

Jumping Spiders of the Genera *Harmochirus*, *Bianor* and *Stertinus* (Araneae, Salticidae) from Japan

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Abstract Japanese salticid spiders of the genera *Harmochirus*, *Bianor* and *Stertinus* are enumerated. *Chirothecia insulana* Kishida, 1914, never recognized since its original description, is redescribed based on new materials and transferred to *Harmochirus*. This spider has long been misidentified with an Indonesian species, *Harmochirus brachiatus* (Thorell, 1877). *Harmochirus nigriculus* Logunov et Wesolowska, 1992, recently described from the Russian Far East, is newly recorded from Japan and redescribed on the basis of Japanese materials. *Harmochirus niger* Kishida, 1910, is regarded as a junior synonym of *Harmochirus pullus* (Bösenberg et Strand, 1906). Two new species are described from Japan under the names *Bianor japonicus* sp. nov. and *Stertinus kumadai* sp. nov. The genus *Stertinus* is new to the Japanese fauna. Diagnoses are given for the three genera.

Key words: Araneae, Salticidae, *Harmochirus*, *Bianor*, *Stertinus*, new species, Japan, taxonomy.

Introduction

Bösenberg and Strand (1906) recorded *Harmochirus brachiatus* (Thorell, 1877) for the first time from Japan and described it with detailed illustrations. Though the species was originally described from Indonesia, no one suspected its identification. A spider relatively common in Japan has been identified with this Indonesian species for a long time (Yaginuma, 1960, 1986; Chikuni, 1989; and others). Having examined the type specimen (male holotype) of *Harmochirus brachiatus* as well as Japanese specimens currently identified with the species, the first author of the present paper (Logunov) recognized that the Japanese spider was specifically different from the Indonesian one.

On the other hand, *Chirothecia insulana* Kishida, 1914, has been neglected since its original description based on a female specimen collected on a small island belonging to Kyoto Prefecture, Honshu. From the original figures of the body and the epigyne given by Kishida, it was readily understood that the species

should be the same as "*Harmochirus brachiatus*" from Japan. *Chirothecia insulana* is revived and redescribed herein and transferred to *Harmochirus*.

Bianor pullus was described from Japan in the same work by Bösenberg and Strand based on a female specimen. It was not recognized in Japan for a long time. The third author of the present paper (Ono, 1972) first reported the existence in Japan of another *Harmochirus* species resembling "*brachiatus*." However, he was unable to find out that the species had already been described many years ago. Matsumoto in Kawana and Matsumoto (1986) determined the spider as *Bianor pullus* and illustrated the female genitalia and the male palp. It was also recorded from North Korea (Wesołowska, 1981). In the major work on the salticid spiders of Japan, Bohdanowicz and Prószyński (1987) finally described both the sexes of the species on the basis of examination of the holotype and new materials from Japan sent by Dr. T. Yaginuma, and transferred it from *Bianor* to *Harmochirus*. They gave it a new name, *Harmochirus kochiensis* Bohdanowicz et Prószyński, 1987, based on a female specimen from Kochi Prefecture, as a third Japanese species of the genus. The second author (Ikeda) recently revised *Harmochirus pullus* and *H. kochiensis* with many materials and described both the sexes of the two species (Ikeda, 1993). A misidentification by Bohdanowicz and Prószyński was pointed out therein; the male regarded by them as that of *Harmochirus pullus* is in fact that of *H. insulana*.

Harmochirus niger Kishida, 1910 (originally "*nigrum*") was described from Echigo (Niigata Prefecture), Honshu, on the basis of a female specimen (erroneously indicated as a "male," but the description was made on a female). Though the depository of the type specimen was unknown and no illustration of the spider was given, the original description, especially the detailed account of the epigyne, indicates that the species has characteristics in common with *Harmochirus pullus* (Bösenberg et Strand, 1906). The present authors, therefore, regarded them as synonymous.

A fourth species to be reported in the present paper from Japan is *Harmochirus nigriculus* Logunov et Wesołowska, 1992, originally described from the Russian Far East. It is recorded for the first time from Japan.

The genus *Bianor* Peckham et Peckham, 1885, stands very close to *Harmochirus* Simon, 1885. The first author is actually studying the two genera on the worldwide basis. The result of the revision will be published in another paper of his. At this place, the authors will give brief characteristics of these genera. Because *Bianor pullus* was transferred to *Harmochirus*, there remains only one species *Bianor aurocinctus* (Ohlert, 1865) in the Japanese fauna. The spider was first recorded by Matsuda (1985) from Hokkaido as *Bianor aenescens* (Simon, 1868). She (1986) corrected the error according Roberts (1985) and called it *Bianor aurocinctus*. The species is widely distributed from Europe to Sakhalin and Japan, though Logunov and Wesołowska (1992) pointed out that the records of

the spider from the Far East should be confirmed since many of them were based on incorrect identifications and might be attributed to *Harmochirus nigriculus*. A second spider of the genus from Japan is discovered in the material collected in Okayama Prefecture and described in the present paper as a new species.

The genus *Stertinus* Simon, 1890, is a small genus containing ten known species from Southeast Asia. It is related to several genera of Southeast Asia, including the two genera discussed above. Some specimens of a spider belonging to this genus were obtained from Tokyo, Aichi and Okayama Prefectures, southern Honshu. After a careful examination of the specimens, the authors have concluded that the spider is new to science. It will be described herein. Besides, the genus *Stertinus* is new to the Japanese fauna.

The type specimens of the new species to be described in the present paper are deposited in the collection of the Department of Zoology, National Science Museum, Tokyo, Japan (NSMT). Some materials used for this study were borrowed from the following institutions: Zoological Museum, Institute for Systematics and Ecology of Animals, Novosibirsk, Russia (ISE), Naturhistorisches Museum, Basel, Switzerland (NHMB), Naturhistorisches Museum, Wien, Austria (NHMW) and Swedish Museum of Natural History, Stockholm, Sweden (SMNH).

The abbreviations used are as follows: ALE, anterior lateral eye; AME, anterior median eye; PLE, posterior lateral eye; PME, posterior median eye.

Genus *Harmochirus* Simon, 1885

[ウデブトハエトリグモ属]

Harmochirus Simon, 1885, p. 440. Type species by monotypy: *Harmochirus malaccensis* Simon, 1885, p. 441, from the Malay Peninsula, a junior synonym of *Ballus brachiatus* Thorell, 1877, p. 626.

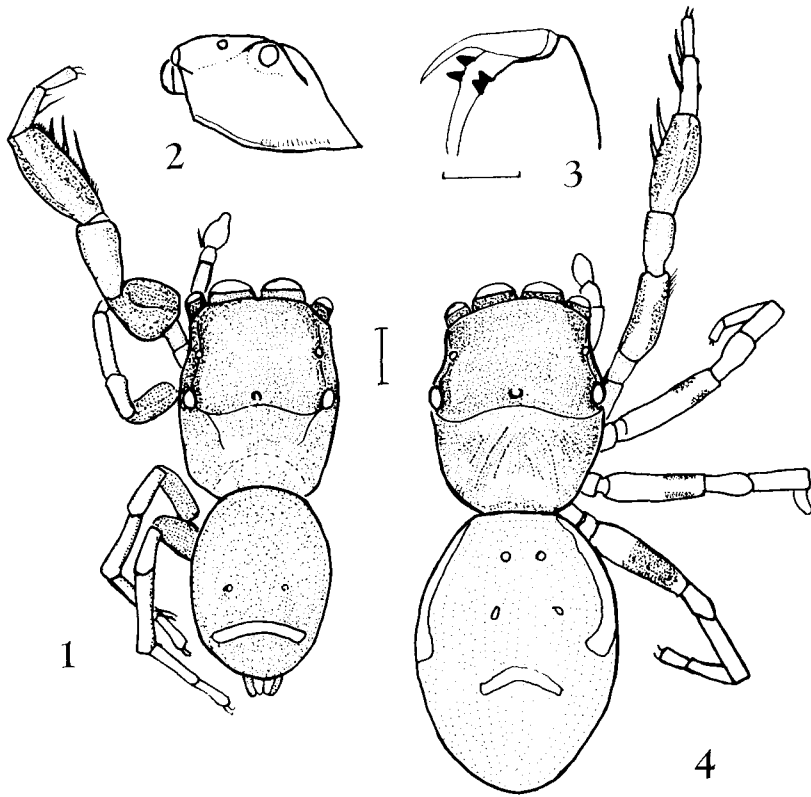
Diagnosis. The species of *Harmochirus* usually have strongly developed first legs with elongated coxae, swollen femora and patellae heavily fringed with flattened dark scales especially in males. Besides, *Harmochirus* has a trapezoidal pars cephalica (PLE-PLE/ALE-PLE > 1.5), male chelicera never strongly developed, and its retromargin usually fissident and with a bicuspid tooth (except *H. kochiensis*, *H. pullus* and *H. nigriculus* with an unidentate retromarginal tooth).

Harmochirus insulanus (Kishida, 1914), comb. nov.

[ウデブトハエトリ]

(Figs. 1-10)

Harmochirus brachiatus: Bösenberg & Strand, 1906, p. 373, pl. 9, fig. 147, pl. 13, fig. 356.—Yaginuma, 1960, p. 106, pl. 48, fig. 286; 1986, p. 236, fig. 131.3; 1990, p. 274.—Prószyński, 1984, p. 55.—Kawana & Matsumoto, 1986, p. 70, fig. 2G-J.—Shinkai & Takano, 1987, p. 115.—Chikuni, 1989, p. 147, fig. 3, p. 273. [Nec *Harmochirus brachiatus* (Thorell, 1877).]

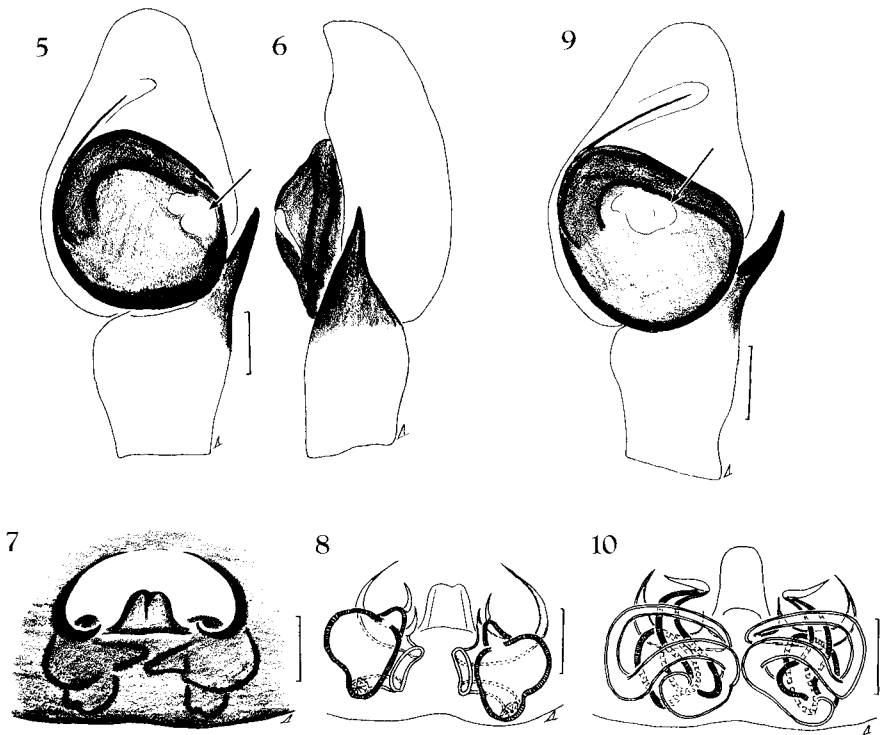


Figs. 1-4. *Harmochirus insulanus* (Kishida, 1914).—1, Male, dorsal view; 2, male carapace, lateral view; 3, male chelicera, ventral view; 4, female, dorsal view (scales: 1-2, 4, 0.5 mm; 3, 0.25 mm). [H. Ikeda del.]

Chirothecia insulana Kishida, 1914, p. 226, 2 figs. [♀ holotype from "Oshima, Tango," Kyoto Pref., Japan, VI-1913, K. Kishida leg., probably lost].

Harmochirus pullus (♂): Bohdanowicz & Prószyński, 1987, p. 59, figs. 42-44. [Nec *Harmochirus pullus* (Bösenberg et Strand, 1906).]

Specimens examined. 1 ♀, Experimental Forest of Tokyo Univ., Tanashi-shi, Tokyo, 9-VII-1995, A. Tanikawa leg. (NSMT-Ar 3321); 1 ♂, Ouma Shrine, Kumano-shi, Mie Pref., 25-VII-1993, Y. Ihara leg. (NSMT-Ar 3322); 1 ♀, Kitakomiya, Akikawa-shi, Tokyo, 19-V-1987, K. Kumada leg.; 1 ♂, Atago-yama, Izu-oshima Island, Tokyo, 26-VII-1995, M. Kawanabe leg.; 1 ♀, Taura-shi, Kanagawa Pref., 18-III-1978, K. Kumada leg.; 1 ♀, Koma-yama, Oiso-machi, Naka-gun, Kanagawa Pref., 13-X-1985, H. Ikeda leg.; 1 ♀, Nishikoiso, Oiso-machi, Naka-gun, Kanagawa Pref., 22-VII-1991, H. Ikeda leg.; 1 ♂, Hanamori Shrine, Kumano-shi, Mie Pref., 25-VII-1993, T. Shiozaki leg.; 1 ♂, Ayabe, Tsuyama-shi, Okayama Pref., 12-V-1993, K. Nojima leg.; 1 ♂ Nishinoura,



Figs. 5–10. 5–8, *Harmochirus insulanus* (Kishida, 1914); 9–10, *Harmochirus brachiatus* (Thorell, 1877). — 5, 9, male palps, ventral view (arrows indicate the membranous tegular peak); 6, male palp, retrolateral view; 7, epigyne; 8, 10, female genitalia, dorsal view (scales: 0.1 mm). [D. V. Logunov del.]

Kurashiki-shi, Okayama Pref., 23–IV–1993, K. Nojima leg.

Material for comparison. *Harmochirus brachiatus*: 1♂, (holotype of *Ballus brachiatus*), Java, Indonesia, A. W. M. van Hasselt leg. (SMNH, 1818); 1♂, Buitenzorg, Java, E. Reimoser det. (NHMW 12.317); 2♀ 1♂, Medan, Sumatra, L. Tulum leg., E. Reimoser det. (NHMW 12.316); 1♀ 1♂, Sungai Luit, Malaysia, 4–VIII–1984, H. Ikeda leg. (NSMT–Ar 3323).

Description. Measurement based on 1♀ from Tokyo (NSMT–Ar 3321) and 1♂ from Mie (NSMT–Ar 3322) and other selected specimens; range of variation in parentheses (♀, N=5; ♂, N=5) (in mm). Body length ♀ 4.80 (3.58–4.80), ♂ 3.20 (2.43–3.90); prosoma length ♀ 1.95 (1.68–1.95), ♂ 1.60 (1.34–1.98), width ♀ 1.60 (1.50–1.63), ♂ 1.60 (1.28–1.70), height ♀ 1.06 (1.02–1.15), ♂ 1.04 (0.90–1.15); opisthosoma length ♀ 2.88 (1.89–2.37), ♂ 1.76 (1.34–1.92), width ♀ 2.27 (1.60–2.27), ♂ 1.44 (1.15–1.63). Eye fields: ALE–ALE ♀ 1.42 (1.38–1.44), ♂ 1.49 (1.15–1.49), PLE–PLE ♀ 1.71 (1.60–1.73), ♂ 1.73 (1.31–1.73), ALE–PLE ♀ 1.12 (1.06–1.12), ♂ 1.12 (0.86–1.15), ALE–PME

Table 1. Measurement of leg segments of *Harmochirus insulanus* (in mm; ♀/♂).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.25/1.38	0.80/0.80	1.15/1.30	0.75/0.91	0.50/0.58	4.45/4.97
II	0.88/0.86	0.58/0.54	0.72/0.72	0.58/0.57	0.36/0.40	3.12/3.09
III	1.06/0.99	0.54/0.58	0.72/0.70	0.69/0.57	0.45/0.40	3.46/3.24
IV	1.20/1.06	0.50/0.51	0.72/0.80	0.83/0.70	0.45/0.45	3.70/3.52

Table 2. Spination of legs of *Harmochirus insulanus* (dorsal/ventral; p=prolateral, r=retrolateral).

Leg	Tibia	Metatarsus
I ♀	absent/2-2-2	absent/2-2
I ♂	absent/2-2-2	absent/2-2
II ♀	0-1p-0/1r-2-0	absent/2-2
II ♂	0-1p-0/1r-2-0	absent/2-2
III ♀	0-2-0/0-0-1p	0-2/0-2p·2r
III ♂	0-2-0/0-0-1p	0-2/0-2p·2r
IV ♀	absent/absent	absent/absent
IV ♂	absent/absent	absent/absent

♀ 0.64 (0.61–0.67), ♂ 0.66 (0.48–0.66), AME diameter ♀ 0.48 (0.44–0.48), ♂ 0.48 (0.38–0.48); ratio ALE/AME ♀ 0.53 (0.43–0.57), ♂ 0.53 (0.48–0.53), ALE/PLE ♀ 1.07 (0.92–1.14), ♂ 1.07 (1.07–1.20), PME/PLE ♀ 0.20 (0.20–0.30), ♂ 0.33 (0.25–0.33). Length of legs of 1 ♀ from Tokyo and 1 ♂ from Mie as shown in Table 1.

Spination of legs of the same specimens as shown in Table 2.

Male palp (Figs. 5–6). Embolus short, not coiled. Tegulum spherical with membranous peak on retrolateral surface, tibial apophysis slender.

Female genitalia (Figs. 7–8). Epigyne with a central structure and copulatory opening situated anteriorly. Insemination ducts short and simple.

Coloration and markings (Figs. 1, 4). Male. Prosoma black, covered with white scales (dorsally, frontally and laterally). Clypeus black. Eyes surrounded by brown hairs. Sternum dark brown, covered with translucent hairs. Labium black. Maxillae and chelicerae dark brown with a retromarginal, divided tooth. Opisthosoma: dorsum blackish brown, with a posterior transverse band of white scales, covered with translucent hairs; venter brown with black margin, covered with translucent hairs. Leg I: black except for metatarsus and tarsus brown; rows of black, scale-like setae occur on the retrolateral-ventral surfaces of femur and the ventral surfaces of patella and tibia. Legs II, III and IV: femora black, patellae, tibiae, metatarsi and tarsi yellowish brown.

Female paler.

Distribution. Japan (Honshu, Shikoku and Kyushu).

Remarks. *Harmochirus insulanus* is closely related to *H. brachiatus*, but can be distinguished from the latter by the shape of tegulum and the position of the membranous tegular “peak” (arrowed in Figs. 5 and 9), in the male palp as well as by the structure of spermathecae (cf. Figs. 8 and 10) in the female genitalia.

Saito (1939, 1959) reported *H. brachiatus* from Tohoku, Japan, but his identification was not correct. His description was based on *Rhene atrata* (Karsch, 1881).

***Harmochirus pullus* (Bösenberg et Strand, 1906)**

[キレワハエトリ]

Bianor pullus Bösenberg et Strand, 1906, p. 354, pl. 14, fig. 378 a-c. — Kawana & Matsumoto, 1986, p. 75, fig. 2 A-F.

Harmochirus nigrum Kishida, 1910, p. 5. *Syn. nov.*

Harmochirus niger: Brignoli, 1983, p. 639. — Prószyński, 1990, p. 153.

Harmochirus pullus: Prószyński, 1984, p. 55. — Yaginuma, 1986, p. 236, fig. 131.4; 1990, p. 274. — Bohdanowicz & Prószyński, 1987, (♀), p. 59, figs. 38-41. — Shinkai & Takano, 1987, p. 115. — Chikuni, 1989, p. 147, fig. 4, p. 274. — Ikeda, 1993, p. 138, figs. 8-10, 13-14.

***Harmochirus kochiensis* Bohdanowicz et Prószyński, 1987**

[ナカヒラハエトリ]

Harmochirus kochiensis Bohdanowicz et Prószyński, 1987, p. 60, figs. 45-48. — Yaginuma, 1990, p. 274. — Ikeda, 1993, p. 136, figs. 1-7, 11-12.

***Harmochirus nigriculus* Logunov et Wesolowska, 1992**

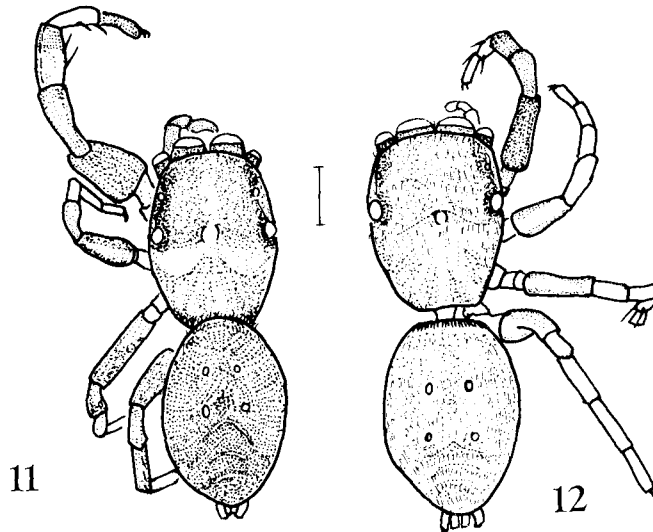
[クロツヤハエトリ]

(Figs. 11-17)

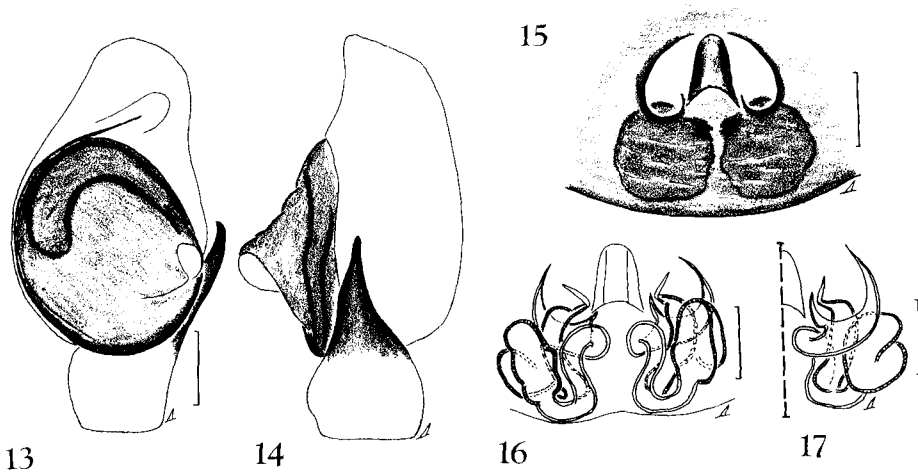
Harmochirus nigriculus Logunov et Wesolowska, 1992, p. 118, fig. 4 A-B.

Specimens examined. Japan: 2 ♀, Kinkai enden, Ushimado-cho, Oku-gun, Okayama Pref., 24-V-1992, K. Nojima leg.; 2 ♀, Sakazu, Kurashiki-shi, Okayama Pref., 28-V-1995, K. Nojima leg.; 3 ♀ 2 ♂, Ijirino, Soja-shi, Okayama Pref., 25-V-1995, K. Nojima leg. (NSMT-Ar 3324); 1 ♀ 1 ♂, Hata, Soja-shi, Okayama Pref., 24-V-1995, K. Nojima leg.; 1 ♀, Hata, Soja-shi, Okayama Pref., 5-IX-1995, K. Nojima leg.; 1 ♂, Onbara, Kamisaibara-son, Tomata-gun, Okayama Pref., 17-VI-1995, K. Nojima leg.; 1 ♀, Saekihara, Saeki-cho, Wake-gun, Okayama Pref., 20-IX-1995, K. Nojima leg.

North Korea: 1 ♂, Kangwon Prov., Kumgang Mts., Okryu Valley, 22-VI-1990, Ekipa leg. (ISE); 1 ♀, Kesong, 29-VI-1990, Ekipa leg. (IZW); 2 ♀, N-Hamgyong Prov., Kyongsong Country, Sang-onpo-ri, 17-VI-1990, Ekipa leg. (ISE); ♀ ♀ ♂ ♂, Pyongyang-City, 27-VI-1990, Ekipa leg. (IZW).



Figs. 11-12. *Harmochirus nigriculus* Logunov et Wesołowska, 1992. — 11, Male, dorsal view; 12, female, dorsal view (scale: 0.5 mm). [H. Ikeda del.]



Figs. 13-17. *Harmochirus nigriculus* Logunov et Wesołowska, 1992. — 13, male palp, ventral view; 14, male palp, retrolateral view; 15, epigyne; 16, female genitalia, dorsal view; 17, same, ventral view (scales: 0.1 mm). [D. V. Logunov del.]

Description. Measurement based on 1 ♀ 1 ♂ from Okayama Pref. (NSMT-Ar 3324) (in mm); range of variation in the specimens examined in parentheses (♀, N=10; ♂, N=4). Body length ♀ 3.33 (3.20-4.03), ♂ 3.23 (2.94-3.23); prosoma length ♀ 1.63 (1.38-1.66), ♂ 1.60 (1.44-1.60), width ♀ 1.34 (1.12-

1.41), ♂1.22 (1.12–1.28), height ♀0.83 (0.64–0.88), ♂0.80 (0.77–0.83); opisthosoma length ♀1.86 (1.76–2.40), ♂1.47 (1.47–1.73), width ♀1.38 (1.12–1.73), ♂1.22 (1.02–1.22). Eye fields: ALE–ALE ♀1.06 (0.96–1.09), ♂0.96 (0.90–1.02), PLE–PLE ♀1.23 (1.09–1.35), ♂1.18 (1.02–1.18), ALE–PLE ♀0.82 (0.67–0.83), ♂0.82 (0.70–0.82), ALE–PME ♀0.38 (0.35–0.42), ♂0.37 (0.35–0.38), AME diameter ♀0.34 (0.32–0.35), ♂0.32 (0.29–0.36), ratio ALE/AME ♀0.48 (0.44–0.57), ♂0.50 (0.44–0.53), ALE/PLE ♀1.00 (0.80–1.20), ♂1.00 (0.80–1.00), PME/PLE ♀0.28 (0.22–0.30), ♂0.30 (0.20–0.30). Length of legs of the same specimens as shown in Table 3.

Spination of legs of the same specimens as shown in Table 4.

Male palp (Figs. 13–14). Embolus short, not coiled. Tegulum conical with pear-shaped, membranous depression on retrolateral surface, tibial apophysis slender. Ventral knob on palpal tibia.

Female genitalia (Figs. 15–17). Epigyne with a central cone and copulatory opening anteriorly. Insemination ducts curved.

Coloration and markings (Figs. 11–12). Male. Prosoma black and shiny, covered with white scales on dorsal and lateral surfaces. Clypeus dark brown. Sternum black, sparsely covered with white hairs. Maxillae dark brown. Chelicerae dark brown with a single tooth on retromargin. Labium black. Opisthosoma: dorsum black, covered with white shiny scales and white hairs; anterior part of opisthosoma covered with black hairs; venter black, sparsely covered with white hairs. Leg I: femur and patella black; robust tibia dark brown and distally

Table 3. Measurement of leg segments of *Harmochirus nigriculus* (in mm; ♀/♂).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.92/1.14	0.53/0.64	1.66/0.06	0.45/0.45	0.34/0.40	2.79/2.78
II	0.72/0.70	0.40/0.46	0.46/0.54	0.35/0.40	0.26/0.29	2.63/2.21
III	0.93/0.93	0.43/0.48	0.48/0.48	0.45/0.46	0.34/0.32	2.63/2.67
IV	0.86/0.96	0.40/0.46	0.56/0.56	0.54/0.56	0.40/0.35	2.76/2.89

Table 4. Spination of legs of *Harmochirus nigriculus* (dorsal/ventral; p=prolateral, r=retrolateral).

Leg	Femur	Tibia	Metatarsus
I	♀	0–0–1p/absent	absent/1r–2–2
	♂	absent/absent	absent/1r–2–2
II	♀	0–0–2p/absent	0–1p/1r–2–0
	♂	0–1–2p/absent	absent/1r–1r–1p
III	♀	0–0–2p/absent	0–2–0/0–1p
	♂	0–0–2p/absent	0–2–0/0–2
IV	♀	absent/absent	0–1r–0/absent
	♂	absent/absent	0–1r–0/1p–1p

black; metatarsus brown; tarsus dark brown. Rows of scale-like black setae present on dorsal and ventral surfaces of femur, ventral surfaces of patella and dorsal and ventral surfaces of tibia. Legs II, III and IV: femora dark brown; patellae, tibiae, metatarsi and tarsi brown.

Female. Prosoma black, covered with white and black hairs. Clypeus dark brown. Sternum black, sparsely covered with white hairs. Chelicera dark brown. Maxillae dark brown with pale margin. Labium black. Opisthosoma: dorsum black, covered with white hairs; venter black, sparsely covered with white hairs. Leg I: femur, patella and tibia brown; metatarsus and tarsus yellow-brown. Legs II, III and IV: femora blackish yellow to brown, remaining segments yellowish brown.

Distribution. Japan (known only from Okayama Prefecture), Russia (Primorskye) and Korea.

Remarks. This species may not belong to *Harmochirus* as was suggested by Logunov and Wesołowska (1992), as it shows a close affinity with the *Bianor aurocinctus* species complex. This problem will be taken up in a separate paper by the first author (Logunov).

Genus *Bianor* Peckham et Peckham, 1885

[ツヤハエトリグモ属]

Bianor Peckham et Peckham, 1885, p. 284. Type species: *Scythropa maculata* Keyserling, 1883, p. 1447, pl. 122, fig. 4.

Diagnosis. The species of *Bianor* share the following characteristics: pars cephalica usually elevated, but not so trapezoidal as in *Harmochirus* ($PLE-PLE/ALE-PLE < 1.5$); first legs with elongated coxae and swollen tibiae, only femora being somewhat swollen; tibiae I usually covered with protruded light hairs; abdomen usually ovoid or elongate, frequently with a well-developed coloured markings; male chelicerae strongly developed and armed with large pro- and retromarginal teeth; retromargin unident, and with a single tooth.

Bianor aurocinctus (Ohlert, 1865)

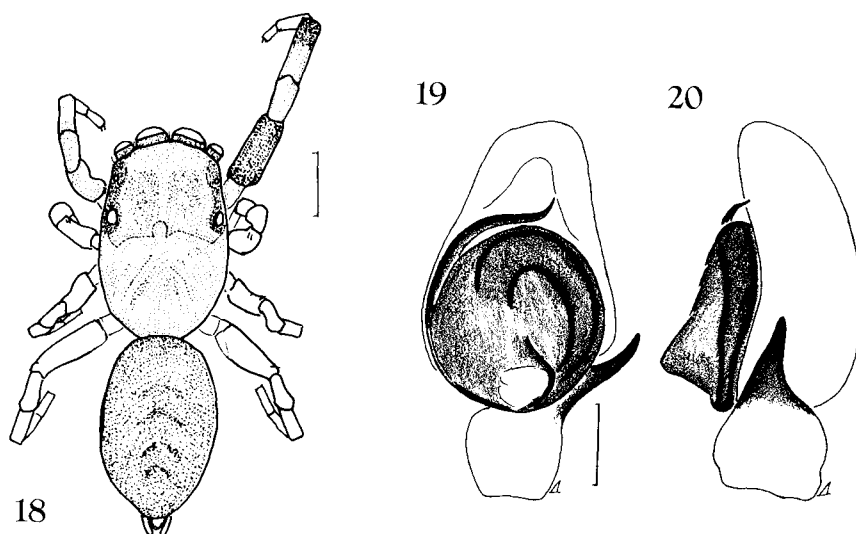
[キタツヤハエトリ]

Heliophanus aurocinctus Ohlert, 1865, p. 11.

Bianor aenescens: Matsuda, 1985, p. 26.

Bianor aurocinctus: Matsuda, 1986, p. 87, figs. 25–26. — Heimer & Nentwig, 1990, p. 490, pl. 228: 1290–1291, p. 494, pl. 230: 1321. — Yaginuma, 1990, p. 274. — Logunov & Marusik, 1991, pp. 39, 45, figs. 1 a–b, 2 a–d, 3 a. — Roberts, 1995, p. 194.

(Other literatures see Prószyński, 1990.)



Figs. 18-20. *Bianor japonicus* sp. nov. —18, Male (holotype), dorsal view (palps omitted); 19, male palp, ventral view; 20, same, retrolateral view (scales: 18, 0.5 mm; 19-20, 0.1 mm). [18, H. Ikeda del.; 19-20, D. V. Logunov del.]

Bianor japonicus sp. nov.

[ヤマトツヤハエトリ]

(Figs. 18-20)

Holotype: ♂, Onbara, Kamisaibara-son, Tomata-gun, Okayama Pref., 5-VII-1990, K. Nojima leg. (NSMT-Ar 3325).

Description. Measurement based on the male holotype (in mm). Female unknown. Body length 2.71; prosoma length 1.28, width 0.96, height 0.61; opisthosoma length 1.44, width 0.91. Eye fields: ALE-ALE 0.83, PLE-PLE 0.98, ALE-PLE 0.66, ALE-PME 0.32, AME diameter 0.30; ratio ALE/AME 0.47, ALE/PLE 1.20, PME/PLE 0.27. Length of legs as shown in Table 5.

Spination of legs as shown in Table 6.

Male palp (Figs. 19-20). Embolus short, apically curved, tegulum with membranous peak posteriorly.

Coloration and markings (Fig. 18). Prosoma dark brown, with eye surroundings black but covered with white scales. Clypeus dark brown. Sternum black, sparsely covered with white hairs. Labium dark brown. Maxillae dark brown. Chelicerae dark brown with a single tooth on retromargin. Opisthosoma: dorsum black, sparsely covered with white shiny scales and white hairs; anterior part of opisthosoma covered with black hairs; venter black, covered with weak white hairs. Leg I: femur black, patella dark brown, tibia dark brown, distally

Table 5. Measurement of leg segments of *Bianor japonicus* (in mm; ♂).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	1.14	0.64	1.06	0.45	0.40	2.78
II	0.70	0.46	0.54	0.40	0.29	2.21
III	0.93	0.48	0.48	0.46	0.32	2.67
IV	0.96	0.46	0.56	0.56	0.35	2.89

Table 6. Spination of legs of *Bianor japonicus* (dorsal/ventral; p = prolateral, r = retrolateral).

Leg	Femur	Tibia	Metatarsus
I ♂	absent/absent	absent/1r-2-2	absent/2-2
II ♂	0-1-2p/absent	absent/1r-1r-1p	absent/2-2
III ♂	0-0-2p/absent	0-2-0/0-2	2-2/2-2p·2r
IV ♂	absent/absent	0-1r-0/1p-1p	0-2/1p-2

black; metatarsus and tarsus yellow. Legs II, III and IV completely yellow.

Distribution. Known only from the type locality.

Remarks. This species resembles *Bianor aemulus* (Gertsch, 1934) in its embolar structure, but differs from the latter in having straight and smaller tibial apophysis.

Genus *Stertinius* Simon, 1890

[ミナミツヤハエトリグモ属]

Stertinius Simon, 1890, p. 136. Type species: *Stertinius dentichelis* Simon, 1890, p. 136, from Guam Island, Mariana Islands.

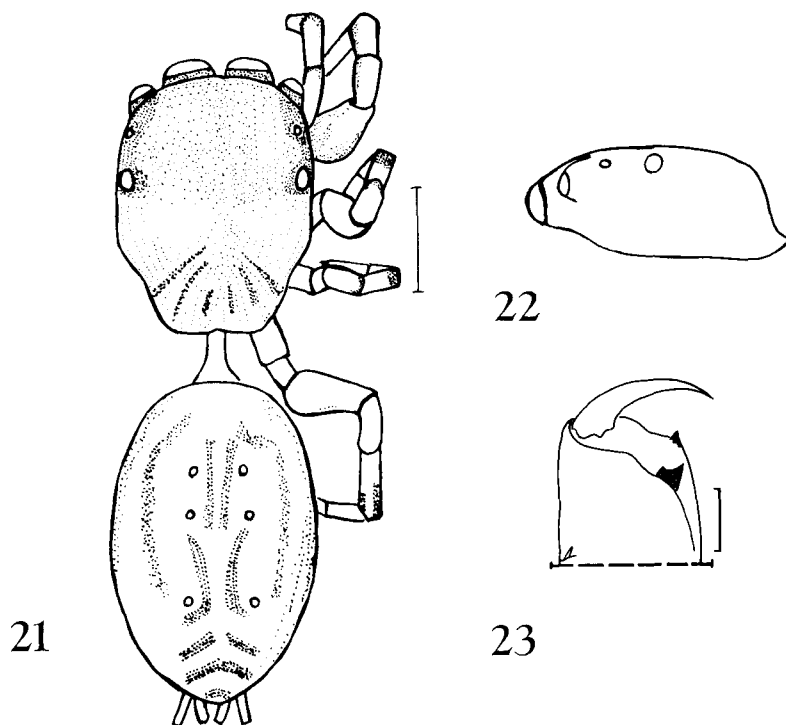
Diagnosis. Exact definition of this genus cannot be given at the moment, as most species described under *Stertinius* are either known only from original descriptions or poorly studied. In general appearance the species of this genus are similar to those of *Bianor* and *Harmochirus* (which is why we are treating this genus in the current study), but can be easily distinguished from the others by the shape of prosoma more or less square (in *Bianor* and *Harmochirus* trapezoidal), flattened palpal tarsi, position of PME (closer to AME than to PLE), and above all, by the structure of the genitalia. For instance, no species of *Stertinius* has a central pocket of the epigyne, a feature constantly possessed by the species of both *Bianor* and *Harmochirus*.

Stertinius kumadai sp. nov.

[コミナミツヤハエトリ]

(Figs. 21-23, 27-30)

Type series. Holotype: ♀, Hachioji-joshi, Hachioji-shi, Tokyo, 25-VII-



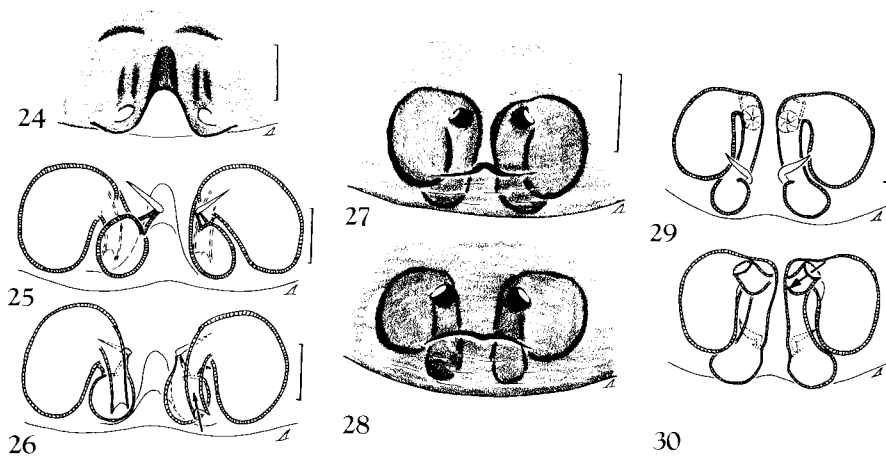
Figs. 21–23. *Stertinius kumadai* sp. nov. — 21, Female holotype, dorsal view; 22, female carapace, lateral view; 23, female chelicera, ventral view (scales: 21–22, 0.5 mm; 23, 0.1 mm). [21–22, H. Ikeda del.; 23, D. V. Logunov del.]

1991, K. Kumada leg. (NSMT–Ar 3326). Paratypes: 1 ♀, Kuroda, Inabu-chô, Kitashitara-gun, Aichi Pref., 12–VI–1993, K. Ogata leg. (NSMT–Ar 3327); 1 ♀, Nechi, Kamo-cho, Tomata-gun, Okayama Pref., 5–VII–1991, K. Nojima leg. (NSMT–Ar 3328).

Material for comparison. *Stertinius niger* Merian, 1911: 1 ♀ “Celebes, Klabat, 2,000 m, 24–26 Sept.” (NHMB 937a, lectotype).

Description (based on the female holotype and paratypes; male unknown). Measurement of holotype (in mm); range of variation in all the specimens examined in parentheses (N=4). Body length 3.00 (3.00–3.20); prosoma length 1.12 (1.12–1.28), width 0.90 (0.90–1.09), height 0.61 (0.51–0.61); opisthosoma length 1.63 (1.63–1.92), width 1.20 (1.20–1.33); Eye fields: ALE–ALE 0.80 (0.80–0.84), PLE–PLE 0.96 (0.93–1.02), ALE–PLE 0.56 (0.56–0.58), ALE–PME 0.24 (0.24–0.26), AME diameter 0.29 (0.26–0.29); ratio ALE/AME 0.44 (0.44–0.47), ALE/PLE 1.00 (1.00–1.07), PME/PLE 0.31 (0.25–0.31). Length of legs of the holotype as shown in Table 7.

Spination of legs of the holotype as shown in Table 8.



Figs. 24–30. 24–26. *Stertinius niger* Merian, 1911 (lectotype from Celebes); 27–30, *Stertinius kumadai* sp. nov. (27, 29–30, holotype from Tokyo; 28, a paratype from Okayama). — 24, 27–28, Epigyna; 25, 29, female genitalia, dorsal view; 26, 30, female genitalia, ventral view (scales: 0.1 mm). [D. V. Logunov del.]

Table 7. Measurement of leg segments of *Stertinius kumadai* (in mm; ♀).

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	0.58	0.34	0.34	0.20	0.29	1.75
II	0.48	0.30	0.32	0.20	0.26	1.56
III	0.45	0.19	0.29	0.19	0.24	1.36
IV	0.59	0.32	0.40	0.29	0.29	1.89

Table 8. Spination of legs of *Stertinius kumadai* (dorsal/ventral; r = retrolateral).

Leg	Tibia	Metatarsus
I	absent/0–2–0	absent/2–2
II	absent/absent	absent/1r–2

Other legs without spine.

Female genitalia (Figs. 27–30). Typical for the genus, the indistinct central pocket of the epigyne, which is seen like a transverse fold, with a pair of copulatory openings anteriorly. Large spermathecae visible through the integument.

Coloration and markings (Fig. 21). Female: Prosoma brown and metallic shiny, covered with white and black hairs. Cephalic part of prosoma blackish brown. Eye surroundings black. Clypeus very narrow. Sternum dark brown, covered with transparent hairs. Labium, maxillae and chelicerae pale brown. Dorsal surface of palp shiny, covered with white hairs. Opisthosoma: dorsum

greyish brown, covered with black, white and shiny hairs; venter greyish-brown, covered with short black hairs. Leg I brown. Other legs yellowish brown, distal parts darker.

Distribution. Japan (Honshu). The type locality of this species marks the northern limit of the known distributional range of the genus. Up to the present, the members of *Stertinius* have been known only from the tropical areas of Southeast Asia.

Remarks. *Stertinius kumadai* can be separated from other *Stertinius* species already revised, *S. niger*, *S. magnificus*, *S. splendens*, *S. capucinus* and *S. cyprinus*, by the smallest size, the indistinct central pocket of the epigyne, which is seen like a transverse fold (Figs. 27–28), and the shortest insemination ducts. *Stertinius niger* is closest to this new species in the structure of the female genitalia (cf. Figs. 24–26 and 27–30).

Etymology. This species is dedicated to Mr. Ken-ichi Kumada, who collected its holotype specimen.

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