

Seven new species of the genus *Coelotes* (Araneae, Agelenidae) from China

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Summary

Seven new species of the genus *Coelotes* are described from China: *C. cylistus*, *C. icohamatooides*, *C. impletus*, *C. lushanensis*, *C. ovatus*, *C. terebratus* and *C. zonatus*. Type specimens are deposited in the Department of Biology, Hunan Normal University.

Introduction

Chinese species of *Coelotes* are extremely plentiful. Hitherto, about 80 species have been reported (Simon, 1880; Kulczynski, 1901; Chamberlin, 1924; Schenkel, 1963; Ono, 1981; Chen, 1984; Yaginuma, 1986; Hu & Li, 1987a,b; Wang & Xu, 1988; Hu & Wang, 1990; Wang *et al.*, 1990; Chen & Zhang, 1991; Wang & Zhu, 1991; Hu, Wang & Wang, 1991; Zhu & Wang, 1991; Wang, 1994). Among these authors, Associate Prof. Wang Jia-Fu (who died of cancer in 1991) and his colleagues made the most systematic study of Chinese *Coelotes* spiders, and reported 55 new *Coelotes* species from China. Recently, during a study of our collections, we identified 14 new species of the genus *Coelotes*. Seven of these are described here; the others will be described in two further papers. Figures of the body and genital structures, detailed descriptions, and known distribution data are given for each species. All measurements are in mm. Scale lines equal 1.0 mm for all figures of the body, and 0.5 mm for all genital structures. The sequence of leg segments in measurement data is as follows: total length (femur, patella+tibia, metatarsus, tarsus).

Anatomical terms adopted are those used by Wang *et al.* (1990).

Abbreviations used: AER=anterior eye row, AL=abdomen length, AMI=anterior-medians interval, AMLI=anterior-median-lateral interval, AW=abdomen width, CL=carapace length, CW=carapace width, MEF=median eye field, PER=posterior eye row, PMI=posterior-medians interval, PMLI=posterior-median-lateral interval, TL=total length.

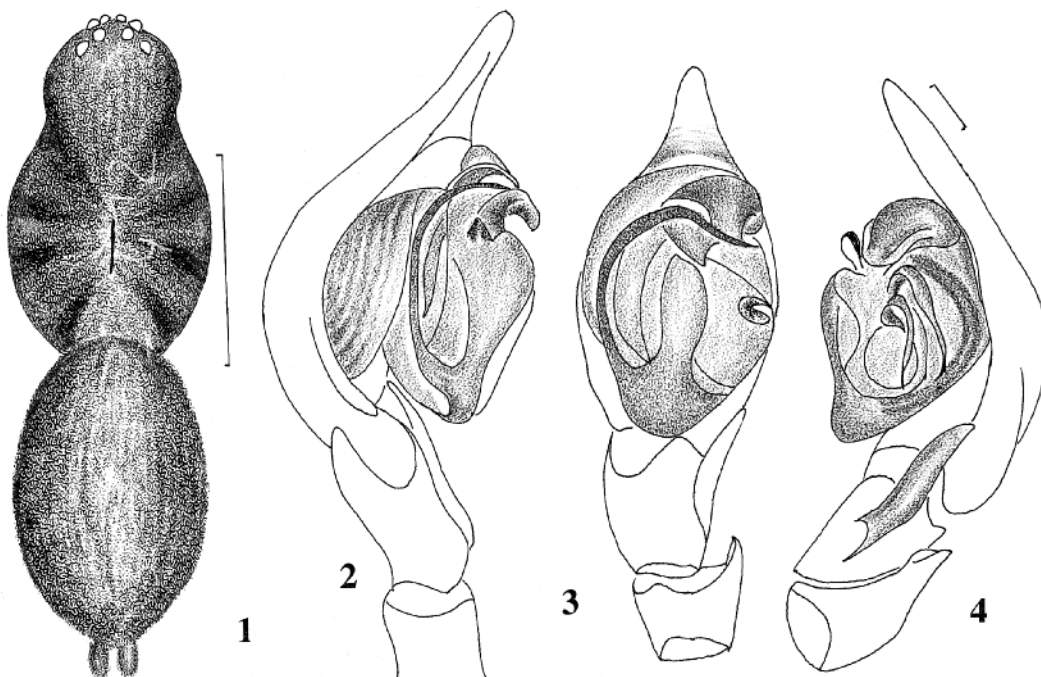
Coelotes cylistus, sp.n. (Figs. 1–4)

Type material: Holotype ♂, Mt. Tianping, Sangzhi county, Hunan province, 16 October 1986, leg. Wang Jia-Fu.

Etymology: From Latin *cylist-*, meaning “turn”, referring to the tibial apophysis (Fig. 4) which seems to be flexible.

Diagnosis: The new species resembles *C. sacratu*s Wang *et al.*, 1990 (figs. 103–105), but differs from the latter by: (1) fulcrum thinner and shorter (Fig. 3); (2) conductor shorter and wider (Fig. 2); (3) tibial apophysis much longer (Fig. 4); (4) median and patellar apophyses also different (Figs. 3, 4).

Male holotype: TL 3.2, CL 1.7, CW 1.1, AL 1.5, AW 1.0. Both eye rows slightly procurved; AME smallest, ALE=PLE=PME; AMI wider than AMLI; PME and PLE equidistant. Carapace light brown, with dark grey margin; fovea, cervical and radial grooves darker. Sternum light brown with dark grey margin, almost as long as wide. Clypeus brown, height about equal to AME diameter. Chelicerae, endites and labium brown, 1 promarginal and 2 retromarginal teeth. Legs light brown, with long spines; formula: 4,1,2,3; measurements: I 6.2 (1.5,1.8,1.9,1.0); II 5.3 (1.0,1.6,1.8,0.9); III 4.3 (1.0,1.5,1.0,0.8); IV 6.3 (1.6,1.8,1.9,1.0). Abdomen oval, dorsum yellowish grey, with obscure dark grey



Figs. 1–4: *Coelotes cylistus*, sp.n., male. 1 Body; 2 Palpal organ, prolateral; 3 Ditto, ventral; 4 Ditto, retrolateral.

marks (Fig. 1); ventrally grey. Spinnerets light brown. Palpal organ (Figs. 2–4): conductor short and thin; fulcrum short; embolus thick; tibial apophysis long; patellar apophysis short.

Female: Unknown.

Distribution: China (Hunan province).

***Coelotes icohamatoides*, sp.n.** (Figs. 5–10)

Type material: Holotype ♀, Huangsang, Suiling county, Hunan province, 15 August 1984, leg. Wang Jia-Fu. Paratypes: 1♀, Mt. Naer, Fenghuang county, Hunan province, date and collector unrecorded; 1♀, Nanmuping, Sangzhi county, Hunan province, August 1984, leg. Wang Jia-Fu; 1♀, Chenbu county, Hunan province, 12 June 1982, leg. Wang Jia-Fu.

Etymology: The epigyne and vulva of the new species are very similar to those of *C. icohamatus*, hence the specific name.

Diagnosis: The new species is similar to *C. icohamatus* Zhu & Wang, 1991 (figs. 5–7), but differs from the latter by the epigyne having a long narrow septum and a pair of small hoods (Fig. 6), both of which are absent in *icohamatus*.

Female: TL 6.2–6.7. Specimen of TL 6.2 measured: CL 2.5, CW 1.5, AL 2.7, AW 1.7. Both eye rows straight; AME smallest, ALE=PME=PME; AMI wider than AMLI; PLE and PME equidistant. Carapace greyish brown, with black margin; cephalic region, fovea, cervical and radial grooves black-brown. Sternum greyish brown, with black margin and a lighter longitudinal stripe in median area. Clypeus brown, height greater than AME diameter. Chelicerae dark brown, 3 pro-marginal and 2 retromarginal teeth. Labium and endites dark brown. Legs brown with faintly visible annuli; formula: 4,1,2,3; measurements: I 7.5 (2.0,2.6,1.6,1.3); II 6.6 (1.7,2.0,1.5,1.4); III 5.6 (1.3,1.8,1.5,1.0); IV 8.2 (2.1,2.5,2.3,1.3). Abdomen elliptical, dorsum (Fig. 5) greyish black; cardiac pattern faintly visible; six chevrons posteriorly; ventrally grey with wide longitudinal

dark band in median area; two longitudinal stripes formed by light coloured dots along both sides of band. Spinnerets brown. Epigyne (Fig. 6): with long narrow septum and pair of small hoods. Vulva (Figs. 7–10): with long copulatory canal, folded and looped; with some variation in manner of folding and looping.

Male: Unknown.

Distribution: China (Hunan province).

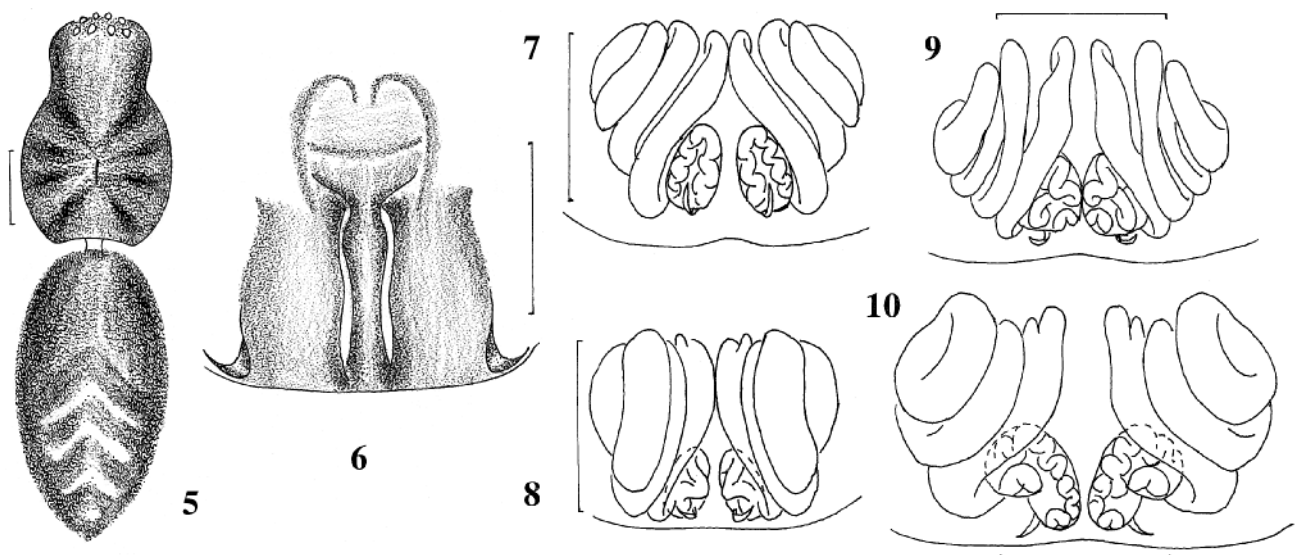
***Coelotes impletus*, sp.n.** (Figs. 11–19)

Type material: Holotype ♀, Mt. Tianping, Sangzhi county, Hunan province, August 1984, leg. Wang Jia-Fu & Zhang Yong-Jing. Paratypes: 14♀ 13♂, same data; 16♀ 16♂, Zhangjiajie, Hunan province, 18–20 August, leg. Wang Jia-Fu & Peng Xian-Jin; ♀, Mt. Nanmuping, Sangzhi county, Hunan province, August 1984, leg. Wang Jia-Fu; 2♀, Suoxiyu town, Hunan province, August, leg. Wang Jia-Fu; 2♀, Mt. Naer, Fenghuang county, Hunan province, date and collector not recorded; 9♀ 11♂, Wudaoshui, Sangzhi county, Hunan province, 28 August 1989, leg. Wang Jia-Fu; 3♀, Mt. Shunhuang, Xinning county, Hunan province, July 1980, leg. Wang Jia-Fu.

Etymology: From Latin *impletus*, meaning plentiful, referring to the large number of specimens of the new species in our collections.

Diagnosis: The male is related to that of *C. aspinatus* Wang *et al.*, 1990 (figs. 68–72), but differs by: (1) distal part of embolus only twisted (Fig. 16), not looped as in *aspinatus*; (2) conductor thinner and longer (Figs. 16–17); (3) two patellar apophyses and one spatulate median apophysis (Fig. 17), both of which are absent in *aspinatus*. The female is similar to that of *C. icohamatoides*, sp.n. (Figs. 5–10), but differs by: (1) epigynal septum much shorter (Fig. 12, cf. Fig. 6); (2) manner in which copulatory canal folds and loops (Figs. 13–15, cf. Figs. 7–10).

Female: TL 5.0–9.8. Specimen of TL 8.0 measured: CL 4.0, CW 2.5, AL 4.0, AW 2.6. Both eye rows



Figs. 5–10: *Coelotes icohamatoides*, sp.n., female. **5** Body; **6** Epigyne; **7** Vulva, holotype, dorsal; **8** Vulva, paratype from Mt. Naer, dorsal; **9** Vulva, paratype from Chenbu, dorsal; **10** Vulva, paratype from Sangzhi, dorsal.

almost straight; AME smallest; ALE=PME=PLE; ALE and AME equidistant, their intervals less than AME diameter; PMI narrower than PMLI; MEF longer than wide, posteriorly wider. Carapace brown, with black margin; cephalic region, fovea, cervical and radial grooves dark brown. Sternum brown, with dark brown margin and a lighter longitudinal stripe in median area. Clypeus brown, height distinctly greater than AME diameter. Chelicerae dark brown, 3 promarginal and 2 retromarginal teeth. Labium and endites brown. Legs brown, with long spines; no distinct annuli; formula: 4,1,2,3; measurements: I 12.3 (3.3,4.0,3.0,2.0); II 10.0 (3.0,3.0,2.5,1.5); III 8.8 (2.3,2.5,2.5,1.5); IV 13.0 (3.5,4.0,3.5,2.0). Abdomen elliptical; dorsum yellowish grey; cardiac pattern and chevrons (Fig. 11) dark grey; some specimens without distinct marks; ventrally greyish yellow, with wide grey-black longitudinal band in median area. Spinnerets greyish black. Epigyne (Fig. 12): atrium long and narrow; septum short; a pair of hoods. Vulva (Figs. 13–15): copulatory canals long, looped and folded, with some variation in manner of folding.

Male: TL 7.5–10.0. Specimen of TL 9.0 measured: CL 4.0, CW 2.5, AL 5.0, AW 2.8. Leg formula: 4,1,2,3; measurements: I 20.6 (5.6,7.0,5.0,3.0); II 18.6 (5.3,5.7,4.6,3.0); III 16.8 (5.0,5.0,4.0,2.8); IV 21.8 (6.0,6.5,6.3,3.0). Body form, coloration and marks similar to female, but marks more distinct. Palpal organ (Figs. 16–19): conductor slender; median apophysis spatulate; two patellar apophyses and one tibial apophy-

sis very short. One male from Wudaoshui, Sangzhi county, Hunan province with abnormally developed left palpal organ (Figs. 18, 19).

Distribution: China (Hunan province).

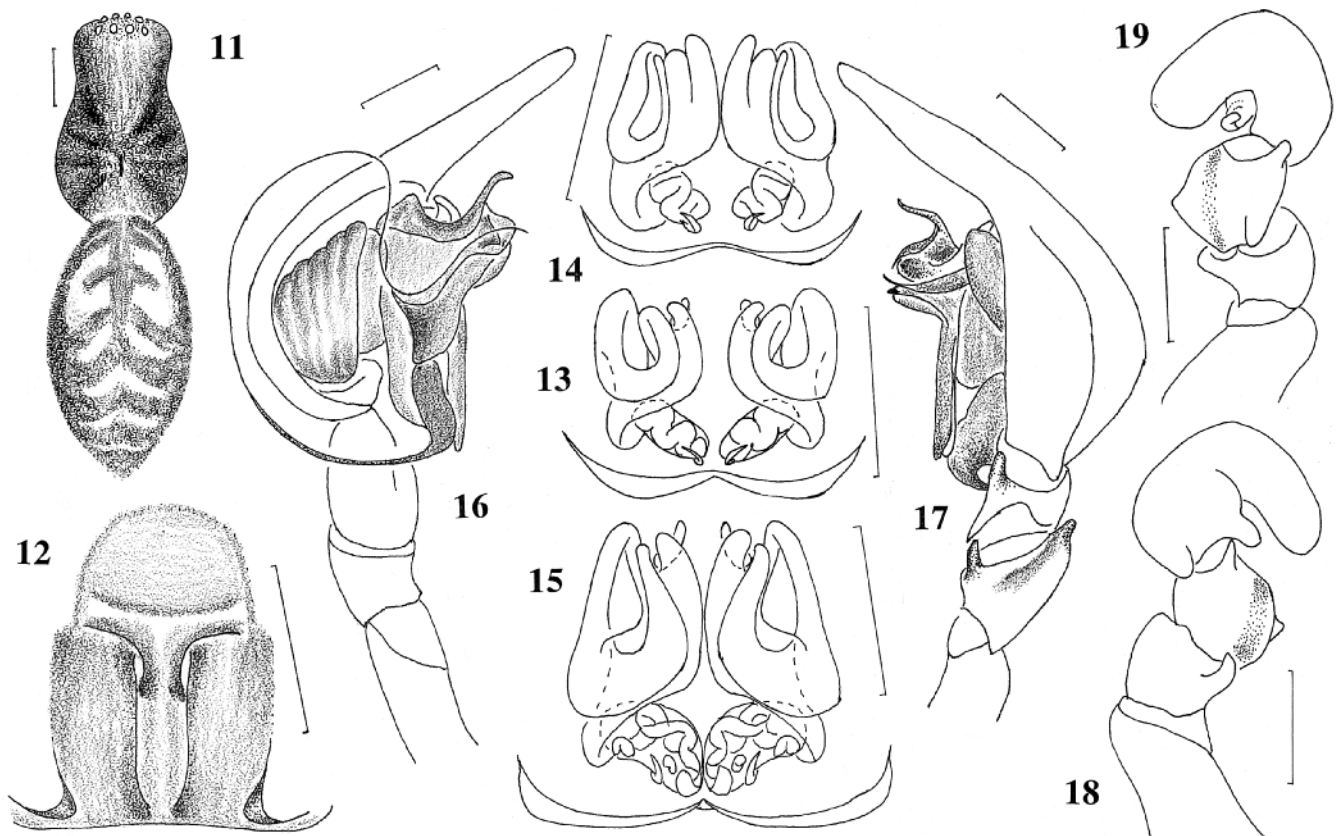
***Coelotes lushanensis* sp.n.** (Figs. 20–23)

Type material: Holotype ♂, Mt. Lushan, Jiangxi province, 17 June 1987, leg. Wang Jia-Fu.

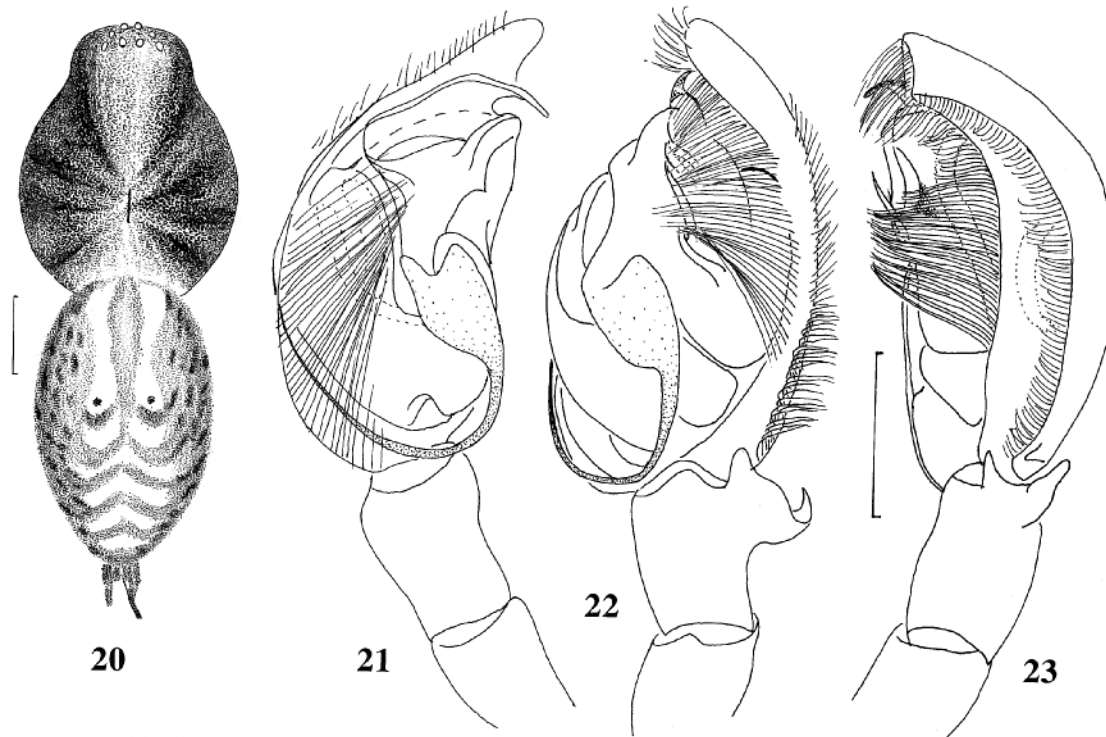
Etymology: The specific name is derived from the type locality, Mt. Lushan.

Diagnosis: Lateral furrow (Figs. 22–23) of cymbium almost as long as cymbium; both margins of furrow covered with long hairs arranged regularly, promarginal hairs much longer (Figs. 21–23). By these, it can be distinguished from any other species of the genus.

Male holotype: TL 7.2, CL 3.7, CW 3.0, AL 3.5, AW 3.2. Both eye rows slightly procurved; AME=ALE, equidistant; PME=PLE, also equidistant. Carapace light brown with dark brown margin; cephalic region almost as high as thoracic region; cervical grooves indistinct. Sternum yellowish brown, with dark brown margin. Clypeus light brown, height slightly greater than AME diameter. Chelicerae, endites and labium light brown; 3 promarginal and 2 retromarginal cheliceral teeth. Legs brown, no dark annuli; formula: 4,1,2,3; measurements: I 10.9 (2.7,4.0,2.5,1.7); II 9.4 (2.7,3.0,2.1,1.6); III 8.7 (2.7,2.6,2.4,1.0); IV 13.0 (3.0,4.8,3.5,1.7). Abdomen almost cylindrical; dorsum light brown, with greyish black marks (Fig. 20); one pair



Figs. 11–19: *Coelotes impletus*, sp.n. **11** Body of female; **12** Epigyne; **13** Vulva, holotype, dorsal; **14** Vulva, paratype from Mt. Shunhuang, dorsal; **15** Vulva, paratype from Sangzhi, dorsal; **16** Palpal organ, prolateral; **17** Ditto, retrolateral; **18** Abnormally developed palpal organ, paratype from Wudaoshui, Sangzhi county, prolateral; **19** Ditto, retrolateral.



Figs. 20–23: *Coelotes lushanensis*, sp.n., male. **20** Body; **21** Palpal organ, prolateral; **22** Ditto, ventrolateral; **23** Ditto, retrolateral.

of muscle depressions; cardiac pattern bar-shaped; six chevrons posteriorly, many inclined striae laterally; ventrally light yellow, with two faint greyish black longitudinal stripes in median area. Spinnerets light brown. Palpal organ (Figs. 21–23): lateral furrow of cymbium almost as long as cymbium, its two margins covered with long hairs arranged regularly; two tibial apophyses; conductor with slender distal branch (Fig. 21).

Female: Unknown.

Distribution: China (Jiangxi province).

Coelotes ovatus, sp.n. (Figs. 24–26)

Type material: Holotype ♀, Mt. Yuelu, Changsha city, Hunan province, 22 December, leg. Wang Jia-Fu.

Etymology: From Latin *ovatus*, meaning oval, referring to its oval abdomen.

Diagnosis: The new species resembles *C. illustratus* Wang *et al.*, 1990 (figs. 93–96), but differs by: (1) copulatory canals much stouter and shorter (Fig. 26); (2) epigynal teeth longer (Fig. 25); (3) manner of folding of copulatory canal.

Female holotype: TL 6.0, CL 3.0, CW 2.0, AL 3.0, AW 2.4. AER slightly shorter than PER and recurved, PER straight; AME smallest; AMI about equal to AMLI, both narrower than AME diameter; PME and PLE equidistant; MEF longer than wide, anterior margin narrower. Carapace brown, with black margin, submarginal bands light brown; cervical and radial grooves distinct. Sternum light brown, with darker margin and a lighter longitudinal stripe in median area. Clypeus brown, height greater than AME diameter. Chelicerae brown, 3 promarginal and 4 retromarginal teeth. Endites and labium brown. Legs brown, with long spines;

greyish black annuli distinct; formula: 4,1,2,3; measurements: I 10.9 (2.7,4.0,2.5,1.7); II 9.4 (2.7,3.0,2.1,1.6); III 8.7 (2.7,2.6,2.4,1.0); IV 13.0 (3.0,4.8,3.5,1.7). Abdomen oval; dorsum greyish brown, with seven pairs of light marks in median area (Fig. 24); ventrally yellowish grey. Spinnerets brown. Epigyne (Fig. 25): with two epigynal teeth and a conical scape. Vulva (Fig. 26): copulatory canals stout, folded and twisted.

Male: Unknown.

Distribution: China (Hunan province).

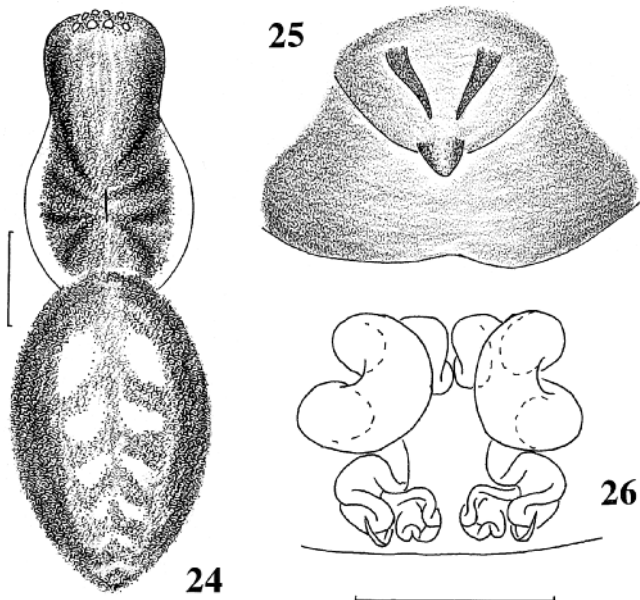
Coelotes terebratus, sp.n. (Figs. 27–31)

Type material: Holotype ♀, Mt. Tianping, Sangzhi county, Hunan province, 16 October 1986, leg. Wang Jia-Fu. Paratype, 1♂, same data.

Etymology: From Latin *terebratus*, meaning pore-like, referring to pore-like atrium of epigyne.

Diagnosis: The male is similar to that of *C. lutulentus* Wang *et al.*, 1990 (figs. 88–90), but differs by: (1) conductor stouter and shorter, bow-shaped, its terminal part much thinner (Fig. 30); (2) embolus much longer, with a loop, its distal part widely separated from conductor (Fig. 30), whereas in *lutulentus*, embolus without loop, its distal end hidden in conductor. The female resembles that of *C. sacratus* Wang *et al.*, 1990 (figs. 106–107), but differs by: (1) atrium suboval (Fig. 28), but almost quadrilateral in *sacratus*; (2) membranous sac-shaped structure thinner and longer (arrowed in Fig. 29); (3) copulatory canals mainly arranged longitudinally (Fig. 29), but transversely in *sacratus*.

Female holotype: TL 13.8, CL 7.0, CW 4.4, AL 6.8, AW 3.8. AER slightly shorter than PER and recurved, PER straight; AME smallest; ALE=PLe=PME; AMI



Figs. 24–26: *Coelotes ovatus*, sp.n., female. 24 Body; 25 Epigyne; 26 Vulva, dorsal.

narrower than AMLI; PMI narrower than PMLI; MEF wider than long, posterior margin wider. Carapace brown, with light margin; cephalic region, fovea, cervical and radial grooves darker. Sternum brown, with dark brown margin. Clypeus brown, height greater than AME diameter. Chelicerae, endites and labium dark brown, 3 promarginal and 2 retromarginal cheliceral teeth. Legs brown, no distinct annuli; formula: 4,1,2,3; measurements: I 15.0 (4.6,5.4,3.0,2.0); II 13.8 (4.0,4.8,3.0,2.0); III 11.0 (3.0,3.5,2.5,2.0); IV 17.0 (5.0,6.0,4.0,2.0). Abdomen elliptical; dorsum light brown with greyish black marks (Fig. 27); six chevrons; some irregular marks on lateral areas; ventrally greyish brown, with irregular dots. Spinnerets light brown. Epigyne (Fig. 28): with pore-like oval atrium and two short triangular epigynal teeth. Vulva (Fig. 29):

membranous sac-shaped structure (arrowed in Fig. 29) bow-shaped; copulatory canals mainly arranged longitudinally.

Male: TL 6.0, CL 3.8, CW 2.8, AL 3.0, AW 1.7. Leg formula: 4,1,2,3; measurements: I 9.8 (2.6,3.3,2.2,1.7); II 8.8 (2.4,2.9,2.0,1.5); III 8.3 (2.2,2.6,2.0,1.5); IV 11.4 (3.0,3.5,3.0,1.9). Body form similar to female, but with lighter coloration and more distinct marks. Palpal organ (Figs. 30, 31): embolus long and thin, with a loop, distal end widely separated from conductor; conductor stout, bow-shaped, with much thinner distal part; one patellar and two tibial apophyses.

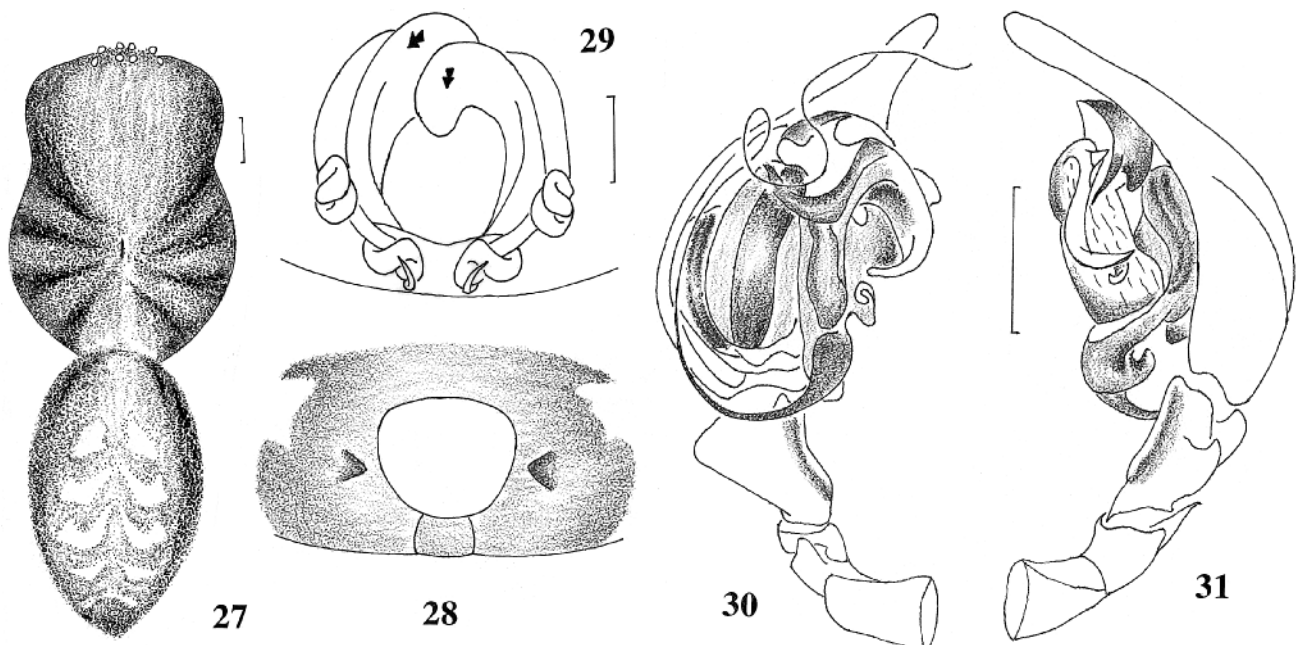
Distribution: China (Hunan province).

Coelotes zonatus, sp.n. (Figs. 32–36)

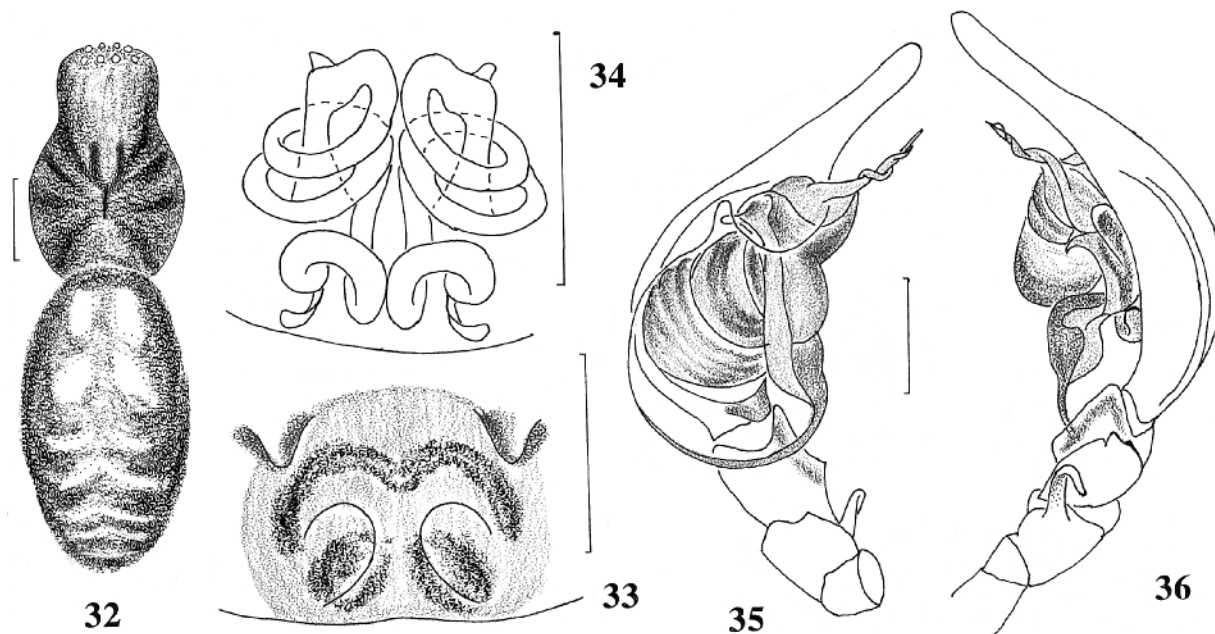
Type material: Holotype ♀, Mt. Yuelu, Changsha city, Hunan province, 17 January 1983, leg. Wang Jia-Fu. Paratypes: 5♀ 2♂, same data; 1♂, Changsha city, Hunan province, May 1964, leg. Yin Chang-Min; 4♀, Zhangjiajie city, Hunan province, 25 August 1984, leg. Zhang Yong-Jing; 3♀, Mt. Lushan, 15 June 1987, leg. Wang Jia-Fu; 1♀ 1♂, Hunan Normal University, May 1985, leg. Wang Jia-Fu; 2♂, Jiangsu province, 13 June 1977, leg. Zhu Min-Shen; 7♂, Mt. Wudang, Shanxi province, October, leg. Wang Jia-Fu.

Etymology: From Latin *zona-*, meaning band, referring to arc-shaped band on epigyne (Fig. 33).

Diagnosis: The female is similar to that of *C. syzygiatus* Zhu & Wang, 1994 (figs. 1–4), but differs by: (1) epigyne with two teeth (Fig. 33), absent in *syzygiatus*; (2) atrium (Fig. 33) “()”-shaped, but “()”-shaped in *syzygiatus*; (3) vulva. The male resembles that of *C. variegatus* Wang *et al.*, 1990 (figs. 23–24), but can be distinguished from the latter by: (1) conductor (Figs. 35, 36) thinner, screw-like, that of *variegatus* hook-shaped; (2) a clear boundary between fulcrum and base



Figs. 27–31: *Coelotes terebratus*, sp.n. 27 Body of female; 28 Epigyne; 29 Vulva, dorsal; 30 Palpal organ, prolateral; 31 Ditto, retrolateral.



Figs. 32–36: *Coelotes zonatus*, sp.n. **32** Body of female; **33** Epigyne; **34** Vulva, dorsal; **35** Palpal organ, prolateral; **36** Ditto, retrolateral.

of embolus (Fig. 35); patellar apophysis (Fig. 36) shorter, hook-shaped, but slightly curved in *variegatus*.

Female: TL 6.0–6.9. Specimen of TL 6.8 measured: CL 3.5, CW 2.2, AL 3.3, AW 2.0. AER slightly shorter than PER and recurved, PER straight; AME smallest, diameter slightly smaller than AMI; PME, PLE equidistant; MEF longer than wide, anterior margin narrower. Carapace brown, with greyish black margin; fovea, cervical and radial grooves dark brown; with “U”-shaped mark before fovea (Fig. 32). Sternum brown, with dark brown margin. Clypeus brown, height equal to AME diameter. Chelicerae, endites and labium brown, 4 promarginal and 5 retromarginal cheliceral teeth. Legs brown, with many spines and hairs; annuli indistinct; formula: 4,1,2,3; measurements: I 13.8 (3.6,4.6,3.2,2.4); II 12.4 (3.4,4.0,3.0,2.0); III 11.3 (3.0,3.4,2.9,2.0); IV 15.9 (3.6,5.0,5.3,2.0). Abdomen oval; dorsum greyish brown, with greyish black marks (Fig. 32); cardiac pattern like a long bar, with two pairs of branches; 5 chevrons behind cardiac pattern; ventrally greyish brown, lateral areas greyish black; with irregular marks on median area. Epigyne (Fig. 33): two triangular teeth; one arc-shaped transverse band; atrium “(”)-shaped. Vulva (Fig. 34): copulatory canals long, each with 3 loops.

Male: 6.8–7.5. Specimen of TL 7.5 measured: CL 4.0, CW 3.7, AL 3.5, AW 2.1. Leg formula: 4,1,2,3; measurements: I 14.9 (3.8,5.0,3.8,2.3); II 13.0 (3.0,4.0,4.0,2.0); III 12.2 (3.0,3.8,3.4,2.0); IV 16.6 (4.0,5.0,5.2,2.4). Body form, coloration and marks similar to female. Palpal organ (Figs. 35, 36): conductor screw-like; embolus long and thin; patellar apophysis hook-shaped.

Distribution: China (Hunan, Jiangsu and Shanxi provinces).

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Web-site selection in *Drapetisca socialis* (Araneae: Linyphiidae)

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Summary

The spatial pattern of web distribution in *Drapetisca socialis* on the lower part of tree trunks was investigated in a beech wood. The spider prefers regions of trunks covered with a thick layer of epiphytic algae, a finding confirmed in a laboratory choice experiment. Prey availability is assumed to be higher at these places. The results indicate that *D. socialis* uses the algal cover as a proximate cue for distinguishing prey-rich from prey-poor sites and is thus able to assess the site quality of a patch in advance, instead of sampling different habitats with the associated risk of wasting time, material and energy. The web abundance in relation to height on tree trunks is presumably caused by prey density and interspecific competition. The preferred southern exposure is assumed to be related to thermoregulation. *D. socialis* also strongly prefers places under large protuberances on the otherwise smooth surface of beech trunks, behaviour that is interpreted as providing protection against water or visibility.

Introduction

The foraging success of predators is closely linked with patch choice and thus predators should search for patches that possess high prey availability and that permit the efficient perception and capture of prey (Riechert & Gillespie, 1986). Several recent studies have shown that the rate of food acquisition directly affects survival, growth rate, size at sexual maturity and reproductive success, all of which have a strong impact on fitness (Morse, 1981; Vollrath, 1987; Orians, 1991). Therefore, natural selection is expected to have favoured those responses to cues concerning habitat quality. Relatively sedentary animals or species defending a fixed territory should spend more effort in searching for

suitable patches and settle at sites affording a high concentration of food (Riechert & Gillespie, 1986).

Sit-and-wait predators are relatively sedentary, ambush mobile prey and leave patches infrequently. Mobile predators actively search their environment for prey and often move between foraging sites. These two foraging modes occupy the endpoints of a continuum (Janetos, 1982).

Spiders that build relatively permanent webs are clear examples of sit-and-wait predators. How does such a spider locate web sites affording good conditions and how does it judge the quality of patches? Different families of web-building spiders use various habitat selection strategies (Riechert & Gillespie, 1986). Some species build “trial webs” in several patches and thus estimate the availability of prey. Other spider species are known to be associated with vegetation of a particular structure.

To be able to distinguish whether patch choice is influenced directly by prey density or by various parameters of the environment, we must determine the extent of association with proximate features of the environment in laboratory choice experiments, because proximate and ultimate factors both create a similar pattern in the field. In addition, other goals and constraints, such as a suitable microclimate, structures for web support, predation risk and competition are involved and influence the spatial pattern.

The linyphiid spider *Drapetisca socialis* (Sundevall) occurs throughout the Palaearctic and is an obligatory tree trunk dweller. It attaches a specialised web vertically to the surface of trees, especially beeches, a tree type where no other spider is as frequent as *D. socialis*. The web consists of a small sheet and surrounding signal threads that inform the spider about passing arthropods (Schütt, 1995). The spider maintains the same web for an extended period but can be driven away by conspecifics. Thus, *D. socialis* is a true sit-and-wait forager living in an approximately two-dimensional system.

In this study, I have examined the spatial and temporal pattern of web distribution in *D. socialis* on tree trunks and the cues associated with patch choice decision. I have also investigated the mechanism of the

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