III, measurements: I: 14.68 (4.13, 4.78, 3.97, 1.80), II: 14.64 (4.04, 4.60, 3.93, 2.07), III: 12.83 (3.59, 3.96, 3.59, 1.69), IV: 16.55 (4.42, 5.02, 5.02, 2.09). Male palp with large retrolateral, and small prolateral, tibial apophyses; without patellar process; embolus situated distally on tegulum, short, strong; conductor strong, bifid proximally; broad membranous apophysis between embolus and conductor (Figs. 3–5).

Female: Total length 8.50. Carapace 3.53 long, 2.56 wide. Eye sizes and interdistances: AME 0.17, ALE 0.23, PME 0.16, PLE 0.21; AME-AME 0.28, AME-ALE 0.26, PME-PME 0.36, PME-PLE 0.33, ALE-PLE 0.29. Both eye rows strongly procurved. Promargin of chelicera with 3 teeth, retromargin with 2. Leg formula IV-I-II-III, measurements: I: 11.80 (3.36, 4.04, 2.85, 1.55), II: 10.97 (3.13, 3.84, 2.52, 1.48), III: 10.20 (2.99, 3.13, 2.63, 1.45), IV: 13.24 (3.73, 4.27, 3.79, 1.45). In ventral view, epigynum with two large atria (Fig. 1); short median setose septum separating atria; posterior edge of epigynal plate narrow; in dorsal view, copulatory bursae bear a pair of small diverticula; copulatory bursae connected internally to pair of large spermathecae and to outside through atria (Figs. 1–2).

Other material examined: China: Sichuan Province, Jiuzhaigou, 16 August 1990 (X. P. Wang & X. A. Hu), 10♀ 4♂; Shaanxi Province, Taibai Mt., 7–10 August 1989 (X. P. Wang), 2♂.

Distribution: Qinling Mountains, China.

Comments: This new species was originally described (Wang & Wang, 1991) as the male allotype of *Agelena aglaosa* Wang & Wang, 1991 (which is a synonym of *A. limbata* Thorell, 1897). The male and female of this new species are paired because of the similar body patterns and because both were collected in the same web.

Agelena limbata Thorell, 1897 (Figs. 6–10)

Agelena limbata Thorell, 1897: 255.

Agelena limbata: Bösenberg & Strand, 1906: 296, fig. 461.

Agelena aglaosa Wang & Wang, 1991: 41, figs. 6–7.

Diagnosis: Females can be identified by the large epigynal atrium, posterior edge of the epigynal plate broad, and broad copulatory bursae with narrow diverticula. Males can be identified by the long embolus which fits into a deep groove on the strong conductor, and the slender apophysis on the outside of the conductor.

Female: Total length 12.42. Carapace 5.30 long, 3.64 wide. Eye sizes and interdistances: AME 0.21, ALE 0.22, PME 0.17, PLE 0.19; AME-AME 0.37, AME-ALE 0.32, PME-PME 0.44, PME-PLE 0.50, ALE-PLE 0.29. Promargin of chelicera with 3 teeth, retromargin with 3. Leg formula IV-I-II-III, measurements: I: 14.85 (4.08, 5.21, 3.71, 1.85), II: 14.33 (4.07, 4.79, 3.55, 1.92), III: 13.47 (3.95, 4.20, 3.55, 1.77), IV: 18.24 (5.07, 5.78, 5.13, 2.26). In ventral view, epigynum with large atrium (Fig. 6); without median septum at anterior margin of atrium; posterior edge of epigynal plate relatively broad; in dorsal view, broad copulatory bursae with narrow

diverticula; copulatory bursae connected internally to pair of large spermathecae, to outside through atrium (Figs. 6–7).

Male: Total length 8.38. Carapace 5.52 long, 4.19 wide. Eye sizes and interdistances: AME 0.20, ALE 0.23, PME 0.17, PLE 0.21; AME-AME 0.42, AME-ALE 0.40, PME-PME 0.44, PME-PLE 0.49, ALE-PLE 0.37. Promargin of chelicera with 3 teeth, retromargin with 4, fourth very small, closely associated with third. Leg formula IV-I-II-III, measurements: I: 23.44 (6.17, 7.69, 6.53, 3.05), II: 22.11 (6.00, 7.27, 5.94, 2.90), III: 20.54 (5.58, 6.36, 5.93, 2.67), IV: 25.93 (7.11, 7.74, 8.11, 2.97). Male palp with single, broad, retrolateral tibial apophysis and short, sclerotised, plate-like retrolateral patellar process; embolus long, fitting into deep groove on strong conductor; small, slender apophysis on outside of conductor (Figs. 8–10).

Material examined: China: Shaanxi Province, Houzhenzi, 14 July 1991 (X. P. Wang), 5♀ 3♂; Shaanxi Province, Haoping, 7–10 August 1990 (X. P. Wang), 3♀.

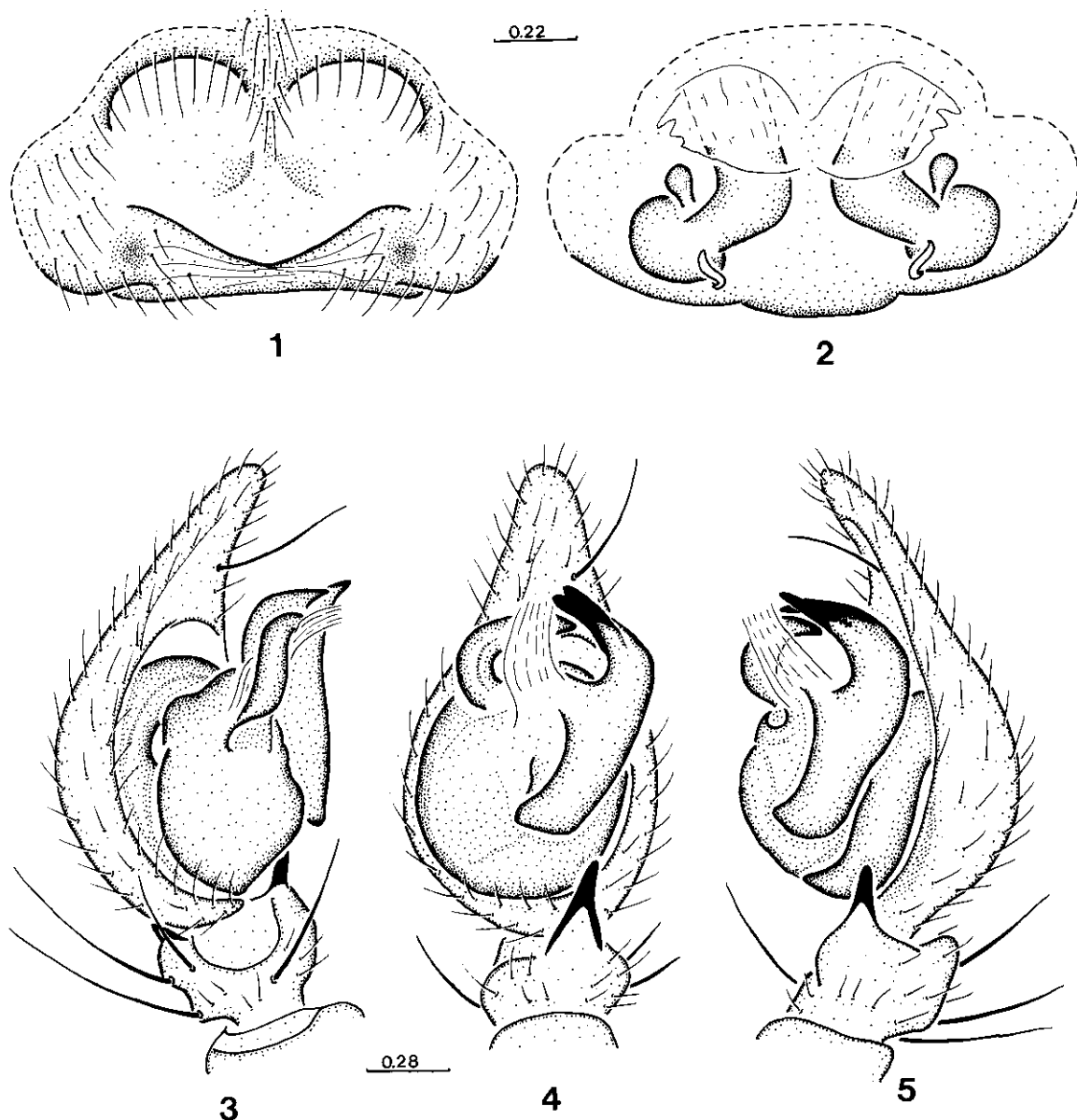
Comments: The female of this species was misidentified by Wang & Wang (1991) as the holotype of *A. aglaosa*. Later collection of males and females of this species from the same webs indicated that *A. aglaosa* is a synonym of *A. limbata*.

Distribution: Myanmar, China, Japan, and Korea.

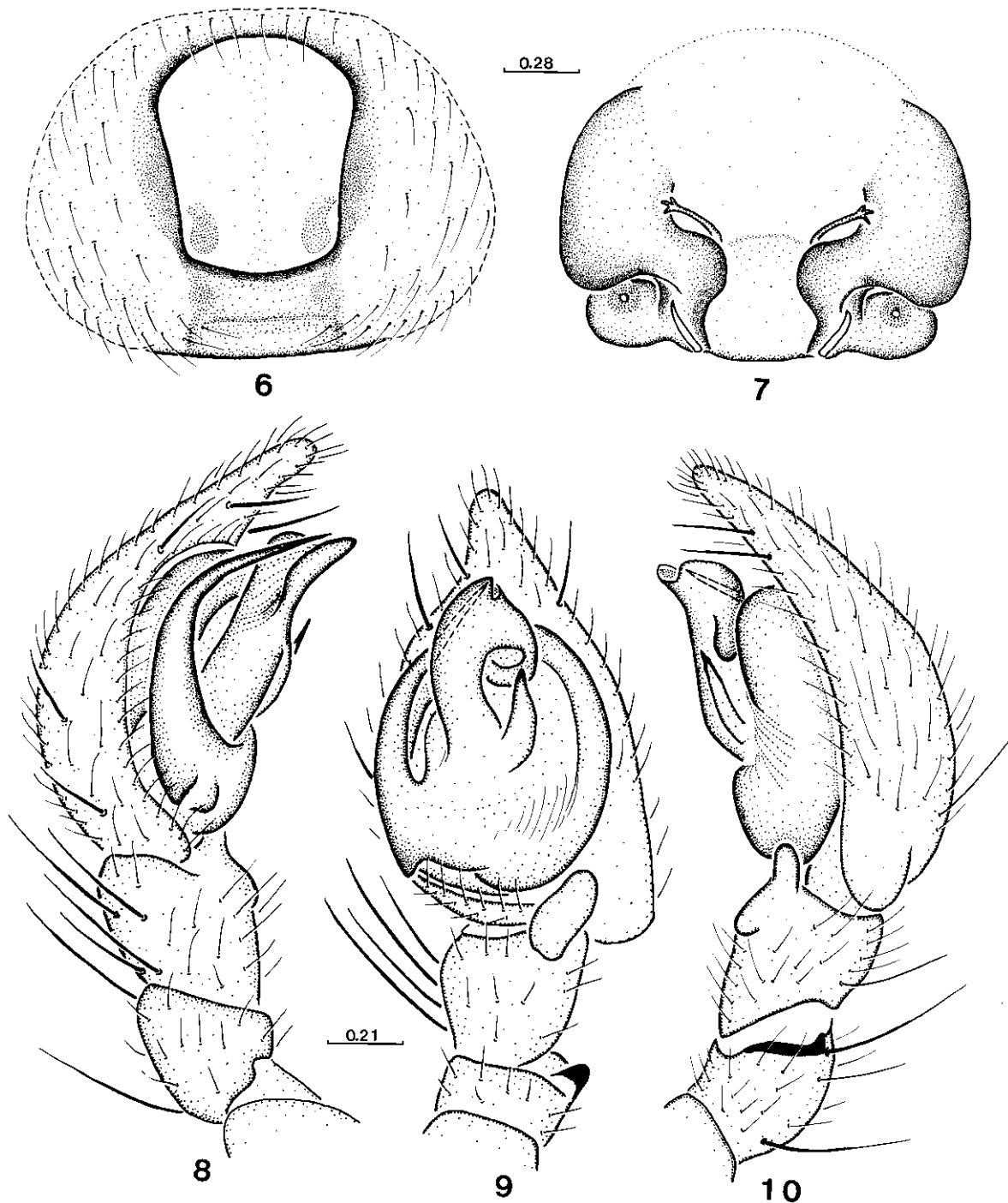
***Agelena agraulosa* Wang & Wang, 1991 (Figs. 11–15)**

Agelena agraulosa Wang & Wang, 1991: 40, figs. 1–5.

Diagnosis: Females can be identified by having two small and totally separated epigynal atria, each atrium connected to two slightly overlapping spermathecae through a short copulatory bursa, posterior edge of epigynal plate broad (Figs. 11–12). Males can be identified by the long embolus, the strong, spiral conductor, the single, broad tibial apophysis, and the small, retrolateral patellar process (Figs. 13–15).



Figs. 1–5: *Agelena bifida*, sp. nov. **1** Epigynum, ventral view; **2** Ditto, dorsal view; **3** Left male palp, prolateral view; **4** Ditto, ventral view; **5** Ditto, retrolateral view.



Figs. 6–10: *Agelena limbata* Thorell, 1897. **6** Epigynum, ventral view; **7** Ditto, dorsal view; **8** Left male palp, prolateral view; **9** Ditto, ventral view; **10** Ditto, retrolateral view.

Female (Figs. 11–12): Described by Wang & Wang (1991).

Male (Figs. 13–15): Described by Wang & Wang (1991).

Material examined: China: Gansu Province, Jiayuguan, 26 July 1988 (X. P. Wang & X. A. Hu), 3♀ 1♂.

Distribution: Jiayuguan, Gansu Province, China.

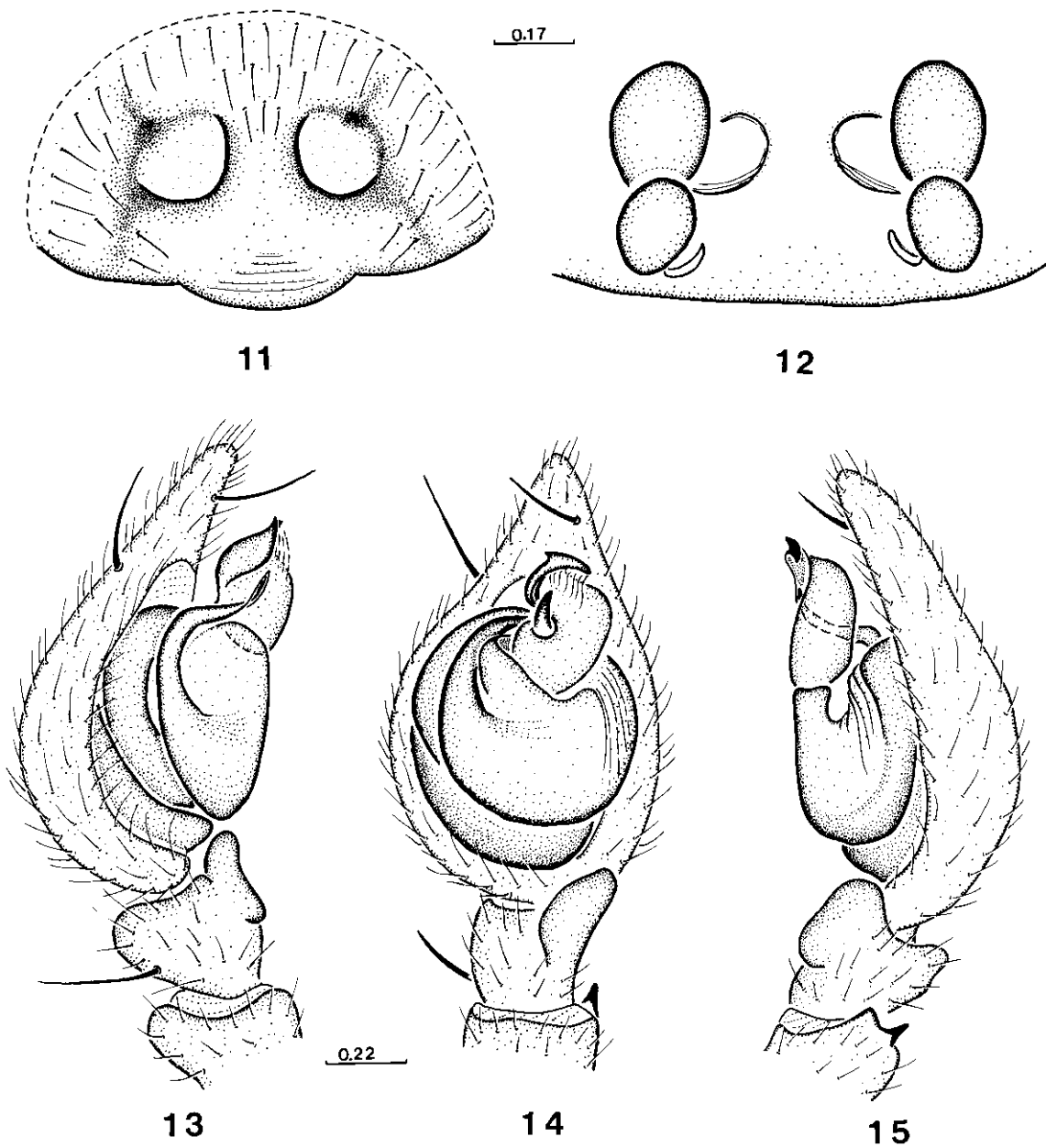
Acknowledgements

I thank Dr N. I. Platnick (Department of Entomology, American Museum of Natural History) and

Dr K. M. Catley (Department of Entomology, Cornell University) for their helpful discussion on the genitalia structure and their detailed comments on the manuscript. A research grant from Xi'an Teachers College (China) made collection of the agelenid specimens possible.

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Figs. 11–15: *Agelena agraulosa* Wang & Wang, 1991. **11** Epigynum, ventral view; **12** Ditto, dorsal view; **13** Left male palp, prolateral view; **14** Ditto, ventral view; **15** Ditto, retrolateral view.

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