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A redefinition of the genera *Bianor* Peckham & Peckham, 1885 and *Harmochirus* Simon, 1885, with the establishment of a new genus *Sibianor* gen.n. (Aranei: Salticidae)

Переопределение родов *Bianor* Peckham & Peckham, 1885 и *Harmochirus* Simon, 1885, с установлением нового рода *Sibianor* gen.n. (Aranei: Salticidae)

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KEY WORDS: *Bianor*, *Harmochirus*, review, new species.
КЛЮЧЕВЫЕ СЛОВА: *Bianor*, *Harmochirus*, обзор, новые виды.

ABSTRACT: A new genus, *Sibianor* gen.n. (type species: *Heliophanus aurocinctus* Ohlert, 1865), is established. Eight species are transferred to *Sibianor* gen.n.: *S. aemulus* (Gertsch, 1934) comb.n., *S. aurocinctus* (Ohlert, 1865) comb.n., *S. tantulus* (Simon, 1868) comb.n., *S. japonicus* (Logunov, Ikeda & Ono, 1997) comb.n., *S. kochiensis* (Bohdanowicz & Prószyński, 1987) comb.n., *S. latens* (Logunov, 1991) comb.n., *S. nigriculus* (Logunov & Wesołowska) comb.n., *S. pullus* (Bösenberg & Strand, 1906) comb.n. The genus *Napoca* Simon, 1901 (type species: *Salticus insignis* O. P.-Cambridge, 1872) is revalidated. Twelve new species are described: *Bianor murphyi* sp.n. (♂♀; from Kenya), *B. kovaczi* sp.n. (♂ from Ethiopia); *B. pseudomaculatus* sp.n. (♂♀; from Vietnam and India); *B. punjabicus* sp.n. (♂, presumably conspecific ♀; from India: Punjab); *B. senegalensis* sp.n. (♂; from Senegal); *B. wunderlichi* sp.n. (♂♀; from the Canary Islands); *Harmochirus zabkai* sp.n. (♂♀; from India, China and Malaysia); *Sibianor annae* sp.n. (♂; from E. China), *S. larae* sp.n. (♂♀; from Fennoscandia, the Urals and Siberia), *S. keniaensis* sp.n. (♂; from Kenya), *S. turkestanicus* sp.n. (♂♀; from Kyrghyzstan and Azerbaijan), *S. victoriae* sp.n. (♂; from Kenya). Neotypes are designated for *Bianor maculatus* (Keyserling, 1883), the type species of *Bianor*, and for *Bianor albobimaculatus* (Lucas, 1846). Lectotypes are designated for *Bianor incitatus* Thorell, 1890 (♀), *Bianor trepidans* Thorell, 1895 (♀) and *Modunda aeneiceps* Simon, 1901 (♀). Eleven new synonyms are recognized: *Bianor trepidans* Thorell, 1895, *B. hotingchiehi* Schenkel, 1963 and *B. simoni* Żabka, 1985 with *Bianor angulosus* (Karsch, 1879); *Bianor pulchellus* Wesołowska & van Harten, 1994, *B. rusticulus* Peckham & Peckham, 1903 and *B. scutatus* Wesołowska & van Harten, 1994 with *Bianor albobimaculatus* (Lucas, 1846); *Bianor carli* Reimoser, 1934 and *B. obak* Berry, Beatty & Prószyński, 1996 with *Bianor incitatus* Thorell, 1890; *Velloa elegans* Peckham & Peckham, 1903 and *Harmochirus albibarbis* Peckham & Peckham, 1895 with *Harmochirus luculentus* Simon, 1885; *Bianor inexploratus* Logunov, 1991 with *Sibianor aurocinctus* (Ohlert, 1865). Three new combinations are proposed (all *ex Bianor*): *Pellenes (Pelmultus) marionis* (Schmidt & Krause, 1994), *Pellenes (Pelmultus) stepposus* (Logunov, 1991) and *Modunda staintoni* (O.P.-Cambridge, 1872).

РЕЗЮМЕ: Установлен новый род, *Sibianor* gen.n. (типовой вид: *Heliophanus aurocinctus* Ohlert, 1865). Восемь видов отнесены к роду *Sibianor* gen.n.: *S. aemulus* (Gertsch, 1934) comb.n., *S. aurocinctus* (Ohlert, 1865) comb.n., *S. tantulus* (Simon, 1868) comb.n., *S. japonicus* (Logunov, Ikeda & Ono 1997) comb.n., *S. kochiensis* (Bohdanowicz & Prószyński, 1987) comb.n., *S. latens* (Logunov, 1991) comb.n., *S. nigriculus* (Logunov & Wesołowska) comb.n., *S. pullus* (Bösenberg & Strand, 1906) comb.n. Восстановлена валидность рода *Napoca* Simon, 1901 (типовой вид: *Salticus insignis* O. P.-Cambridge, 1872). Описано двенадцать новых видов: *Bianor murphyi* sp.n. (♂♀; из Кении), *B. kovaczi* sp.n. (♂ из Эфиопии); *B. pseudomaculatus* sp.n. (♂♀; из Вьетнама и Индии); *B. punjabicus* sp.n. (♂ и предположительно ♀; из Индии: Пенджаб); *B. senegalensis* sp.n. (♂; из Сенегала); *B. wunderlichi* sp.n. (♂♀; с Канарских островов); *Harmochirus zabkai* sp.n. (♂♀; из Индии, Китая и Малайзии); *Sibianor annae* sp.n. (♂; из Восточного Китая), *S. larae* sp.n. (♂♀; из Фенноскандии, Урала и Сибири), *S. keniaensis* sp.n. (♂; из Кении), *S. turkestanicus* sp.n. (♂♀; из Киргизии

и Азербайджана), *S. victoriae* sp.n. (♂; из Кении). Выделены неотипы для *Bianor maculatus* (Keyserling, 1883), типовой вид рода *Bianor*, и *Bianor albobimaculatus* (Lucas, 1846). Выделены лектотипы для *Bianor incitatus* Thorell, 1890 (♀), *Bianor trepidans* Thorell, 1895 (♀) и *Modunda aeneiceps* Simon, 1901 (♀). Установлено одиннадцать новых синонимов: *Bianor trepidans* Thorell, 1895, *B. hotingchiehi* Schenkel, 1963 и *B. simoni* Żabka, 1985 с *Bianor angulosus* (Karsch, 1879); *Bianor pulchellus* Wesołowska & van Harten, 1994, *B. rusticulus* Peckham & Peckham, 1903 и *B. scutatus* Wesołowska & van Harten, 1994 с *Bianor albobimaculatus* (Lucas, 1846); *Bianor carli* Reimoser, 1934 и *B. obak* Berry, Beatty & Prószyński, 1996 с *Bianor incitatus* Thorell, 1890; *Velloa elegans* Peckham & Peckham, 1903 и *Harmochirus albibarbis* Peckham & Peckham, 1895 с *Harmochirus luculentus* Simon, 1885; *Bianor inexploratus* Logunov, 1991 с *Sibianor aurocinctus* (Ohlert, 1865). Предложены три новых комбинации (все *ex Bianor*): *Pellenes (Pelmultus) marionis* (Schmidt & Krause, 1994), *Pellenes (Pelmultus) stepposus* (Logunov, 1991) и *Modunda staintoni* (O.P.-Cambridge, 1872).

Introduction

The salticid genera treated in the present work were hitherto considered to belong to the subfamily Pelleninae [*vide* Prószyński, 1976; Griswold, 1987; but see Metzner, 1999], of which two genera, *viz. Bianor* and *Harmochirus*, were also placed into a separate group Harmochireae [*vide* Żabka, 1991]. Recently, Logunov [2000] established a new genus, *Microbianor*, also belonging to the Harmochireae. An interepretation of the taxonomic status and species composition of the Pelleninae is beyond the scope of the present work. At this point it is appropriate to only stress that the genera treated hereafter (Table 1) seem to be indeed closely related and can easily be separated from the rest of genera in the Pelleninae, *e.g. Pellenes*, *Habronattus*, *etc.*, by the following characters: a separate compound terminal apophysis [*sensu* Logunov *et al.*, 1999] absent, the epigynal flaps and/or median septum absent (both characters present in other genera); the cymbium lacking dorsolateral projections/ridges (present in *Pellenes*); leg modifications, *viz.* those of first patellae and femora, absent (present in *Habronattus*; see Griswold [1987: figs 67–71, 78–83]); and scuta on abdomen always present (absent in other genera).

In this respect, it is interesting to call attention to the taxonomic status and position of *Sitticus*, which has been placed into a separate subfamily, Sitticinae (for a review of opinions see Metzner [1999: Table 2]), by the most of authors. However, the structure of copulatory organs in *Sitticus* (at least, in the *floricola* group) is very similar to that in the Pelleninae, especially in the Harmochireae (as it is defined above). For instance, the female copulatory organs in the *floricola* group are always hidden in a kind of atrium/fossae beneath the atrial lips, the spermathecae are always two-chambered (with both primary and secondary receptacles being well-developed), and the epigynal pocket is sometimes transformed into a kind of central blind-ending pocket [*e.g.* in *Sitticus striatus* Emerton, 1911 (see Fig. 261; cf. Figs 191–192) or in *S. zimmermanni* (Simon, 1877)]. Besides, the congeners of *Sitticus* and *Pellenes/Bianor* show an almost identical structure of body scales, an important taxonomic character at the surpageneric level [*vide* Metzner, 1999]. Therefore, taking into account that *Sitticus* (*s.lat.*) is almost without doubts a paraphyletic taxon, it is very likely that some of its species groups will be redefined regarding their taxonomic status and may likely be assigned to the Harmochireae. The problem is worthy of a further detailed investigation.

There is a number of points to be made concerning the structure of the copulatory organs in the Harmochireae. First, the copulatory organs in this group are almost useless for supraspecific diagnoses. For instance, no genera at hand can be readily separated by the ♀ copulatory organs (cf. Figs 19–27, 217–218 and 358–366), and some of them (e.g. *Bianor*, *Harmochirus* and *Modunda*) are almost indistinguishable by the ♂ copulatory organs (cf. Figs 4–12 and 204–205, 214–215, 347–348). Therefore, somatic characters (body shape, features of legs, maxillae, *etc.*; see Table 1) are best suitable for separating these genera in the Harmochireae. For instance, structure of the first legs and body shape are the most evident diagnostic characters for *Bianor*, *Harmochirus* and *Sibianor* gen.n. (Figs 1–3).

Second, the copulatory organs (especially of ♀♀) in the Harmochireae demonstrate a wide range of intraspecific variation. Good examples can be illustrated from the females of *Bianor albobimaculatus* (Figs 19–27, 29, 38–46), *B. incitatus* (Figs 92–103), *B. maculatus* (Figs 117–126); *Harmochirus luculentus* (Figs 217–218, 224–229, 238–245), *etc.* As is obvious from the figures mentioned, most characters in the ♀ copulatory organs vary wihtin wide limits, *viz.* the length and width of the central pocket (Figs 117, 120, 123, *etc.*), the shape and size of fossae (Figs 19–21, *etc.*), the size and position of the first loop of the insemination duct (Figs 25–26, *etc.*), and the shape and mutual arrangement of the primary and secondary receptacles (Figs 71, 74, 118, 121, *etc.*). Therefore, species in the Harmochireae cannot be reliably distinguished/diagnosed from single females. By contrast, the ♂ copulatory organs are much constant, with the length of palpal tibia being almost the only strongly varying character (Figs 57, 63). The shape of tegulum, the shape and position of the tegular knob or the mebranous area and the structure of tegular apophysis (Figs 270–275), as well as some somatic characters (coloration of the clypeal hairs/scales; body/leg coloration; *etc.*) are the best diagnostic characters for species in the Harmochireae.

The goals of the present paper are (1) to redefine the genera *Bianor* and *Harmochirus*; (2) to establish a new genus *Sibianor* gen.n.; (3) to review all valid species from these genera, including (re)descriptions of poorly known and new species; (4) to outline the distribution of all the (re)examined species, taking into account newly revealed synonymy data; and (5) to comment on all doubtful or invalid species erroneously placed to *Bianor*.

Table 1. Morphological characters of the six closely related genera in the Pelleninae (the group Harmochireae).
Таблица 1. Морфологические признаки шести близкородственных родов Pelleninae (группа Harmochireae).

Character	*Bianor*	*Harmochirus*	*Sibianor*	*Modunda*	*Napoca*	*Microbianor*
1. Size[1]	small/medium (3.3–6.4 mm)	small/medium (2.5–4.3 mm)	small/medium (2.4–4.7 mm)	small/medium (3.5–4.6 mm)	medium (4.2 mm)	small (1.9–2.8 mm)
2. Male chelicerae[2]	modified	not modified	not modified	modified	not modified	not modified
3. Retromarginal tooth	unidentate	fissidentate/ unidentate	unidentate	unidentate	unidentate	unidentate
4. Carapace (CH/CL rate)	high (≥ 0.40)	high (≥ 0.40)	high (≥ 0.40)	low (≤ 0.35)	high (≥ 0.40)	high (≥ 0.40)
5. Position of PME	slightly closer to ALE	midway between ALE and PLE	midway between ALE and PLE	midway between ALE and PLE	near ALE (Fig. 369)	midway between ALE and PLE
6. Ocular area	narrower than CW	equal/wider than CW	equal/wider than CW	equal to CW	wider than CW	wider than CW
7. PLE[3]	not elevated/ elevated	elevated	not elevated	not elevated	not elevated	not elevated
8. Endite tooth in males	absent/present	present	present	absent	no data	present
9. Feathery bristles on leg I (see Figs 1, 2, 260, *etc.*)	absent	present	present	absent	present	absent (?)
10. Tibia I[4]	normal	swollen	thickened	thickened	thickened	normal
11. Tarsal organ	no data	rounded (Fig. 265)	drop-shaped (Fig. 263)	no data	no data	no data
12. Longest leg	leg I in both sexes	leg I in both sexes	leg I in ♂; leg III/IV in ♀	leg I in both sexes	leg I in ♂	leg I in both sexes
13. Leg IV	with spines	variable	with spines	spineless	with spines	spineless
14. Abdomen	oval/elongated	oval/rounded	oval	elongated	bean-shaped	oval/rounded
15. Ventral scutum in males (Fig. 354)	absent	absent	present	present	absent	absent
16. Tegular knob[5]	absent	absent	present	absent	present	present
17. Fossae	present	present	present	present	no data	absent
18. Funnel-shaped inlet cups in the ♀ genitalia	present	present	present	present	no data	absent

For abbreviations used in the table see "Material and methods".

[1] Size classes are adopted from Davies & Żabka [1989].

[2] "Modified" means stronger and longer chelicerae in males, with robust promarginal teeth (see Figs 59 and 78), as compared with females; "not modified", *viz* subequally developed in both sexes.

[3] The state of PLE is defined as "elevated", *viz.* raised on well-marked carapace tubercles, or "not elevated", *viz.* not raised on tubercles.

[4] "Normal", *viz.* subequally developed as compared to other leg segments (Fig. 3; see also Figs 6 and 14 in Logunov [2000]); "swollen", *viz.* extremely inflated as compared to metatarsi and tarsi (Figs 2, 233); and "thickened", *viz.* an intemediate position between "normal" and "swollen" (Figs 1, 308–309, 370, *etc.*).

[5] The tegular knob is a protruding ventral part of the tegulum, easily seen in the retrolateral view (Figs 267, 271, 273, 275, *etc.*).

Material and methods

Specimens for this study were borrowed from and/or deposited in the following museum/personal collections:
AMNH — the American Museum of Natural History, New York, USA, Dr. N. Platnick;
AMS — the Australian Museum, Sydney South, Australia, Dr. M. R. B. Gray;
BPBM — the Bishop Museum, Honolulu, Hawaii, U.S.A., Dr. S. Swift;
CFAS — the California Academy of Sciences, San Francisco, U.S.A., Dr. C. E. Griswold;
ISEA — Siberian Zoological Museum, Institute for Systematics and Ecology of Animals, Novosibirsk, Russia, Ms G. N. Azarkina & Dr. D. V. Logunov;
JLPC — personal collection of Dr. J.-C. Ledoux, Aramon, France;



Figs 1–3. First male legs of *Sibianor larae* sp.n. from Sweden (1), *Harmochirus brachiatus* from Sumatra (2) and *Bianor albobimaculatus* from Uzbekistan (3).

Рис. 1–3. Первая нога самцов *Sibianor larae* sp.n. из Швеции (1), *Harmochirus brachiatus* с Суматры (2) и *Bianor albobimaculatus* из Узбекистана (3).

IZW — Institute of Zoology, Warszawa, Poland, Prof. J. Prószyński and Dr. T. Huflej;
HAM — Zoologisches Institut und Zoologisches Museum, Universität Hamburg, Germany, Dr. H. Dastych;
HNHM — the Hungarian Natural History Museum, Budapest, Hungary, Dr. S. Mahunka;
MCZ — Museum of Comparative Zoology, Harvard University, Cambridge, USA, Mrs. L. Leibensperger and Dr. G. Giribel;
MHNG — Muséum d'Historie Naturelle, Genève, Switzerland, Dr. P. Schwendinger;
MMUM — Manchester Museum, the University of Manchester, Manchester, UK, Dr. D. V. Logunov;
MNHN — Muséum national d'Histoire naturelle, Paris, France, Dr. C. Rollard;
MNUB — Museum für Naturkunde der Humbold-Universität zu Berlin, Germany, Dr. J. Dunlop;
MRAC — Musée Royal de l'Afrique Centrale, Tervuren, Belgium, Dr. R. Jocqué;
NCIP — National Collection of Insects, Pretoria, South Africa, Dr. A. Dippenaar-Shoeman;
NHMB — Naturhistorisches Museum, Basel, Switzerland, Dr. A. Hänggi;
NHMW — Naturhistorisches Museum, Wien, Austria, Dr. J. Gruber;
NMP — National Museum Praha, Praha, Czech Republic, Prof. J. Buchar;
NSMT — National Science Museum, Tokyo, Japan, Dr. H. Ono;
OXF — Hope Entomological Collection, Oxford, England, Mr. M. Atchinson;
PCRB — Personal spider collection of Dr. R. Bosmans, Gent, Belgium;
PPDRI — Department of Agricultural Zoology, Plant Pests and Diseases Research Institute, Tehran, Iran, Mrs F. Mozaffarian;
PSUN — Department of Zoology of the Perm State University, Perm, Russia, Dr. S. L. Esyunin;
SMFM — Naturmuseum und Forschungsinstitut Senckenberg, Frankfurt a. Main, Germany, Dr. M. Grasshoff;
SMNH — Swedish Museum of Natural History, Stockholm, Sweden, Dr. T. Kronestedt;
SMNK — Staatliches Museum für Naturkunde Karlsruhe, Karlsruhe, Germany, Dr. H. M. Mittmann;
WAM — Western Australian Museum, Perth, W Australia, Dr. M. S. Harvey;
ZMHU — Zoological Museum of the Helsinki University, Helsinki, Finland, Dr. J. Terhivuo;
ZMTU — Zoological Museum, Turku University, Turku, Finland, Dr. M. Saaristo;
ZMUM — Zoological Museum of the Moscow State University, Moscow, Russia, Dr. K. G. Mikhailov;
ZSM — Zoologische Staatssammlung, München, Germany, Dr. B. Baehr.

The sequence of leg segment measurements is as follows: femur + patella + tibia + metatarsus + tarsus. The following abbreviations are used in the text and in the table: ALE — anterior lateral eyes, AME — anterior median eyes, ap — apically, CH — carapace height at PLE; CL — carapace length; CW — carapace width; d — dorsally, f. — figure(s); Fm — femur, m. — map; Mt — metatarsus, pl. — plate; PLE — posterior lateral eyes, PME — posterior median eyes, pr — prolaterally, Pt — patella, rt — retrolaterally, S — synonymized; T — transferred; Tb — tibia, v — ventrally. For the leg spination the system adopted is that used by Ono [1988]. Most of the terms adopted for genitalic descriptions are those used by Logunov *et al.* [1999]. All measurements are in mm.

Taxonomic account

BIANOR Peckham & Peckham, 1885

Type species: *Scythropa maculata* Keyserling, 1883 by subsequent designation by Peckham & Peckham [1885] (*Bianor* was substituted for *Scythropa*, which is preoccupied).

DEFINITION. Small to medium sized, unidentate spiders, ranging from 3.3 to 6.4 mm in length. Sexes similar in general body form, but males different in having more variegated and colourfull dorsal markings (cf. Figs 60, 62 and 61), dorsum always with elongated scutum in ♂, first legs being longer than body in ♂ (leg I length/body length ratio 1.03–1.25) and shorter in ♀ (ration 0.81–0.89), and often extremely developed chelicerae with quite strong and robust promarginal teeth in ♂ (cf. Figs 59 and 78). Carapace: rather high, markedly punctured and reticulate (=shagreened), and often densely covered with white appressed scales. Eyes: in three rows; anterior row 1.2–1.4 times narrower than posterior one; middle row slightly closer to ALE; PLE usually not elevated (sometimes slightly elevated in ♂); quadrangle length 54–63% of carapace length. Clypeus: vertical or slightly protruding anteriad in ♂. Chelicerae: chelicera of ♂e often very strong (Figs 59, 68); promargin with either two median teeth (Figs 78, 88) or a robust cone-shaped tooth (Fig. 59); retromargin with one small/medium tooth (Figs 78, 88, 160). Maxillae: square or rectangular-elongate (Fig. 15), sometimes males with a tiny endite tooth (Fig. 56). Labium: subtriangular. Sternum: oval, elongate, with slightly concave anterior margin. Pedicel: short, never visible in dorsal view. Abdomen: elongate, 1.2–1.6 times longer than wide; dorsum either uniformly brown/black (mostly in ♀♀) or with colour markings consisting of paired white spots and lines (Figs 17–18, 60–62); males always with elongate dorsal scutum. Legs: in both sexes legs I always stronger and longer than others, with femora more or less swollen, and tibia and metatarsi densely covered with protruding thin hairs (Fig. 3); legs II–IV more or less subequally developed and alike in both sexes. Leg formula: ♂ — I,III,IV,II or I,IV,III,II; ♀ — I,IV,III,II. Leg spination (only generalized patterns given): Fm of all legs d 0-0-1-2ap (less common 1/3ap); Pt of all legs spineless; Tb I v 2-2-2ap or 0-2-2ap; Tb III pr and rt 0-1, v 1ap or 1-1ap; Tb IV rt 0-1 or spineless; Mt I and II v 2-2ap; Mt III 5ap; Mt IV (most often) pr and rt 1ap. Female palp: general form, without spines and apical claws. Male palp: cymbium of general form; tegulum always flat (Figs 107, 112, *etc.*); tegulum lacking the knob, but with well-developed excavated membranous area (Figs 13, 143, *etc.*); relative length of palpal tibia varying in wide limits (*e.g.* Figs 57, 63); the course of seminal duct rather simple (Fig. 116). Female copulatory organs: epigyne always with well-developed central, blind-ending pocket (Figs 19–21), sometimes consisting of two pockets (Fig. 77); fossae well-developed; copulatory openings hidden beneath the atrial lips; spermathecae always of two-chambered configuration and consisting of long insemination ducts (always containing the first loop), and separate primary and secondary receptacles (Figs 23–24, 43–44); fertilisation ducts and ducts of the accessory glands usually well-developed and visible (Figs 22, 25, 26, 40, 41–42, 45).

DIAGNOSIS. Among the closely related genera (Table 1), *Bianor* is closest to *Sibianor* gen.n. and *Modunda*. From the former genus, *Bianor* differs in the absence of the fringes on leg I (present in *Sibianor* gen.n.; cf. Figs 3 and 1), of the tegular knob (present in *Sibianor* gen.n.; cf. Figs 5, 7 and 271, 273) and of the ventral scutum (present in *Sibianor* gen.n.), but in having the ocular area narrower than CW (equal or wider in *Sibianor* gen.n.), elevated PLE (not elevated in *Sibianor* gen.n.), legs I longest in females (legs III/IV in *Sibianor* gen.n.), the second eye row slightly closer to AME (midway between AME and PLE in *Sibianor* gen.n.) and in the modified male chelicerae (never modified in *Sibianor* gen.n.). *Bianor* can easily be separated from *Modunda* by the high carapace (low and flat in *Modunda*; Fig. 351), the absence of a ventral scutum (present in *Modunda*; Fig. 354), the normal tibia I (thickened in *Modunda*) (cf. Figs 3 and 349) and the presence of spines on leg IV (absent in *Modunda*). Besides, *Bianor* differs from *Napoca* by the body shape (cf. Figs 66 and 369) and the position of PME (near ALE in *Napoca* and slightly closer to them in *Bianor*) and *Bianor* differs from *Microbianor* in having fossae and funnel-shaped inlet cups in the ♀ genitalia, as well as elevated PLE and spines on legs IV (all characters absent in *Microbianor*). See also comments under "Diagnosis" of *Harmochirus*.

DISTRIBUTION. Afrotropical, S. Palaearctic, Oriental and Neotropical Regions.

Survey of species

Bianor albobimaculatus (Lucas, 1846)
Figs 3, 4–8, 13–27, 36–46.

Salticus albobimaculatus Lucas, 1846: 170, pl. 8, f. 10 (♀ holotype was lost; a **neotype** is designated here; deposited in the MNHN).

Attus parcus Simon, 1868: 582 (♂♀, syntypes, not examined). Synonymized with *B. albobimaculatus* by Simon [1906].

Attus albo-bimaculatus: Simon, 1871: 223.

Eris albobimaculata: Simon, 1876: 198 (T from *Salticus*).

Ericulus albobimaculatus: Kulczyński, 1901: 4.

Bianor albobimaculatus: Simon, 1906: 1173.

Dendryphantes albo-bimaculatus: Strand, 1909: 4 + sep. 19.

Bianor albobimaculatus: Andreeva, 1976: 90 (♀).

Bianor albobimaculatus: Prószyński, 1976: m. 125.

Bianor albobimaculatus: Cantarella, 1982: 56, f. 1–2 (♀).

Bianor albobimaculatus: Nenilin, 1984a: 12.

Bianor albobimaculatus: Nenilin, 1984b: 134 (♂♀).

Bianor albobimaculatus: Nenilin, 1985: 130, 132.

Bianor albobimaculatus: Bosmans & de Keer, 1985: 52.

Bianor sp.: Prószyński, 1989: 32, f. 1–2 (♀).

Bianor albobimaculatus: Wesołowska, 1989: 265, f. 6–10 (♀).

Bianor albobimaculatus: Hansen, 1991: 16, f.18 (♀).

Bianor aurocinctus (misidentified): Metzner, 1999: 118–119, 274, f. 84A–J (♂♀).

Salticus putus O. P.-Cambridge, 1872: 326 (♂ holotype in the OXF, examined). Synonymized with *B. albobimaculatus* by Prószyński [1990].

Eris puta: Simon, 1876: 199 (T from *Salticus*).

Bianor putus: Reimoser, 1919: 110.

Bianor putus: Prószyński, 1990: 72.

Bianor pulchellus Wesołowska & van Harten, 1994: 14, f. 28–30 (♀ holotype in the MRAC, examined). **Syn.n.**

Bianor albobimaculatus: Zonstein, 1996: 142.

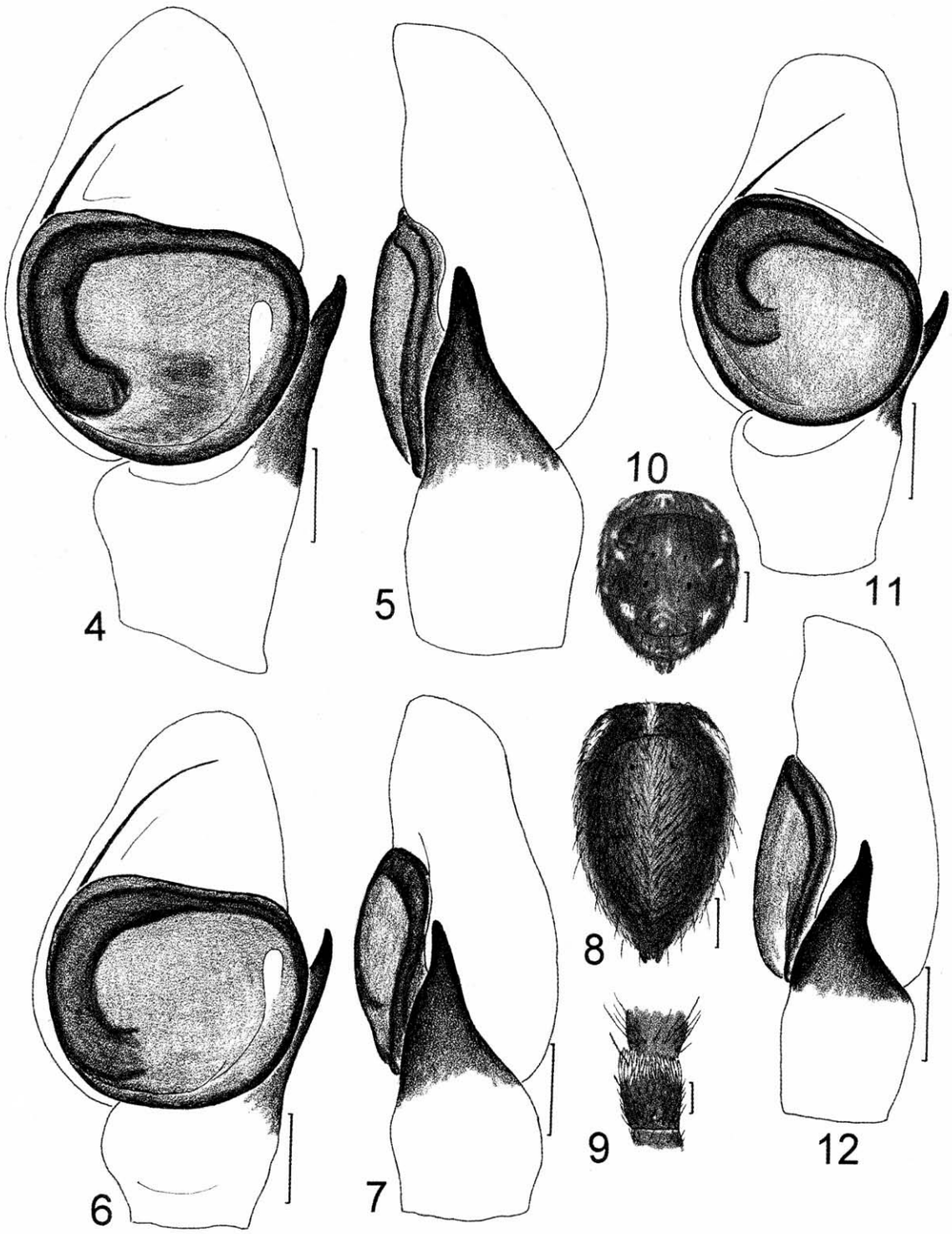
Bianor pulchellus (misidentified): Schmidt & Krause, 1998: 424 (♀).

Bianor rusticulus Peckham & Peckham, 1903: 215, pl. 24, f. 12 (♀ holotype in the MCZ, examined). **Syn.n.**

Bianor scutatus Wesołowska & van Harten, 1994: 16, f. 31–34 (♂ holotype in the MRAC, examined). **Syn.n.**

For other sources see Bonnet [1955] and Prószyński [1990].

Material. PORTUGAL: 3 ♀♀ (AMNH), Algarve, Monte Gordo, 15.04.1971, J. Murphy; 2 ♂♂ (AMNH), Minho, Ofir, 17.09.1982, J. Murphy; 1 ♀ (SMFM, no. 38505; det. hitherto as *B. pulchellus*), The Cape Verde Is., Sto. Antao, Ribera do Paul, 28.02.1995, G. Schmidt; 1 ♀ (SMFM, no. 31887), same islands, Sal, Pedra Lume, 3.12.1980, Hölzel, Lobin & Ohm. — SPAIN: 1 ♂



Figs 4–12. Male copulatory organs and somatic characters of *Bianor albobimaculatus* (4–8) and *B. wunderlichi* sp.n. (9–12): 4, 6, 11 — palp of ♂, ventral view; 5, 7, 12 — ditto, retrolateral view; 8, 10 — dorsum of ♂; 9 — patella of the palp of ♂, dorsal view. Specimens: 4–5, 8–9 — Uzbekistan, Kampyrtepa; 6–7 — the holotype of *Attus putus* (Israel); 10–12 — the holotype of *B. wunderlichi* sp.n. (Canary Islands). Scale: 0.1 mm (4–7, 9, 11–12) and 0.5 mm (8, 10).

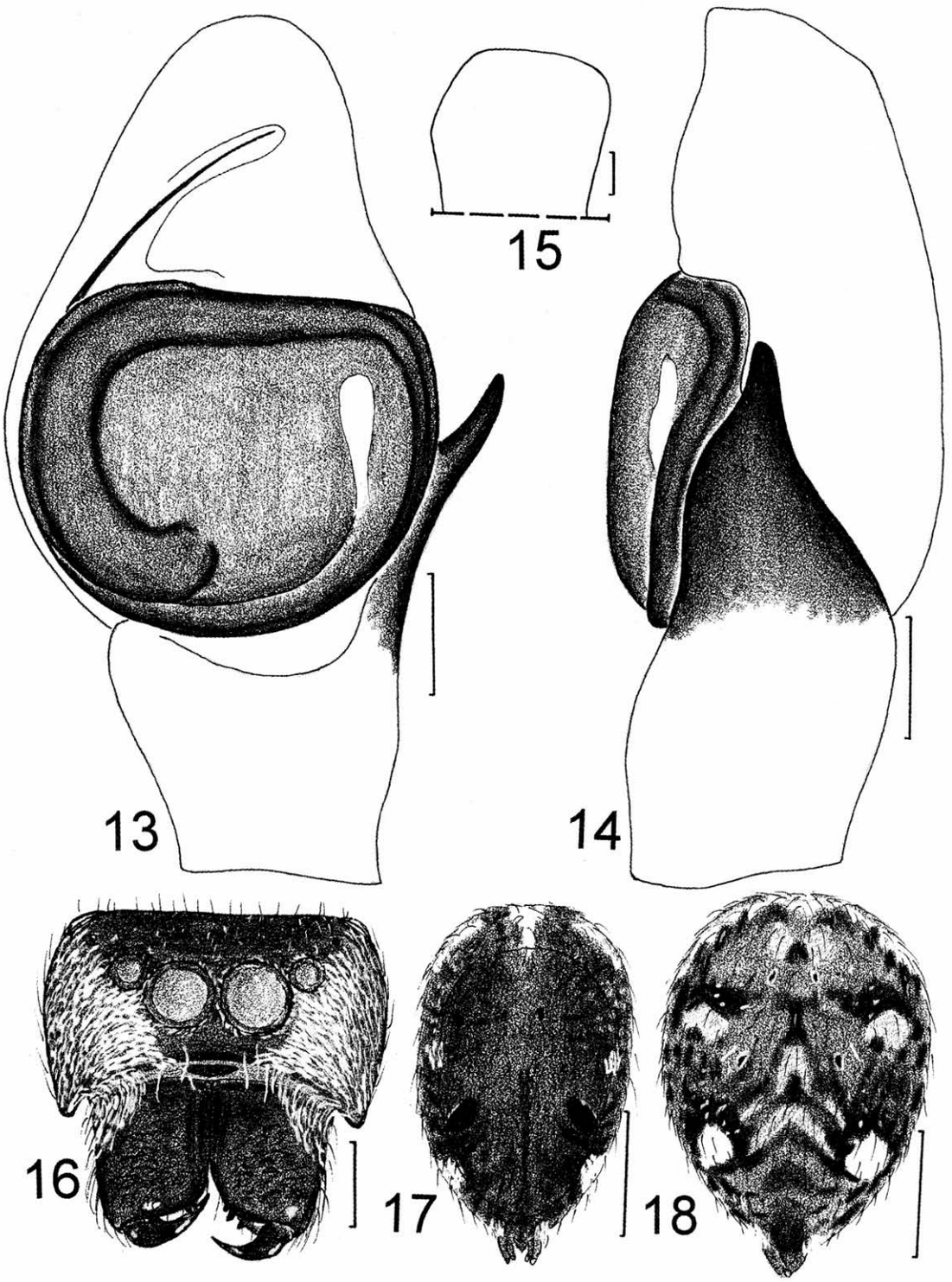
Рис. 4–12. Копулятивные органы самцов и соматические признаки *Bianor albobimaculatus* (4–9) и *B. wunderlichi* sp.n. (10–12): 4, 6, 11 — пальпа самца, вентрально; 5, 7, 12 — тоже, ретролатерально; 8, 10 — дорзум самца; 9 — колено пальпы самца, дорзально. Экземпляры: 4–5, 8–9 — Узбекистан, Кампыртепа; 6–7 — голотип *Attus putus* (Израиль); 10–12 — голотип *B. wunderlichi* sp.n. (Канарские о-ва). Масштаб: 0,1 мм (4–7, 9, 11–12) и 0,5 мм (8, 10).

(AMNH), Ibiza, Sta. Eulalia, 28.09.1976, J. Murphy; 1 ♂, 3 ♀♀ (AMNH), Madrid, Torrejon de Ardoz, 05.1961, K. W. Haller. — SPAIN: 1 ♂, 1 juv. (MNHN; No. 934, det. by E. Simon as *Attus decipiens*), "Escorial" (apparently, San Lorenzo de el Escorial, near Madrid). — FRANCE: 2 ♂♂, 1 ♀ (MCZ, no. 595), "France", G. W. & E. G. Peckham coll. — GREECE: 1 ♀ (SMNK), Peloponnes, Kounoupelli near kap Araxos, 4–5.06.1995, H. Metzner. — AZERBAIJAN: 2 ♀♀ (ZMUM), Turianchai Reserve, 13.05.1986, P. M. Dunin; 1 ♂, 2 ♀♀ (ISEA), Lenkoran' Distr., Hyrcan Reserve, near Dashdatuk, 17.07.1983, D. V. Logunov — ALGERIA: 1 ♂ (MNHN; **neotype**, designated here), 1 ♀ (MNHN), 1 ♂, 1 ♀ (PCRB), Wilaya Biskra: Baniane, Gorge of Oued el Abiodh, 350 m a.s.l., 3.11.1987, R. Bosmans; 1 ♂ (PCRB), Wilaya Batna: Ras El Aioun, 700 m a.s.l., 16.10.1987, R. Bosmans; 2 ♀♀ (PCRB), Wilaya El Tarf: Lake Tonga {the type locality according to Lucas [1846]}, date (?), R. Bosmans; 1 ♂ (PCRB), Wilaya Ghardaia: Ghardaia airport, 530 m a.s.l., 27.12.1985, R. Bosmans; 1 ♂, 3 ♀♀ (PCRB), Wilaya Ghardaia: Ghardaia, 525 m a.s.l., 23.12.1987, R. Bosmans; 1 ♂ (PCRB), Wilaya Bejaia, Tichi, 10 m a.s.l., 21.05.1988, R. Bosmans; 1 ♀ (MCZ), "Algeria", J. H. Emerton coll.; 1 ♀ (IZW), "Algeria — 1866 — 67, V. T. Taczanowski". — MOROCCO: 3 ♀♀ (JLPC), "Kénitra, en remontant l'oued Sebou", 26.08.1962, J.-C. Ledoux. — SUDAN: 1 ♀ (SMNH, epigyne only), "Egypt N. of Goz Abu Aga /3 1901. Colleg. Tragardh. Det. Simon" (label in tube), {Simon [1907] wrote: "...de Ghrab el Eish a Gebel Ahmed Aga (/ 3 1901); Goz Abu Gomr (14/2 1901)"; so, apparently, this is "Goz Abu Gama" at the White Nile south of Khartoum (between Khartoum and Fashoda)}. — IVORY COAST: 2 ♀♀ (JLPC), "R. C. I., Bouaké, rizières", 05.1977, S. L. Lor. — ANGOLA: 1 ♂ (CFAS), Sã da Bandeira, 2.10.1949, B. Malkin; 1 ♀ (AMNH), ca. 20 km E of Luanda, Luanda-Catete Highway, 9.10.1949, B. Malkin. — NIGERIA: 1 ♂ (CFAS), Jos, Plateau Prov., 14–17.03.1943, B. Malkin; 1 ♀ (CFAS), Iseri, Lagos Colony, 26–30.03.1949, B. Malkin; 1 ♂ (CFAS), Ibadan, 22.03.1949, B. Malkin. — CHAD: 1 ♂ (SMFM), Oase of Farya (18°02'45N, 18°26'00E), 14.09.1997, Nichel. — SOUTH AFRICAN REPUBLIC: 1 ♀ (MCZ, 566, the holotype of *B. rusticulus*), {label illegible, but according to Peckham & Peckham [1903] the holotype originates from S. Africa, Clanwilliam, Cape Colony}. — YEMEN: 1 ♀ (MRAC, the holotype of *B. pulchellus*), Wadi Warazan, 14.03.1993, M. Knapp; 1 ♂ (MRAC, the holotype of *B. scutatus*), Medina Al Shirq, 20.02.1991, A. van Harten & H. Mahdi. — KAZAKHSTAN: 1 ♀ (ISEA), S. Kazakhstan [Chimkent] Area, Pakhtaaralskiy Distr., channel Tashkent-Samarkand (ca. 40°42'N, 68°30'E), 5.05.1990, A. A. Feodorov & A. A. Zyuzin. — UZBEKISTAN: 2 ♂♂ (ISEA), Navoi Area, Nurata Distr., ca. 68th km on road from Nurata to Syr-Daria River, Kyzyl-Kum Desert (ca. 40°45'N, 66°16'E), 12.05.1976, A. P. Kononenko; 3 ♂♂, 1 ♀ (ZISP), "Samarkand Area, Chapanata", 23.07.1908, E. N. Pavlovski; 1 ♂ (ZMUM), Surkhandariya Area, Sherabad Distr., Kugitangh Mt. Range, near Kampyrtepa, 1500–1600 m a.s.l. (ca. 37°47'N, 66°39'E), 15.05.1984, A. V. Tanasevitch. — KYRGHYZSTAN: 1 ♀ (ISEA), Talas Area, Kirovskoe Distr., Talasskiy Alatau Mt. Range, Kok-Sai River valley, (ca. 42°26'N, 70°57'E), 2.08.1979, S. L. Zonstein; 1 ♀ (ISEA), Osh Area, near Tashkumyr, Sarykamyshsai, 20–28.08.1985, D. V. Logunov; 1 ♀ (MCZ), Osh Area, Bazar-Korgon [=Bazarkurgan] Distr., Baubashata Mt. Range, ca. 4 km SE of Arslanbob, Gumkhana [=Gumkhona, Kirova Leskhoz], 1260 m a.s.l. (41°18'N, 72°58'E), 1.06.1981, S. L. Zonstein. — TURKMENISTAN: 1 ♂, 1 ♀ (PSU), "Enzeli, Lianovitz's trade on Caspian Sea, 29.07.1914, V N. Beklemishev" {apparently, this is Krasnovodsk (Balkhan) Area, Krasnovodsk Distr., Omchali Boundary (ca. 40°50'N, 53°37'E)}; 2 ♂♂ (ZMUM), Ashghabad Area, near Bakharden (ca. 38°26'N, 57°26'E), 7.07.1929, coll.(?) — TAJIKISTAN: 1 ♀ (ISEA), Leninskiy Distr., near Dushanbe (ca. 38°34'N, 68°45'E), 28.08.1978, N. Yu. Polchaninova. — IRAN: 1 ♂ (SMNH), Fars Prov., Barm-e-peere-Ghaibi, 25.05.2000, Yu. M. Marusik.; 1 ♂, 3 ♀♀ (PPDRI), Mazandaran, Amol, Fereidoon kenar, rice field, date (?), Oskoo & Shokri; 3 ♂♂, 7 ♀♀ (PPDRI), Khuzestan, Shooshtar, paddy field, date and coll. ??; 1 ♂, 1 ♀ (PPDRI), Gilan, Rasht-Rudbared, ca. 24 km S of Rasht, 6.07.1995, K. Elmi; 4 ♀♀ (PPDRI), Mazandaran, around Tonekabon, rice land, 19.08.1996, F. Mozaffarian; 4 ♀♀ (PPDRI), Mazandaran, Tonekabon, paddy field, 1995–1996, Alhosseinie; 1 ♀ (PPDRI), Khuzestan, Shooshtar, paddy field, 30.09.1996, Gh. Kajbaf Vala; 2 ♂♂ (PPDRI), Khuzestan, Dezfool, safi abad, date and coll. ?. — AFGHANISTAN: 1 ♂ (NMP), Nengrahar Prov., Kama, ca. 40 km NE of Jalabad, date (?), Povolný & Tenora; 1 ♀ (NMP), Istativ, 28.05.1965, coll. (?); 1 ♂ (NMP), Pulikumu (?), 1000 m a.s.l., 5.10.1962, coll. (?). — INDIA: 4 ♂♂, 3 ♀♀ (MMUM), Punjab, Patiala City, University campus (30°21'N, 76°27'E), 3–8.05.1999, Yu. M. Marusik; 1 ♂, 1 ♀ (ISEA), 1 ♂ (ZMUM), Punjab, Himachal Pradesh, Patlikuhl Town (32°07.4'N, 77°08.8'E), 1200 m a.s.l., 17–23.05.1999, Yu. M. Marusik. — PAKISTAN/KENYA: 6 ♂♂, 5 ♀♀ (NHMB), "Meruru" [Merui in Pakistan; or Meru in Kenia].

DIAGNOSIS. *B. albobimaculatus* is most closely related to *B. wunderlichi*, but males can be easily separated by the absence of white dorsal scales on the palpal patellae (present in *B. wunderlichi*; Fig. 9), by the shape of the tegulum (cf. Figs 4–7 and 11–12) and the clearly marked mebranous area of the tegulum (invisible in *B. wunderlichi*; cf. Figs 4 and 11, 13), as well as by the abdominal coloration (cf. Figs 8, 17 and 10). The females of *B. albobimaculatus* can be distinguished by the wider central pocket and bigger atrium (cf. Figs 28–29 and 19, 20–21, 38, 39), the bigger first loop and the bigger secondary receptacles (cf. Figs 31, 35 and 22, 26, 40, 41). See also comments under "Diagnosis" of *B. biocellosus*, *B. incitatus* and *B. kovaczi*.

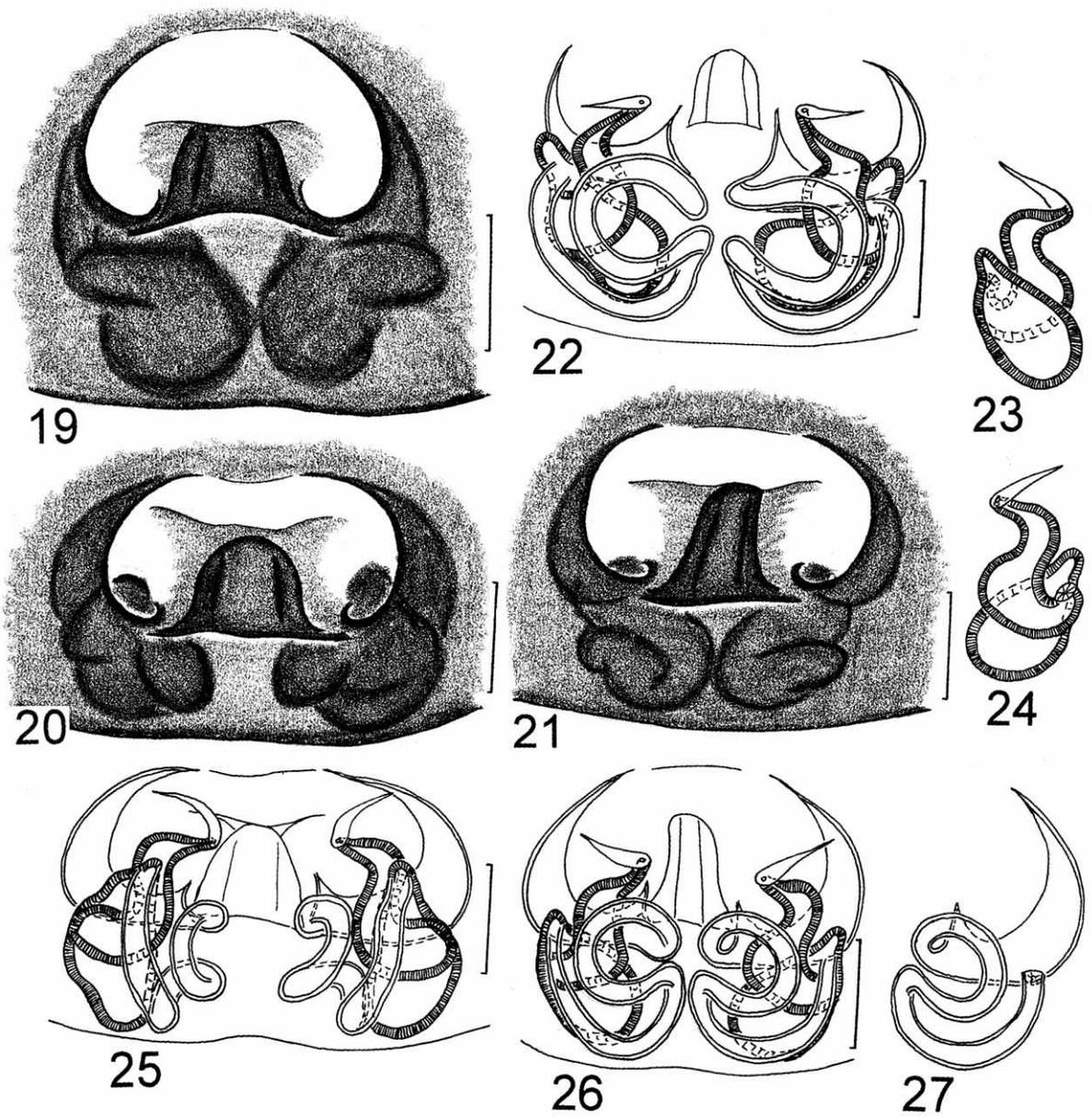
DESCRIPTION. Male (measurements and leg spination from the neotype of *B. albobimaculatus*; coloration from newly collected specimens from Algeria and Kenia). Measurements. Carapace 2.30 long, 2.03 wide, 1.20 high at PLE. Ocular area 1.44 long, 1.38 wide anteriorly and 1.88 wide posteriorly. Diameter of AME 0.48. Abdomen 2.88 long, 1.88 wide. Cheliceral length 1.05. Clypeal height 0.15. Length of leg segments: leg I — 1.78 + 1.10 + 1.38 + 0.95 + 0.63; leg II — 1.15 + 0.73 + 0.68 + 0.68 + 0.48; leg III — 1.45 + 0.78 + 0.73 + 1.11 + 0.48; leg IV — 1.44 + 0.73 + 0.85 + 0.95 + 0.50. Leg spination. Leg I: Fm d 0-0-1-2; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1-2; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 2ap, v 1-0. Leg IV: Fm d 2ap; Tb rt 0-1; Mt 2ap. Coloration. Carapace dark brown to russet, densely covered with elongated appressed white scales forming white patches behind PLE and in the area of the fovea. Black around eyes. Clypeus brown, scaleless, but "cheeks" densely covered with white appressed scales (Fig. 16). Sternum yellowish brown to russet, covered with white hairs. Maxillae, labium and chelicerae dark brow. Chelicerae anteriorly shagreened (=punctured-reticulate). Abdomen: dorsum gray brownish to browhish, with the large well-marked scutum and the colour-markings consisting of three short white anterior stripes and two pairs of white spots (sometimes the first pair or both being poorly marked; cf. Figs 8 and 17); venter yellowish brown. Occasionally attachment points for muscules well-marked as dark spots on the dorsum (Fig. 17). Book-lung covers yellowish to yellow-brown. Spinnerets yellow-brown. Legs more or less subequally developed, but legs I longer and stronger (Fig. 3). Legs yellow-brown, but all femora (especially femur I) dark brown. Palps brown, their structure as in Figs 4–7, 13–14.

Female (measurements and leg spination from the holotype of *B. rusticulus*; coloration from newly collected specimens from Algeria and Kenia). Measurements. Carapace 2.38 long, 2.05 wide, 1.13 high at PLE. Ocular area 1.40 long, 1.48 wide anteriorly and 1.98 wide posteriorly. Diameter of AME 0.45. Abdomen 4.00 long, 3.08 wide. Cheliceral length 0.75. Clypeal height 0.18. Length of leg segments: leg I — 1.15 + 0.75 + 0.85 + 0.63 + 0.50; leg II — 1.05 + 0.63 + 0.63 + 0.53 + 0.45; leg III — 1.40 + 0.78 + 0.63 + 0.70 + 0.50; leg IV — 1.45 + 0.75 + 0.85 + 0.93 + 0.50. Leg spination. Leg I: Fm d



Figs 13–18. Male copulatory organs and somatic characters of *Bianor albobimaculatus* from Kenya (=*B. rusticulus*, in synonymy): 13 — palp of ♂, ventral view; 14 — ditto, retrolateral view; 15 — maxilla of ♂, ventral view; 16 — ♂ face; 17 — dorsum of ♂; 18 — dorsum of ♀. Scale: 0.1 mm (13–15), 0.5 mm (16) and 1 mm (17, 18).

Рис. 13–18. Копулятивные органы самцов и соматические признаки *Bianor albobimaculatus* из Кении (=*B. rusticulus*, in synonymy): 13 — пальпа самца, вентрально; 14 — тоже, ретролатерально; 15 — максилла самца, вентрально; 16 — "фейс" самца; 17 — дорзум самца; 18 — дорзум самки. Масштаб: 0,1 мм (13–15), 0,5 мм (16) и 1 мм (17, 18).

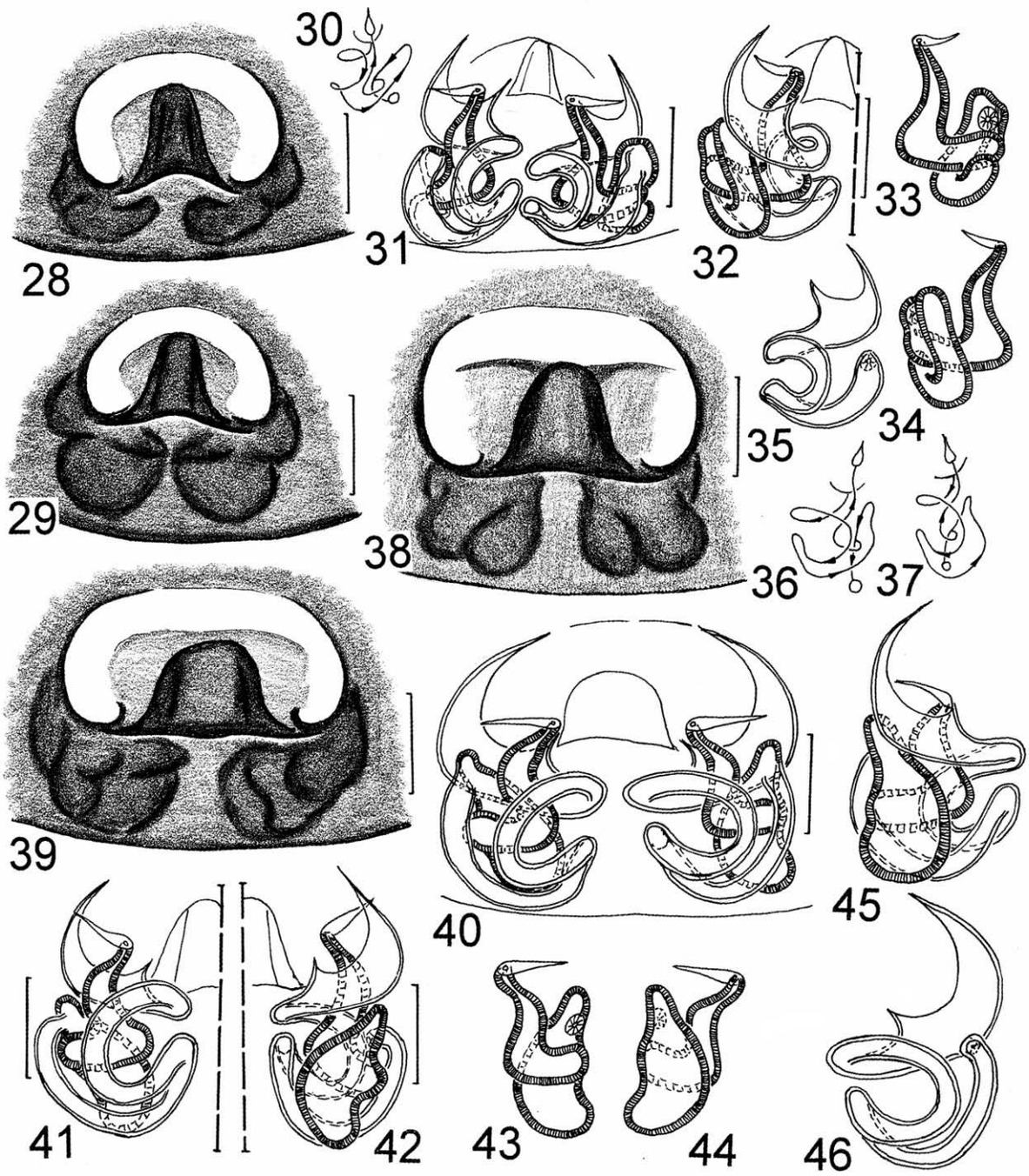


Figs 19–27. Female copulatory organs of *Bianor albobimaculatus* from Africa (=*B. rusticulus*, in synonymy): 19–21 — epigyne, ventral view; 22, 25–26 — spermathecae, dorsal view; 23–24 — receptacles, ventral and dorsal views; 27 — insemination duct, dorsal view. Specimens: 19, 22 — the holotype of *B. rusticulus* (S. Africa, Clanwilliam); 20–21, 23–27 — from Kenya. Scale: 0.1 mm.

Рис. 19–27. Копулятивные органы самок *Bianor albobimaculatus* из Африки (=*B. rusticulus*, синоним): 19–21 — эпигина, вентрально; 22, 25–26 — сперматерки, вентрально; 23–24 — рецептакулы, вентрально и дорзально; 27 — оплодотворительный канал, дорзально. Экземпляры: 19, 22 — голотип *B. rusticulus* (Ю. Африка, Clanwilliam); 20–21, 23–27 — из Кении. Масштаб: 0,1 мм.

0-1-3ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr 0-1, v 1ap; Mt pr, rt and v 2ap. Leg IV: Mt v 2ap. Coloration. Carapace russet, shagreened (=punctured-reticulate), densely covered with white appressed scales. Black around eyes. Clypeus densely covered with white hairs. Sternum russet to yellow-brown, covered with white hairs. Maxillae and labium russet, with yellow tips. Chelicerae russet. Abdomen yellow-gray, its dorsum with two pairs of large rounded white spots often bordered by brown (Fig. 18) (sometimes the first pair of both being poorly marked, almost invisible); venter yellow. Booklung covers and spinnerets yellow to yellow-brown. Legs yellowish brown to russet, but all femora dark brown and tarsi yellow. Palpi yellow to yellow-orange. Epigyne and spermathecae as in Figs 19–27, 36–46.

COMMENTS. The holotype of *Salticus albobimaculatus*, as with most of Lucas' [1846] types, is considered lost. As shown, this is a rather widespread species and its name is a



Figs 28–46. Female copulatory organs of *Bianor wunderlichi* sp.n. (28–35) and *B. albobimaculatus* (36–46): 28–29, 38–39 — epigyne, ventral view; 30, 36–37 — diagrammatic course of the spermathecae; 31–32, 40–42, 45 — spermathecae, ventral view; 33, 43 — receptacles, ventral view; 34, 44 — ditto, dorsal view; 35, 46 — insemination duct, dorsal view. Specimens: 28–35 — the parartypes of *B. wunderlichi* sp.n. (the Canary Islands); 37–38, 41–42 — from Tajikistan; 36, 39–40, 43–46 — from Kyrghyzstan. Scale: 0.1 mm.

Рис. 28–46. Копулятивные органы самок *B. wunderlichi* sp.n. (28–35) и *Bianor albobimaculatus* (36–46): 28–29, 38–39 — эпигина, вентрально; 30, 36–37 — схематический ход сперматеки; 31–32, 40–42, 45 — сперматерки, вентрально; 33, 43 — рецептакулы, вентрально; 34, 44 — тоже, дорзально; 35, 46 — оплодотворительный канал, дорзально. Экземпляры: 28–35 — паратипы *B. wunderlichi* sp.n. (Канарские о-ва); 37–38, 41–42 — из Таджикистана; 36, 39–40, 43–46 — из Кыргызстана. Масштаб: 0,1 мм.

senior synonym of a number of other specific names. Therefore, designating a neotype for it is mandatory to stabilize the taxonomic status of this and other (junior synonyms) *Bianor* species. I designate the ♂ specimen collected from the Wilaya Biskra (Baniane, Gorge of Oued el Abiodh) locality as the neotype for *Salticus albobimaculatus*, because this site is very close to the original type locality (Wilaya El Tarf: Lake Tonga).

DISTRIBUTION. This species is distributed from South Africa [Peckham & Peckham, 1903: sub *B. rusticulus*] to Portugal in the North-West [present data] throught the Near East, Arabian Peninsula [Wesołowska & van Harten, 1994: sub *B. pulchellus* and *B. scutatus*], Afghanistan and Pakistan [present data] to India (Punjab), Tajikistan and Kyrghyzstan in the North-East [present data]. However, see also comments under "Diagnosis" of *B. incitatus*.

The record from Pakistan(?) should be considered doubtful, as I have failed to find the locality "Meruru" (as written on the label) on available maps. It is very likely that this actually is Meru from Kenia. The problem deserves special attention in the future.

HABITAT. In Portugal, riverside scrub and marsh [present data]; in Algeria, *Populus* forests, dry river beds with *Zizyphus* bushes and stones [present data].

Bianor angulosus (Karsch, 1879)
Figs 47–74.

Ballus angulosus Karsch, 1879: 553 (♀ holotype in the MNUB, examined).

Simaetha angulosa: Simon, 1903a: 838 (T from *Ballus*).

Bianor angulosus: Żabka, 1988: 422, 442-443, f. 56–58 (♀, T from *Simaetha*).

Bianor trepidans Thorell, 1895: 334 (a ♀ lectotype designated here; deposited in the SMNH). **Syn.n.**

Bianor trepidans: Simon, 1901b: 638.

Bianor hotingchiehi Schenkel, 1963: 434, f. 249 (♂ holotype in the MNHN, examined). **Syn.n.**

Bianor hotingchiehi: Prószyński, 1976: m. 127.

Bianor hotingchiehi: Bohdanowicz & Hęciak, 1980: 253–255, f. 10–19 (♂♀).

Bianor hotingchiehi: Yin & Wang, 1979: 1–2, f. 1 (♂♀).

Bianor hotingchiehi: Yin & Wang, 1981: 268-269, f. 1A–H (♂♀).

Bianor hotingchiehi: Żabka, 1985: 201-202, f. 1–15 (♂♀).

Bianor hotingchiehi: Song, 1987: 286, f. 243 (♂♀).

Bianor hotingchiehi: Feng, 1990: 198, f. 173.1–6 (♂♀).

Bianor hotingchiehi: Chen & Gao, 1990: 180, f. 229a–c (♂♀).

Bianor hotingchiehi: Zhong-qi, 1990: 198, f.1–6 (♂♀).

Bianor hotingchiehi: Chen & Zhang, 1991: 288, f. 301.1–5 (♂♀).

Bianor hotingchiehi: Peng *et al.*, 1993: 26-28, f. 34–42 (♂♀).

Bianor hotingchiehi: Song *et al.*, 1999: 506, f. 289J, 290A, 324M (♂♀).

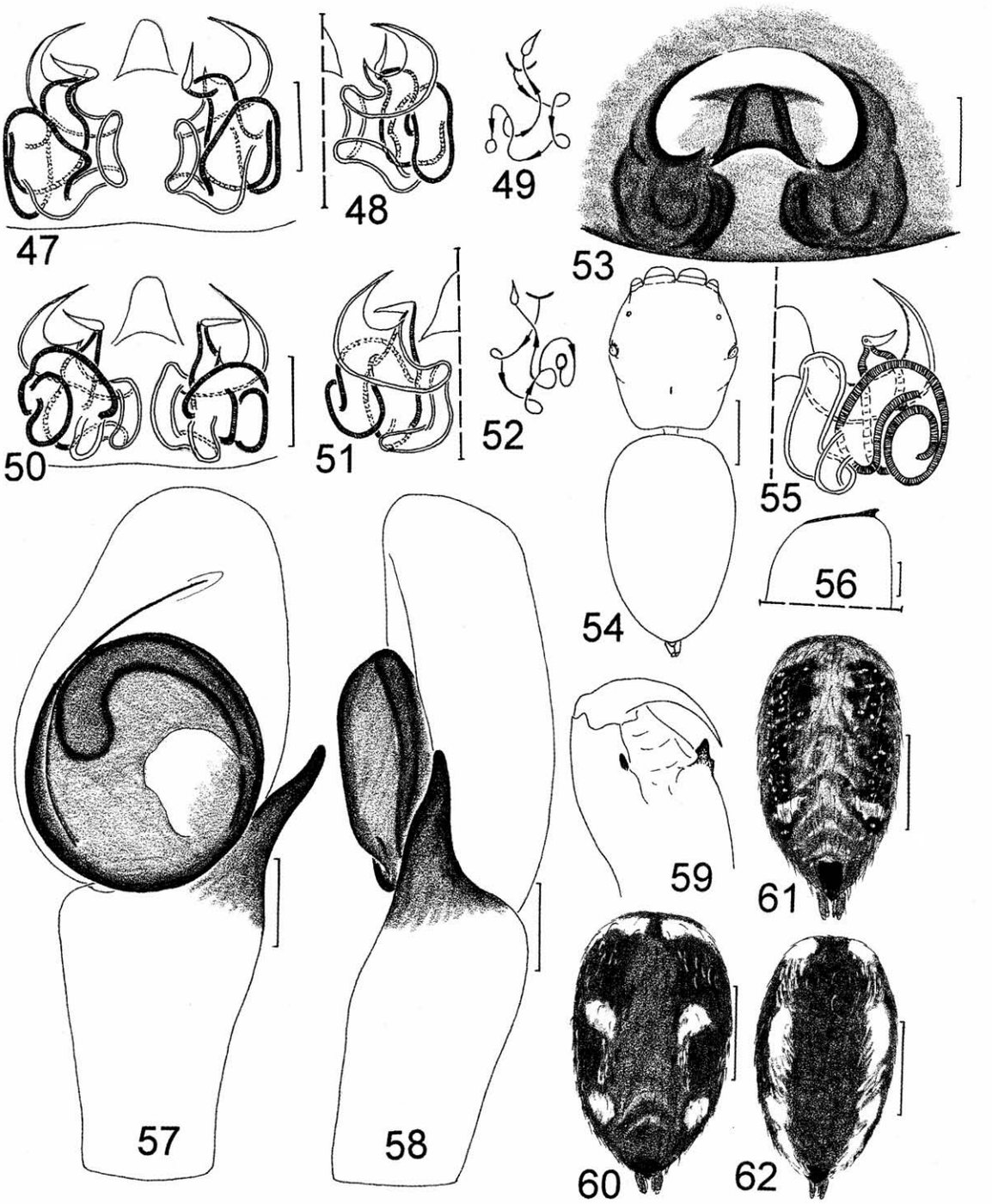
Bianor simoni Żabka, 1985: 204, f. 30–34 (♂ holotype in the IZW, examined). **Syn.n.**

Material. SRI LANKA: 1 ♀ (MNUB, No 1588, holotype of *Ballus angulosus*), "Ceylon, Nietner leg.", det. Karsch, 1879; 1 ♀ (NHMW), Udugama Galle Distr., 10.12.1973, Pagel; 1 ♂ (AMNH), Ambalantota, 4.08.1986, J. Murphy; 1 ♂, 1 ♀ (AMNH), Batalogoda, 1.12.1986, J. Murphy. — BHUTAN: 2 ♀♀ (NHMB), Timphu, 30.04.1972, coll. (?). — INDIA: 1 ♂, 1 ♀ (AMNH), Orissa, Cuttack, 29.11.1987, J. Murphy; 1 ♂, 2 ♀ (AMNH), Bihar, Sindri, 20.11.1987, J. Murphy; 1 ♂, 1 ♀ (AMNH), Mysore, Bangalore, 12.1987, J. Murphy; 1 ♀ (AMNH), W. Bengal, Chinsurach, 3.12.1987, J. Murphy; 1 ♂, 2 ♀ (AMNH), Assam, Titabar, 10.1991, J. Murphy; 1 ♂, 1 ♀ (MMUM), Punjab, Himachal Pradesh, Patlikuhl Town (32°07.4′N, 77°08.8′E), -1200 m a.s.l., 17–23.05.1999, Yu. M. Marusik. — CHINA: 1 ♀ (PSU), Yunnan, near Lusi (?), -900 m a.s.l., 17.05.1955, O. L. Kryzhanovsky; 1 ♀ (AMNH), Canton, Kwangtung, date and collector (?); 1 ♀ (MCZ), Guangdong (=E Kwantung), Tsin Leon San, 6.06.1936, L. Gressitt; 1 ♀ (MCZ), same prov., Mei-hsien, 9.06.1936, L. Gressitt; 1 ♀ (MCZ), Hainan, Ta Han, 5.07.1935, L. Gressitt. — VIET-NAM: 1 ♀ (IZW, 52/66), Ha Noi, 3.05.1966, Bielawski & Pisarski; 1 ♂ (IZW, the holotype of *B. simoni*), ca. 80 km NW of Vinh, Phu Ruy, 17.06.1959, Pisarski & Prószyński; 1 ♀ (IZW), ca. 80 km SW of Ha Noi, 26.06.1959, Pisarski & Prószyński. — THAILAND: 1 ♀ (CFAS), Bangkok, 24.07.1962, E. S. Ross & D O. Cavagnaro; 1 ♀ (ZMTU), Bangkok Prov., Bang Khae, 26.10.1976, P. T. Lehtinen; 1 ♂ (ZMTU), Chiang Mai Prov., Chiangmai, 17.11.1976, P. T. Lehtinen. — BURMA: 1 ♀ (SMNH, n.1724b; lectotype of *Bianor trepidans* designated here), Tharrawarry (Oates Dev), T. Thorell's collection. — MALAYSIA: 1 ♀ (AMNH), ca. 7 mi N of Kuala-Lumpur, 05.1951, R. Traub; 1 ♂ (ZMTU), Sabah, Tawau d, 4.11.1979, P. T. Lehtinen; 2 ♂♂, 3 ♀♀ (AMNH), Pahang, Rd 6.5 km N of Kuala-Lumpur, 03–05.1950, R. Traub. — INDONESIA: 1 ♂ (MCZ, 565; hithertho determined by Peckham & Peckham as *B. maculata*), Java, Bantam, date (?), Workman; 1 ♂ (SMNH, n.1819, hitherto determined by Thorell as *Stichius albomaculatus*), Sumatra, Kampong (v Hass.), T. Thorell's collection; 4 ♂♂, 3 ♀♀ (NHMB), 2 ♂♂, 2 ♀♀ (MMUM), Java, Kadok, date (?), Tegal; 1 ♂ (MCZ, no. 573; determined hitherto by Peckham & Peckham as *B. leucostictus*), Java, date and collector (?); 1 ♀ (MCZ, no. 584; hitherto determined by Peckham & Peckham as *B. trepidans*), "Java, col. W. Kulczyński"; G. W. & E. G. Peckhams' Coll. — ANDAMAN ISLANDS: 1 ♀ (AMNH), Port Blair, 13.04. 1989, J. Murphy.

DIAGNOSIS. *B. angulosus* is most closely related to *B. punjabicus* sp.n., but males can be distinguished by the size and position of the membranous area of the bulb and the position of the sperm duct (cf. Figs 57, 63 and 143). Females of both species are indistinguishable, but see also comments under "Diagnosis" of *B. punjabicus* sp.n.

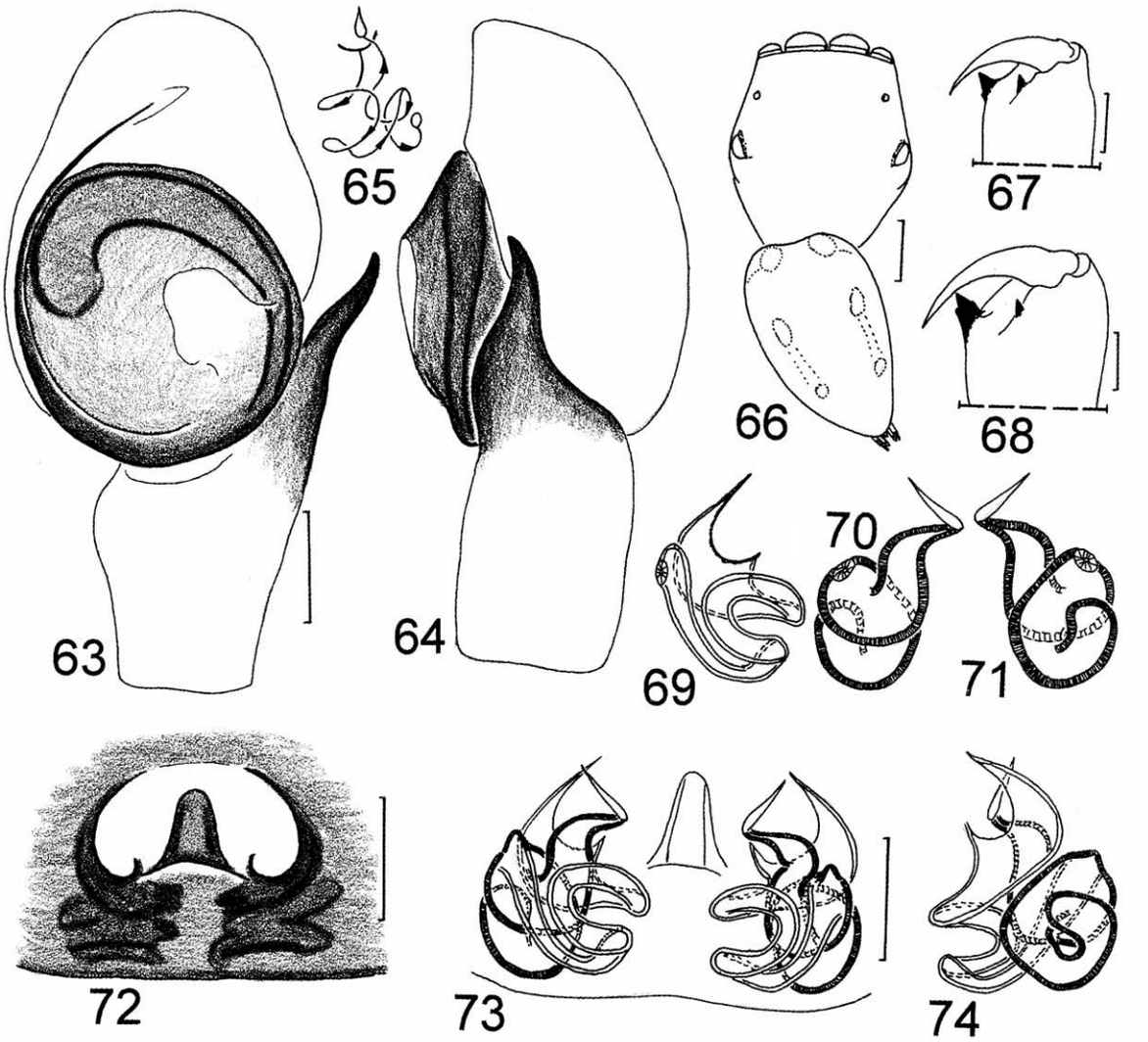
DESCRIPTION. Male (measurements from Java specimen from the MCZ; coloration from newly collected specimens from India and China). Measurements. Carapace 2.53 long, 2.05 wide, 1.13 high at PLE. Ocular area 1.40 long, 1.48 wide anteriorly and 2.00 wide posteriorly. Diameter of AME 0.50. Abdomen 2.40 long, 1.58 wide. Cheliceral length 1.00. Clypeal height 0.08. Length of leg segments: leg I — 1.75 + 1.18 + 1.75 + 0.80 + (tarsus absent); leg II — 1.05 + 0.70 + 0.65 + 0.65 + 0.38; leg III — 1.38 + 0.78 + 0.68 + 0.75 + 0.43; leg IV — 1.28 + 0.65 + 0.75 + 0.88 + 0.40. Leg spination. Leg I: Fm d 0-1-2; Tb v 2-2-2ap; Mt v 2ap. Leg II: Fm d 0-1-2; Pt pr 0-1-0; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 0-0-1-2; Tb pr 0-1, rt 1-1, v 1ap; Mt pr 1ap, rt 1-1ap, v 2ap. Leg IV: Fm d 0-1-2; Tb rt 0-1; Mt pr 1ap, rt 2ap. Coloration. Carapace shagreened (=punctured-reticulate) and shining, russet, covered with white appressed elongate scales forming bright white patches behind PLE and white marginal stripes. Black around eyes. Clypeus brown, with a row of long white hairs overhanging the chelicerae. Sternum brownish yellow, covered with white hairs. Maxillae, labium and chelicerae brown-yellow to dark brown. Chelicerae (Figs 56, 67–68). Serrula of maxillae clearly visible and forming a well-marked endite tooth (Fig. 56). Abdomen: dorsum brownish to yellow-brown, with three pairs of white spots (Fig. 60, 66; see also Żabka, 1985: fig. 5) or a pair of longitudinal white stripes (Fig. 62). Sides and venter brown-yellow, sometimes venter yellow. Book-lung covers yellow. Spinnerets yellow-brown. Leg I yellowish brown, remaining legs yellow to yellow with grayish femora; prolateral sides of femora I almost black. Palps yellow-brown; their femora dorsally covered with white scales; their patellae dorsally with a transverse distal row of white scales. Palpal structure as in Figs 57–58, 63–64.

Female (measurements and leg spination from the holotype of *Ballus angulosus*; coloration from newly collected specimens from India and China). Measurements. Carapace



Figs 47–62. Copulatory organs and somatic characters of *Bianor angulosus*: 47–48, 50–51, 55 — spermathecae, ventral view; 49, 52 — diagrammatic course of the spermathecae; 53 — epigyne, ventral view; 54 — general appearance of the holotype of *B. angulosus*; 56 — male chelicera; 57–58 — palp of ♂, ventral and retrolateral views; 59 — chelicera of ♂; 60, 62 — dorsum of ♂, variation; 61 — dorsum of ♀. Specimens: 47–49 — the syntype of *B. trepidans* (in synonymy; Burma); 50–52 — from Vietnam; 53–55 — the holotype of *B. angulosus* (Sri-Lanka); 56, 62 — from India (Mysore); 57–59 — from Java (Bantam); 60 — from Sri-Lanka; 61 — from Andaman Islands. Scale: 0.1 mm (47–53, 55–59) and 1 mm (54, 60–62).

Рис. 47–62. Копулятивные органы и соматические признаки *Bianor angulosus*: 47–48, 50–51, 55 — сперматеки, вентрально; 49, 52 — схематический ход сперматеки; 53 — эпигина, вентрально; 54 — общий вид голотипа *B. angulosus*; 56 — хелицера самца; 57–58 — пальпа самца, вентрально и ретролатерально; 59 — хелицера самца; 60, 62 — дорзум самца, вариации; 61 — дорзум самки. Экземпляры: 47–49 — синтип *B. trepidans* (синоним; Бирма); 50–52 — из Вьетнама; 53–55 — голотип *B. angulosus* (Шри-Ланка); 56, 62 — из Индии (Майсур); 57–59 — с Явы (Бантам); 60 — из Шри-Ланки; 61 — с Андаманских о-вов. Масштаб: 0,1 мм (47–53, 55–59) и 1 мм (54, 60–62).



Figs 63–74. Copulatory organs and somatic characters of *Bianor angulosus*: 63–64 — palp of ♂, ventral and retrolateral views; 65 — diagrammatic course of the spermathecae; 66 —♂, general appearance; 67–68 — male chelicerae, variation; 69 — insemination duct, dorsal view; 70–71 — receptacle, ventral and dorsal views; 72 — epigyne, ventral view; 73–74 — spermathecae, ventral views. Specimens: 63–66 — from Sumatra; 67–74 — from Java. Scale: 0.1 mm (63–64, 69–74), 0.5 mm (66) and 0.25 mm (67, 68).

Рис. 63–74. Копулятивные органы и соматические признаки *Bianor angulosus*: 63–64 — пальпа самца, вентрально и ретролатерально; 65 — схематический ход сперматеки; 66 — общий вид самца; 67–68 — хелицера самца, вариации; 69 — оплодотворительный канал, дорзально; 70–71 — рецептакул, вентрально и дорзально; 72 — эпигина, вентрально; 73–74 — сперматерки, вентрально. Экземпляры: 63–66 — с Суматры; 67–74 — с Явы. Масштаб: 0,1 мм (63–64, 69–74), 0,5 мм (66) и 0,25 мм (67, 68).

2.65 long, 2.20 wide, 1.20 high at PLE. Ocular area 1.53 long, 1.58 wide anteriorly and 2.18 wide posteriorly. Diameter of AME 0.53. Abdomen 3.45 long, 2.25 wide. Cheliceral length 0.88. Clypeal height 0.10. Length of leg segments: leg I — 1.58 + 1.00 + 1.40 + 1.00 + 0.48; leg II — 1.10 + 0.68 + 0.73 + 0.66 + 0.40; leg III — 1.53 + 0.88 + 0.73 + 0.80 + 0.43; leg IV — 1.53 + 0.75 + 0.90 + 0.98 + 0.44. Leg spination. Leg I: Fm d 0-1-3; Tb v 0-2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-3; Tb pr 0-1, v 1-1-1ap; Mt v 2-2ap. Leg III: Fm d 4 ap; Tb pr and rt 0-1, v 2ap; Mt pr, rt and v 2ap. Leg IV: Fm d 0-1-2; Tb rt 0-1; Mt pr, rt and v 2ap. Coloration. Carapace shagreened (=punctured-reticulate) and shining, russet to yellowish-brown, covered with white appressed elongate scales. Black around eyes. Clypeus densely covered with white hairs. Sternum russet to yellowish brown, covered with white hairs. Maxillae, labium and chelicerae russet to brown. Chelicerae anteriorly shagreened (=punctured-reticulate). Abdomen: dorsum and sides grayish brownish, with patches and lines of white hairs and a pair of poorly marked white patches in the back half (Fig. 61); venter brownish yellow to yellow. Book-lung covers yellow. Spinnerets brownish. Leg I russet to brown, with remaining legs and palpi yellow to gray-yellow; femora I usually darker than other segments, their prolateral sides almost black. Epigyne and spermathecae as in Figs 47–53, 55, 65, 9–74.

COMMENTS. *Bianor trepidans* was described by Thorell [1895] from several specimens (syntypes), one of which is deposited in the SMNH, the rest are deposited elsewhere (most probably in the Museo Civico di Storia Naturale in Genova, Italy). Therefore, to stabilize the taxonomic status of *B. trepidans* as a junior synonym of *B. incitatus*, I designate the ♀ specimen kept in the SMNH as the lectotype, and the remaining specimens as paralectotypes.

M. Żabka [1985] described a new species *B. simoni* from a single male. However, for this description he used the palp with a broken tip of the tibial apophysis. I re-examined the holotype of *B. simoni* and came to the conclusion this species is doubtless to be treated as a junior synonym of *B. angulosus*.

Some of the specimens examined slightly differ from the rest in having smaller chelicerae (cf. Figs 59 and 67–68) and a generally smaller body size in males and a well-marked first loop of the insemination ducts (cf. Figs 47, 50 and 73) in females. As the smaller morphs are often collected together with bigger (typical) specimens and sometimes are found in the same samples, I give no taxonomic significance to these differences and consider them as a variation. However, there is a chance that smaller females may belong to *B. pujabicus* sp.n., of which females are only superficially decribed (see below). Besides, it should be stressed that these smaller specimens cannot be assigned to any of the species here synonymized with *B. angulosus* (*viz. B. trepidans*, *B. hotingchieni* or *B. simoni*), as their holotypes in fact belong to the bigger morph of *B. angulosus* and hence these species names are true synonyms thereof.

VARIATION. The males of *B. angulosus*, likewise those of *B. punjabicus* sp.n., show a strong variation in the size of the chelicerae, which may differ by twice (or more) their length (cf. Figs 59 and 67–68). Besides, the length of the palpal tibia also varies within a wide range (cf. Figs 57 and 63).

DISTRIBUTION. This species is widespread throughout S. and SE Asia: from Punjab (India) in the North-West [present data] to Sri Lanka (type locality) in the South-West, north-eastward to Shandong (China) [Song *et al.*, 1999], and south-eastward to Indonesia (Sumatra and Java) [present data]. Besides, it is very likely that most of the records of *M. aeneiceps* from China [Peng *et al.*, 1993; Song *et al.*, 1999; both sub *Bianor a.*] actually belong to *B. angulosus* as well.

HABITAT. Rice fields in India [present data]; coconut in the Andanam Islands [present data]; bordeline of dry deciduous forest and cut rice-fields [Żabka, 1985: sub *B. simoni*]; paddy fields and cultural meadows in Thailand [present data].

Bianor balius Thorell, 1890

Bianor balius Thorell, 1890a: 73 (♂ holotype in the Museo Civico di Storia Naturale, Genova, Italy; not examined).

Bianor balius: Thorell, 1892: 256.

Bianor balius: Simon, 1901b: 638.

Stertinius balius: Roewer, 1954: 1011, 1435.

COMMENTS. *Bianor balius* seems to be a senior synonym of *B. incitatus*. I came to this opinion after a re-examination of specimens identified by Peckham & Peckham' as *B. balius* (kept in the MCZ). However, as I have been unable to get the holotype of the latter species (after repeated requests to the curator of arachnids of the Museo Civico di Storia Naturale in Genova, Italy, I have not even been answered !), this assumption could not be verified.

Moreover, Roewer [1954: 1435] assigned *B. balius* to the genus *Stertinius*. This could mean that Thorell and the Peckhams dealt with different species.

B. balius was apparently described from a single male, as Thorell [1890a] wrote: "*Exemplum typicum B. balii (cujus diagnosin hic dedi) in Sumatra inventum est.*" It is most likely that the same male was then mentioned by Thorell [1892]: "*Marem singulum in monte Singalang Sumatrae cepit Cel. Beccari*". In the original description of *B. balius*, however, Thorell [1890a] also mentioned another adult male from Nias, collected by Modigliani. It is unclear which of these specimens, if any, was re-examined by Roewer [1954]. Thus, the problem of validity and generic assignment of *B. balius* remains open until the holotype thereof has been re-examined.

Bianor biocellosus Simon, 1902
Figs 75–84.

Bianor biocellosus: Simon, 1901b: 638 (*nomen nudum*).

Bianor biocellosus Simon, 1902: 33 (♀ lectotype and ♂ paralectotype in the MNHN, examined).

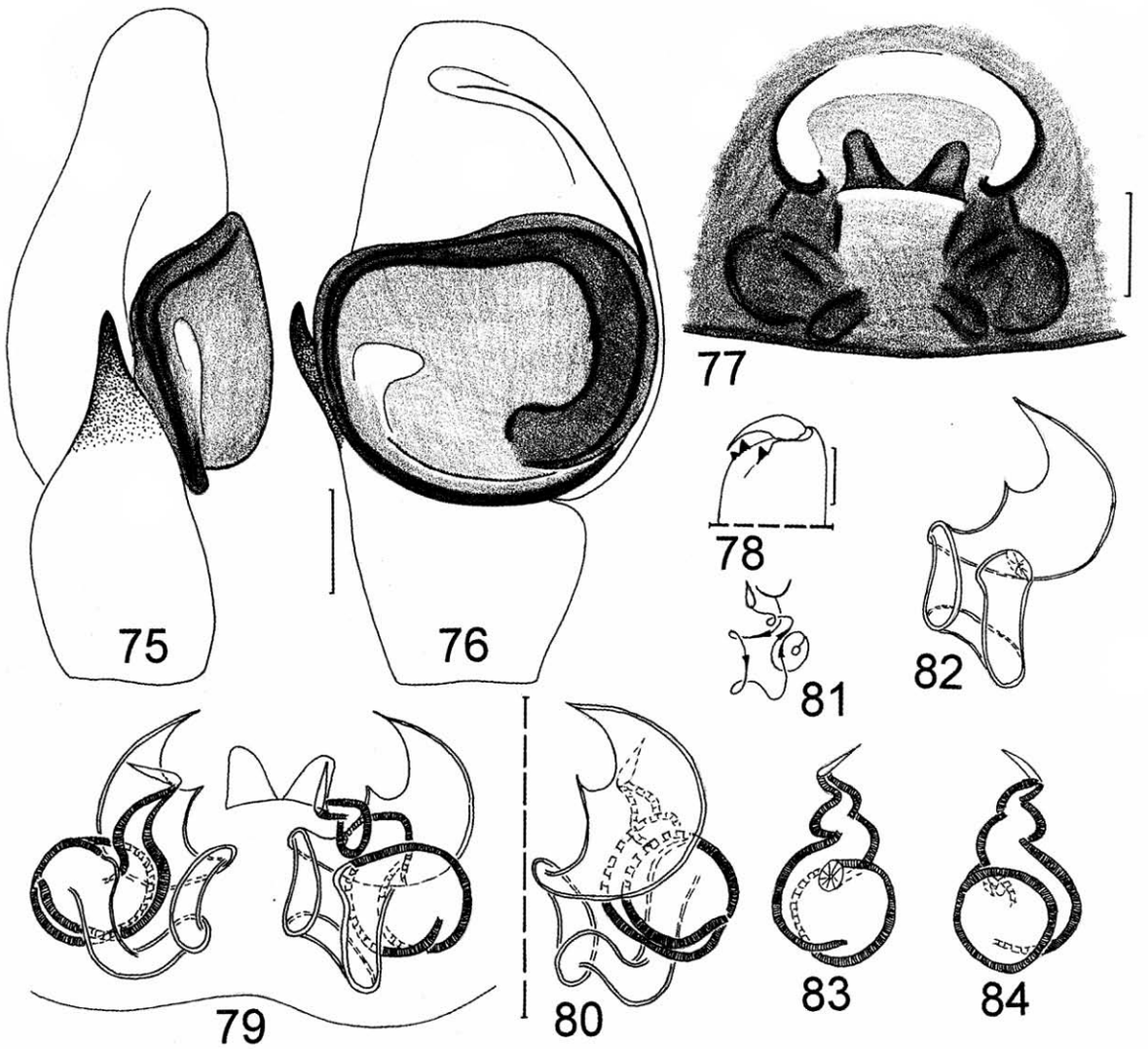
Bianor biocellosus: Galiano, 1963; 312–313, pl. 10, f. 12, pl. 11, f. 11–13 (♂♀; designation of ♀ lectotype).

Material. BRASIL: 1 ♀ (lectotype), 1 ♂ (paralectotype) (MNHN, n.2.563), "le Para".

DIAGNOSIS. Females of this species are easily distinguishable by having a double-central pocket on the epigyne (Fig. 77) and unique, rounded receptacles (Figs 83–84). Males of *B. biocellosus* are rather similar to those of *B. albobimaculatus* and *B. incitatus*, the only difference seems to be the position and shape of the membranous area (invisible in the latter species) (cf. Figs 76 and 11, 13).

DESCRIPTION. Male (paralectotype). Measurements. Carapace 1.85 long, 1.73 wide, 0.90 high at PLE. Ocular area 1.13 long, 1.18 wide anteriorly and 1.53 wide posteriorly. Diameter of AME 0.39. Abdomen 2.13 long, 1.48 wide. Cheliceral length 0.68. Clypeal height 0.10. Length of leg segments: leg I — 1.30 + 0.78 + 0.90 + 0.68 + 0.45; leg II — 0.85 + 0.66 + 0.50 + 0.48 + 0.51; leg III — 1.11 + 0.55 + 0.50 + 0.60 + 0.43; leg IV — 1.15 + 0.53 + 0.65 + 0.73 + 0.43. Leg spination. Leg I: Fm d 0-0-1-2ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 2ap, v 1ap. Leg IV: Fm d 2ap; Tb rt 0-1; Mt pr and rt 1ap. Coloration (a specimen is slightly shaded). Carapace russet, shagreened (=punctured-reticulate), covered with white apressed scales. Black around eyes. Clypeus russet, hairless, but "cheeks" densely covered with white appressed scales as in *B. albobimaculatus* (see Fig. 16). Sternum yellow-brown, covered with white hairs. Maxillae, labium and chelicerae russet. Abdomen: dorsum and sides yellowish gray, dorsum with large elongate scutum and a pair of white spots in the posterior half (the second pair of white spots is poorly visible in the middle part of abdomen); venter yellow. Book-lung covers and spinnerets yellow, tinged with brown. Leg I darkest, russet. Legs II–IV brown with yellow tarsi, but femora of all legs visibly darker than remaining segments. Palps russet. Palpal structure as in Figs 75–76.

Female (lectotype). Measurements. Carapace 2.10 long, 1.73 wide, 1.00 high at PLE. Ocular area 1.20 long, 1.28 wide anteriorly and 1.73 wide posteriorly. Diameter of AME 0.41. Abdomen 2.53 long, 1.80 wide. Cheliceral length 0.70. Clypeal height 0.13. Length of leg segments: leg I — 1.18 + 0.80 + 0.78 + 0.58 + 0.43; leg II — 0.95 + 0.63 + 0.53 + 0.50 + 0.38; leg III — 1.25 + 0.63 + 0.58 + 0.63 + 0.43; leg IV — 1.28 + 0.58 + 0.70 + 0.75 + 0.43. Leg spination. Leg I: Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 1ap; Tb v 1-0; Mt 2-2ap. Leg III: Fm d 1ap; Tb v 1-0; Mt v 2-2ap. Leg IV: Mt pr and rt 1ap. Coloration (a specimen is slightly shaded) as in male, but paler and different in the following: clypeus densely covered



Figs 75–84. Copulatory organs of *Bianor biocellosus* (♀ lectotype and ♂ paralectotype; from Brasil): 75–76 — palp of ♂, ventral and retrolateral views; 77 — epigyne, ventral view; 78 — female chelicera; 79 — spermathecae, ventral view; 80 — spermathecae, dorsal view; 81 — diagrammatic course of the spermathecae; 82 — insemination duct, dorsal view; 83–84 — receptacle, ventral and dorsal views. Scale: 0.1 mm (75–77, 79–84) and 0.25 mm (78).

Рис. 75–84. Копулятивные органы *Bianor biocellosus* (♀ — лектотип и ♂ — паралектотип; из Бразилии): 75–76 — пальпа самца, вентрально и ретролатерально; 77 — эпигина, вентрально; 78 — хелицера самки; 79 — сперматерки, вентрально; 80 — сперматерка, дорзально; 81 — схематический ход сперматеки; 82 — оплодотворительный канал, дорзально; 83–84 — рецептакул, вентрально и дорзально. Масштаб: 0,1 мм (75–77, 79–84) и 0,25 мм (78).

with white hairs; dorsum with two clearly marked pairs of white spots; all legs yellow, with brown femora; palpi entirely yellow, but basal parts of femora brown. Epigyne and spermathecae as in Figs 79-84.

DISTRIBUTION. Known from the type locality only; this is the only species of *Bianor* found in the New World.

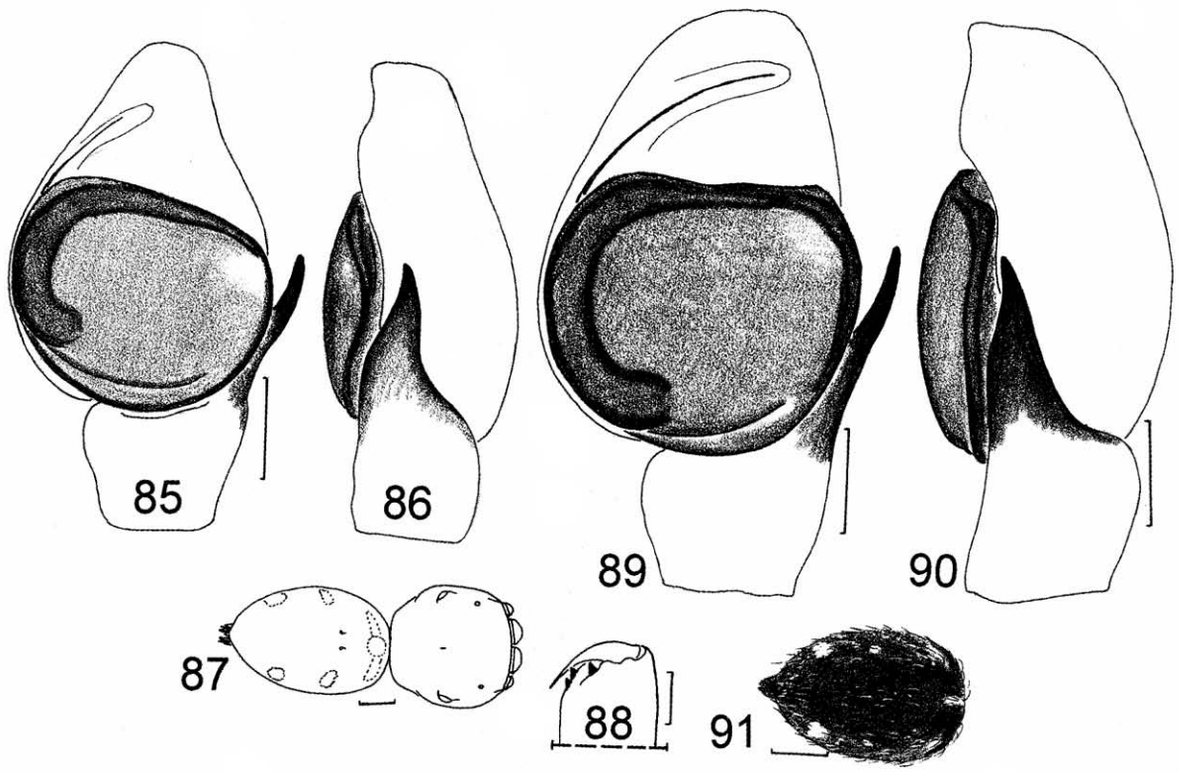
Bianor compactus (Urquhart, 1884)

Salticus compactus Urquhart, 1884: 50, pl. 11, f. 18 (♀ holotype, not examined).
Ballus compactus: Urquhart, 1892: 229.
Bianor compactus: Dalmas, 1917: 419 (♂, T from *Ballus*).
Bianor compactus: Bryant, 1935: 68, pl. 8, f. 3-4 (♂).

COMMENTS. I have been unable to borrow and re-examine the ♀ holotype of *B. compactus*. However, I have had a chance to study the two females collected in New Zealand (Figs 127–129) and found them to be indistinguishable from true *B. maculatus* (cf. Figs. 127–129 and 117–126). Thus, it is very likely that *B. compactus* may be a junior synonym of *B. maculatus*. The question remains open until the holotype of *B. compactus* has been re-examined

Bianor concolor (Keyserling, 1882)

Ballus concolor Keyserling, 1882: 1335, pl. 114, f. 1 (♀ holotype, not examined).
Bianor concolor: Simon, 1901b: 638 (T from *Ballus*).



Figs 85–91. Male copulatory organs and somatic characters of *Bianor kovaczi* sp.n. (85–86; the holotype) and *B. incitatus* (87–91): 85, 89 — palp of ♂, ventral view; 86, 90 — ditto, retrolateral view; 87 — ♂, general appearance; 88 — chelicera of ♂; 91 — dorsum of ♂. Specimens: 85–86 — Ethiopia; 87–88 — from Java; 89–91 — from Malayasi (Sabah). Scale: 0.1 mm (85–86, 89–90), 0.25 mm (88), 0.5 mm (87) and 1 mm (91).

Рис. 85–91. Копулятивные органы и соматические признаки самца *Bianor kovaczi* sp.n. (85–86; голотип) и *Bianor incitatus* (87–91): 85, 89 — пальпа самца, вентрально; 86, 90 — тоже, ретролатерально; 87 — общий вид самца; 88 — хелицера самца; 91 — дорзум самца. Экземпляры: 85–86 — Эфиопия; 87–88 — с Явы; 89–91 — из Малайзии (Сабах). Масштаб: 0.1 мм (85–86, 89–90), 0,25 мм (88), 0,5 мм (87) и 1 мм (91).

Bianor concolor: Rainbow, 1911; 294.

COMMENTS. I have been unable to borrow and re-examine the ♀ holotype of *B. concolor*, therefore a taxonomic status of this species remains uncertain.

Bianor diversipes Simon, 1901

Bianor diversipes Simon, 1901c: 73 (♀ holotype apparently in the MNHN, not examined).

COMMENTS. I have been unable to borrow and re-examine the ♀ holotype of *B. diversipes*, therefore a taxonomic status of this species remains uncertain.

Bianor incitatus Thorell, 1890
Figs 87–104.

Bianor incitatus Thorell, 1890b: 159 (♀ lectotype designated here; deposited in the SMNH).

Bianor incitatus: Thorell, 1892: 259 (♀).

Bianor incitatus: Simon, 1901b: 638 (♀).

Stertinius incitatus: Roewer, 1954: 1011, 1435.

Bianor carli Reimoser, 1934: 506, f. 27 (♀ holotype in the MHNG, examined). **Syn.n.**

Stichius albomaculatus: Prószyński, 1984: 57 (♂).

Bianor obak Berry, Beatty & Prószyński, 1996: 220–222, f. 18–24, m. 2 (♂♀, ♀ holotype in the BPBM, examined). **Syn.n.**

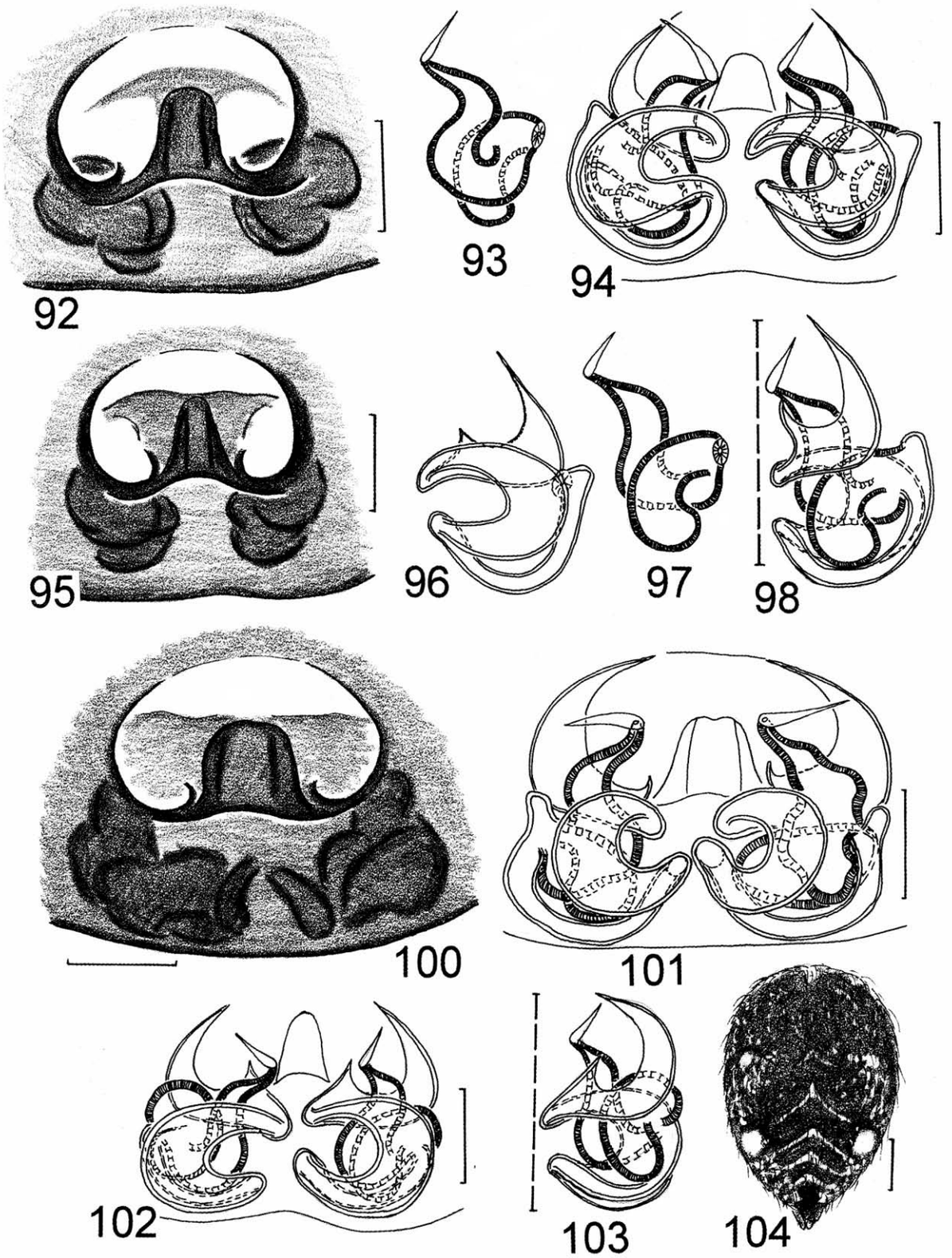
Bianor maculatus (misidentified): Peng, 1989: 158, f. 1A–C (♂).

Bianor maculatus (misidentified): Peng *et al.*, 1993: 29–30, f. 46-49 (♂).

Bianor maculatus (misidentified): Song *et al.*, 1999: 506, f. 289K, 324N (♂).

Material. CHINA: 1 ♀ (ZMTU), Yunnan, ca. 15 km S of Yuanchiang, 30.09.1987, P. T. Lehtinen; 1 ♂ (MCZ), Fujiang (=Fukien) Prov., Minhow (Foochow), summer 1925, H. H. Chung. — JAPAN: 1 ♂, 1 ♀ (MCZ), Okinawa, Shimabuku, 25–26.06.1945, C. T. Parsons & F. G. Werner. — BHUTAN: 1 ♂ (NHMB), Samchi, 3000 m a.s.l., 7–11.05.1972, coll. (?); 1 ♂, 1 ♀ (NHMB), Changra, ca. 18 km S of Tongsa, 1900 m a.s.l., 22.06.1972, coll. (?); 1 ♂ (NHMB), Khala, 25.04.1972, coll. (?). — INDIA: 1 ♀ (MHNG, the holotype of *Bianor carli*), "Inde méridionale, Valparai, Voy. Carl et Eschler"; 1 ♂, 2 ♀♀ (AMNH), Mysore, Bangalore, 12.1987, J. Murphy; 1 ♂ (AMNH), Madya

Рис. 92–104. Копулятивные органы и соматические признаки самок *Bianor incitatus*: 92, 95, 100 — эпигина, вентрально; 94, 98, 101, 102–103 — сперматеки, вентрально; 93, 97 — рецептакулы, вентрально и дорзально; 96 — оплодотворительный канал, дорзально; 104 — дорзум самки. Экземпляры: 92–94, 95–98, 104 — с Явы; 95, 102–103 — из Китая (Юннань); 100–101 — голотип *Bianor carli* (синоним; из Индии). Масштаб: 0,1 мм (92–103) и 1 мм (104).



Figs 92–104. Female copulatory organs and somatic characters of *Bianor incitatus*: 92, 95, 100 — epigyne, ventral view; 94, 98, 101, 102–103 — spermathecae, ventral view; 93, 97 — receptacle, ventral and dorsal views; 96 — insemination duct, dorsal view; 104 — dorsum of ♀. Specimens: 92–94, 95–98, 104 — from Java; 95, 102–103 — from China (Yunnan); 100–101 — the holotype of *Bianor carli* (in synonymy; from India). Scale: 0.1 mm (92–103) and 1 mm (104).

Pradesh, 1986, J. Murphy; 1 ♂ (AMNH), Bihar, Sindri, 20.11.1987, J. Murphy; 1 ♂ (ZMTU), Meghalaya, E. Khasi Hills, Untyngka, 1400 m a.s.l., 6.05.1979, P. T. Lehtinen. — SRI LANKA: 1 ♂ (AMNH), Ambalantota, 4.12.1986, J. Murphy. — THAILAND: 1 ♂ (CFAS), Phrakhanong (13°42′N, 100°36′E), 26–31.03.1990, V. & B. Roth. — INDONESIA: 1 ♀ (SMNH, 259/1724a; the lectotype of *B. incitatus*; designated here), "Java, Kinberg, Eugenie's Exped"; 1 ♂ (MCZ, 563), "Java, Kulczyński"; G. W. & E. G. Peckham Coll.; 1 ♂, 5 ♀♀ (NHMB), 1 ♂, 3 ♀♀ (MMUM), Java, Kadok, date and collector (?); 1 ♂ (AMNH), E. Kalimantan, ca. 40 km N of Balikpapan, Sepaka, 16.06.1979, C. L. Deeleman; 1 ♂ (MCZ), Sulawesi (=Celebes), Malino (Mt), date (?), C. T. Brues. — MALAYSIA: 1 ♂ (AMNH), Sabah state, Kinabalu N. P., 1800 m a.s.l., 30.07.1979, J. Murphy; 1 ♀ (MCZ), same state, Kalabakang River, 17.08.1937, Harvard Primate Expedition. — THE CAROLINE ISLANDS: 1 ♀ (BPBM, the holotype of *Bianor obak*), 7 ♂♂, 5 ♀♀ (BPBM, the paratypes of *B. obak*), Palau island group, Peleliu Is., Chief Obak's yard, 23.03.1973, J. W. & E. R. Berry; 10 ♀♀ (BPBM, the paratypes of *B. obak*), same group of islands, Malakal Is., 17–18.04.1973, J. A. Beatty; 3 ♀♀ (BPBM, the paratypes of *B. obak*), same group of islands, Angaur Is., 27.04.1973, J. W. Berry & J. A. Beatty.

DIAGNOSIS. *B. incitatus* is most closely related to *B. albobimaculatus*, with both males and females being quite distinguishable from the latter species only with difficulties. In the ♀ copulatory organs the only reliable difference seems to be the shape of the first loop of insemination ducts (clearly wider in *B. incitatus*; cf. Figs 94, 96, 101, 102 and 22, 26, 40–41). Besides, most of the examined females of *B. incitatus* did not possess two pairs of white spots in the colour markings (the first pair being almost invisible), while both pairs are usually distinct in the females of *B. albobimaculatus* (cf. Figs 104 and 18). Males can only be distinguished by the absence of the membranous area of the tegulum in *B. incitatus* (present in *B. albobimaculatus*; cf. Figs 89 and 11, 13) and the colour markings (usually one/two white spots in *B. incitatus*; both usually lacking in *B. albobimaculatus*; cf. Figs 87, 91 and 8, 17).

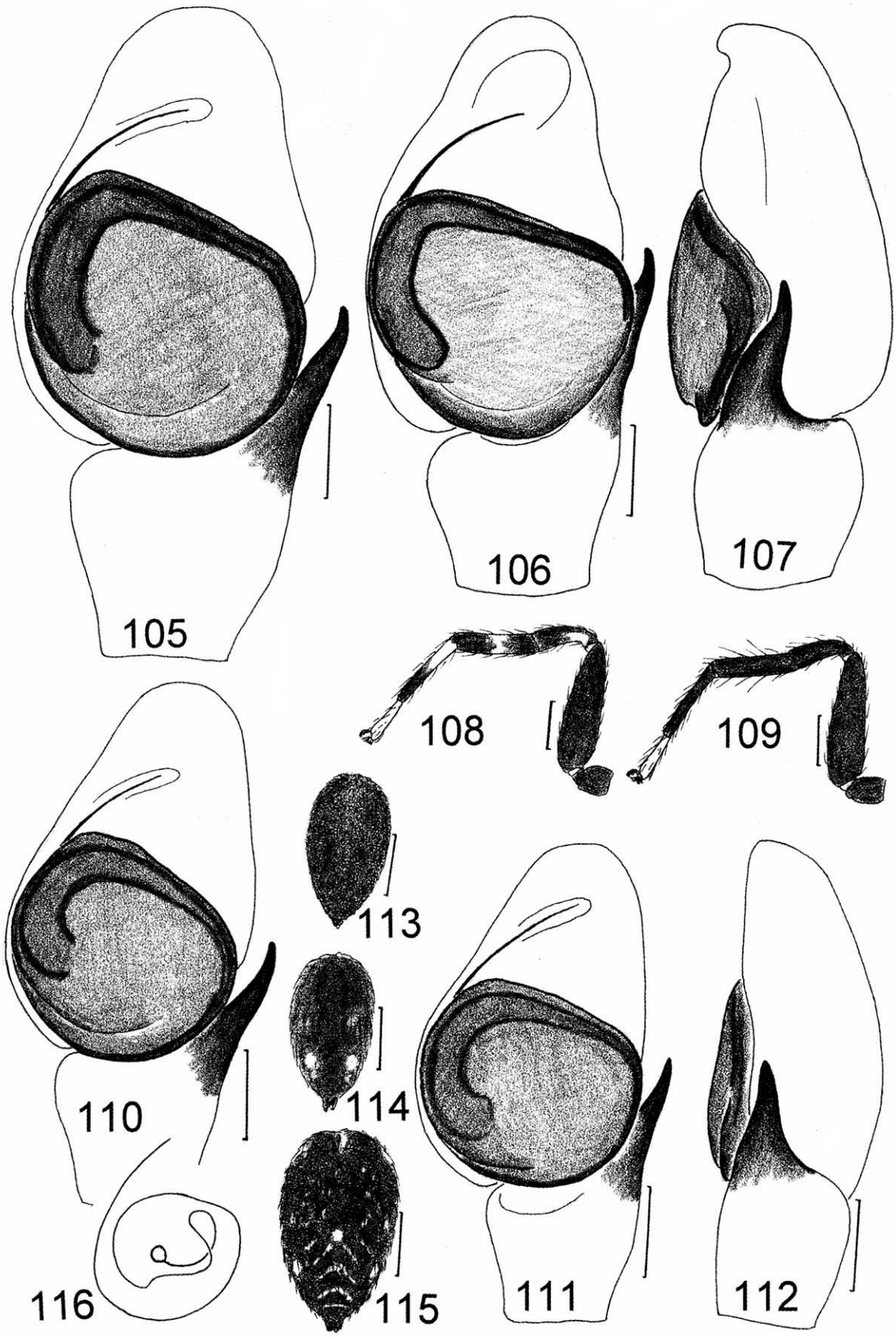
DESCRIPTION. Male (specimens from Java). Measurements. Carapace 1.63–1.83 long, 1.38–1.58 wide, 1.00–1.04 high at PLE. Ocular area 0.98–1.13 long, 1.09–1.20 wide anteriorly and 1.30–1.55 wide posteriorly. Diameter of AME 0.36–0.43. Abdomen 1.65–1.83 long, 1.15–1.13 wide. Cheliceral length 0.59–0.78. Clypeal height 0.10–0.13. Length of leg segments: leg I — 1.13–1.40 + 0.70–0.83 + 0.78–1.00 + 0.63–0.80 + 0.43–0.58; leg II — 0.75–0.93 + 0.45–0.55 + 0.43–0.53 + 0.43–0.53 + 0.30–0.40; leg III — 0.98–1.08 + 0.53–0.60 + 0.41–0.55 + 0.53–0.65 + 0.45–0.48; leg IV — 0.95–1.13 + 0.48–0.55 + 0.50–0.65 + 0.60–0.75 + 0.48–0.40. Leg spination. Leg I: Fm d 0-0-1-2; Pt pr 0-1-0 or spineless; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1-2; Pt pr 0-1-0 or spineless; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 0-0-1-3 or 2ap; Tb pr 0-1, rt 0-1 or spineless, v 1ap; Mt pr 2 ap, rt 1-2ap or 2ap, v 1ap. Leg IV: Fm d 0-0-1-2 or 2ap; Tb rt 0-1; Mt pr and rt 1ap. Coloration (based on several specimens from different localites). Carapace shagreened (=punctured-reticulate), russet to dark brown, sparsely covered with white appressed scales often forming white spotes behind PLE and on the area of the fovea. Black around eyes. Clypeus russet to brown, hairless, but "cheeks" rather densely covered with white appressed scales (especially dense in bigger males). Sternum reddish/yellowish brown to dark brown, covered with white hairs. Maxillae, labium and chelicerae reddish/yellowish brown to dark brown. Abdomen: dorsum yellowish gray to dark gray-brown, with a large elongated scutum and a pair of white spots (first pair of spots often poorly marked or absent in bigger specimens) (Figs 87, 91). Sides and venter yellowish brown to gray, venter covered with short white hairs. Book-lung covers yellow. Spinnerets yellowish brown. Leg I russet to dark brown (but patella and tibia sligthly lighter than remaining segments). Legs II–IV: coxae and femora brown to dark brown; remaining segments except tarsi brown with yellow rings or entirely yellow (in dark specimens yellow rings better marked on basal halves of metatarsi); tarsi always yellow. Palp yellow-brown to dark brown, its structure as in Figs 89–90.

Female (smaller specimen — the holotype of *Bianor carli*; bigger one from Java). Measurements. Carapace 2.13–2.18 long, 1.83–1.95 wide, 1.03–1.15 high at PLE. Ocular area 1.25–1.37 long, 1.35–1.37 wide anteriorly and 1.78–1.85 wide posteriorly. Diameter of AME 0.43–0.48. Abdomen 2.30–2.50 long, 1.70–1.75 wide. Cheliceral length 0.65–0.80. Clypeal height 0.10–0.17. Length of leg segments: leg I — 1.18–1.29 + 0.80–0.83 + 0.81–0.88 + 0.66–0.68 + 0.43–0.48; leg II — 0.95–1.06 + 0.60–0.61 + 0.55–0.63 + 0.53–0.58 + 0.40–0.40; leg III — 1.20–1.43 + 0.63–0.65 + 0.55–0.68 + 0.63–0.73 + 0.41–0.45; leg IV — 1.30–1.44 + 0.65–0.65 + 0.73–0.85 + 0.80–0.90 + 0.23–0.44. Leg spination. Leg I: Fm d 0-0-1-2ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1 or spineless, v 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr 0-1, rt 0-1 or spineless, v 1ap; Mt pr and rt 2ap, v 1-2ap. Leg IV: Tb v 2ap or spineless, Mt pr and rt 1ap or spineless. Coloration as described for males but lighter. Carapace shagreened (=punctured-reticulate), yellow-brown, with black around eyes. Carapace densely covered with white appressed elongated scales. Clypeus densely covered with white hairs, with a dense row of white hairs overhanging the chelicerae. Sternum yellow, tinged with brown and rather densely covered with white hairs. Maxillae, labium and chelicerae brown-yellow. Abdomen without scutum: dorsum brownish, with anterior and lateral white stripes and a pair of white spots (=second pair; the first pair almost never marked) (Fig. 104). Sides and venter yellow with brownish stains. Book-lung covers and spinnerets yellow, sometimes tinged with gray. Palpi yellow, but palpal femora often brownish in basal halves. Femora I swollen and darker (brown to dark brown) than other segments. Remaining legs yellow, but their femora usually darker (brown). Epigyne and spermathecae as in Figs 92–104.

COMMENTS. Taking into account wide distributions for both *B. incitatus* and *B. albobimaculatus* and that their ranges meet/overlap in NW India, as well as the poor distinction of both species from each other, one could assume that we are dealing with a single, quite variable pantropical species (cf.

Figs 105–116. Male copulatory organs and somatic characters of *Bianor maculatus* (105–107, 109, 115–116) and *B. pseudomaculatus* sp.n. (108, 110–114): 105, 106, 110–111 — palp of ♂, ventral view; 107, 112 — ditto, retrolateral view; 108–109 — leg IV of ♂; 113–115 — dorsum of ♂; 116 — diagrammatic course of sperm duct. Specimens: 105, 109, 115 — from Australia (Sydney); 106–107, 116 — from Australia (Parmelia); 110, 113 — from Vietnam; 111–112, 114 — from India (Punjab). Scale: 0.1 mm (105–107, 110–112) and 1 mm (108–109, 113–115).

Рис. 105–116. Копулятивные органы и соматические признаки самца *Bianor maculatus* (105–107, 109, 115–116) и *B. pseudomaculatus* sp.n. (108, 110–114): 105, 106, 110–111 — пальпус самца, вентрально; 107, 112 — тоже, ретролатерально; 108–109 — нога IV самца; 113–115 — дорзум самца; 116 — схематический ход семенного канальца. Экземпляры: 105, 109, 115 — из Австралии (Сидней); 106–107, 116 — из Австралии (Пармелия); 110, 113 — из Вьетнама; 111–112, 114 — из Индии (Пенджаб). Масштаб: 0,1 мм (105–107, 110–112) и 1 мм (108–109, 113–115).


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Plexipus paykulli, *Menemerus bivittatus*, *etc.*), which has been described several times under different names. I cannot confirm this assumption now, and this problem needs special attention in the future.

Thorell [1890b] described two species from Sumatra and Java: *Bianor leucostictus* (from a single ♂) and *B. incitatus* (from ♀♀) [see also Thorell, 1892: 252]. The former species was later considered by Roewer [1954: 1011, 1435] to be a senior synonym of the latter one. According to the original description [Thorell, 1890b], the type locality of *B. leucostictus* is Sumatra (collected by Beccari), while *B. incitatus* was described from two females from "Java (collected by Kinberg), Sumatra (collected by Beccari)." Thus, at least one of these females was taken from the type locality of *B. leucostictus* and hence Roewer's [1954] assumption of synonymy of both species seemed to be correct. Simon [1903a: 839] transferred *B. leucostictus* to the genus *Stertinius*. However, as I failed to borrow and re-examine the ♂ holotype of *B. leucostictus* from the Museo Civico di Storia Naturale in Genova (Italy), I consider the taxonomic status of *Bianor leucostictus* as uncertain.

Bianor incitatus was described by Thorell [1890b] from two females, one of which is deposited in the SMNH. Taking into account that *B. incitatus* is known to be a senior synonym of a number of other species and may turn out to be junior synonym of *B. balius* (see "Comments" above under *B. balius*), designating a lectotype for it is mandatory to stabilize its taxonomic status. Therefore, I designate the ♀ specimen kept in the SMNH as the lectotype.

DISTRIBUTION. This species is rather widespread in S. and SE Asia: from India (Mysore, Madya Pradesh and Meghalaya) and Bhutan [Reimoser, 1934; present data]; southward to Sri Lanka [present data]; north-eastward to China (Yunnan, Guanxi and Hunan) [Peng *et al.*, 1993: sub *B. maculatus*; present data] and Japan (Okinawa); and southeastward to Indonesia (Java and E. Kalimantan) [present data] and the Caroline Islands [Berry *et al.*, 1996: sub *B. obak*]. However, see also above comments under "Diagnosis" of *B. incitatus*.

HABITAT. The specimens were collected under rocks and by sweeping grassy meadows (Berry *et al.*, 1996: sub. *B. obak*); rainforest in Kalimantan and Malaysia [present data]; litter in jungle in China [present data]; rice fields in India [present data]; grassy dry slopes in India [present data].

Bianor kovaczi **sp.n.**
Figs 85–86.

Material. Holotype ♂ (HNHM, Nr. 214), Ethiopia, "Errerwalley", 06.1912, Ö. Kovácz.

DIAGNOSIS. This species is most closely related to *B. albobimaculatus*, *B. incitatus* and *B. senegalensis* sp.n., but can be easily separated from all of them by lacking a dense white scale coverage on the "cheeks", as well as by the proportions and smaller size of the tegulum (cf. Figs 85 and 4, 13, 87, 154).

DESCRIPTION. Male (the holotype). Measurements. Carapace 1.40 long, 1.25 wide, 0.73 high at PLE. Ocular area 0.93 long, 0.89 wide anteriorly and 1.23 wide posteriorly. Diameter of AME 0.33. Abdomen 1.40 long, 1.05 wide. Cheliceral length 0.50. Clypeal height 0.10. Length of leg segments: leg I — 0.95 + 0.55 + 0.65 + 0.50 + 0.40; leg II — 0.65 + 0.43 + 0.35 + 0.40 + 0.28; leg III — 0.78 + 0.39 + 0.35 + 0.39 + 0.40; leg IV — 0.83 + 0.35 + 0.50 + 0.50 + 0.35. Leg spination. Leg I: Fm d 0-0-1-1ap; Tb v 1-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1-1ap; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 1ap; Tb pr 0-1, v 1ap; Mt pr 1ap, rt 1-1ap, v 1-2ap. Leg IV: Fm d 1ap; Tb rt 0-1, Mt pr and rt 1ap. Coloration. Carapace russet, shagreened (=punctured-reticulate), sparsely covered with white appressed scales. Black around eyes. Clypeus and "cheeks" russet, with few white scales. Sternum, maxillae, labium and chelicerae russet. Abdomen gray-brown, with a large dorsal scutum; dorsum anteriorly with a short, elongate white stripe and a pair of poorly marked white spots in the posterior half. Book-lung covers and spinnerets brownish. Leg I russet, but tarsi yellow. Legs II–IV: femora brownish, tarsi yellow, remaining segments yellow with brown rings. Palps brown. Palpal structure as in Figs 85–86.

Female unknown.

DISTRIBUTION. Known from the type locality only.

ETYMOLOGY. The species is named after the collector, Mr. Ödön Kovácz, a hunter and amateur entomologist, who collected in Africa in the period 1911–1919 and died during the 1919 expedition to the Nile. He donated all his collections to the HNHM.

Bianor maculatus (Keyserling, 1883)
Figs 105–107, 109, 115–116, 116a, 117–129.

Scythropa maculata Keyserling, 1883: 1447, pl. 122, f. 4 (♂♀, the ♀ holotype was lost, a **neotype** designated here; deposited in the AMS).

Ericulus maculatus: Simon, 1885c: 88 (T from *Scythropa*).

Bianor maculatus: Simon, 1901b: 638 (T from *Ericulus*).

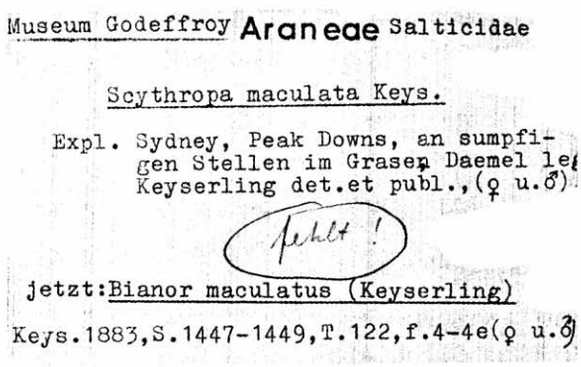
Bianor maculatus: Rainbow, 1911: 294.

Bianor maculatus: Davies & Żabka, 1989: 246, pl. 47 (♂♀).

Bianor maculatus: Patoleta & Żabka, 1999: 232–233.

For other sources see Bonnet [1955] and Prószyński [1990].

Material. AUSTRALIA: 1 ♀ (AMS, KS-7328, **neotype**, designated here), NSW, Hunter Valley north of Sydney (32°44′S, 151°34′E), 12.1978, A. Bishop; 3 ♀♀ (AMS, KS-7328), together with neotype; 1 ♂, 1 ♀ (AMS, KS-7329), same locality, 03.1979, A. Bishop; 1 ♂, 1 ♀ (MCZ, no.586), Sydney, G. W. & E. G. Peckham's coll.; 3 ♂♂, 6 ♀♀ (AMS, KS-17901), NSW, Warwick via Cowra (33°50′S, 148°41′E), 15.02.1956, A. W. Bridge; 6 ♂♂, 1 ♀ (AMS, KS-22071), NSW, Narrabri (30°20′S, 149°47′E), 01.1975, P. M. Broom; 1 ♂ (WAM, 91/1416), W Austarlia, Lake Gwelup, under dried debris, 3.04.1987, J. Waldock; 1 ♂ (WAM, 91/1415), W.A., Rottnest J., 20.01.1954, A. R. Main; 2 ♂♂, 1 ♀ (WAM, 91/1417-9), W Australia, Parmelia (32°15′S, 115°47′E), 4.02.1990, A. A. Dejons. — NEW ZEALAND: 1 ♀ (AMNH), Northland, 90 mi Beach, 17.03.1986, F. & J. Murphy; 1 ♀ (AMNH), Taranaki, Waitara, 30.01.1986, F. & J. Murphy.


Museum Godeffroy Araneae Salticidae

Scythropa maculata Keys.

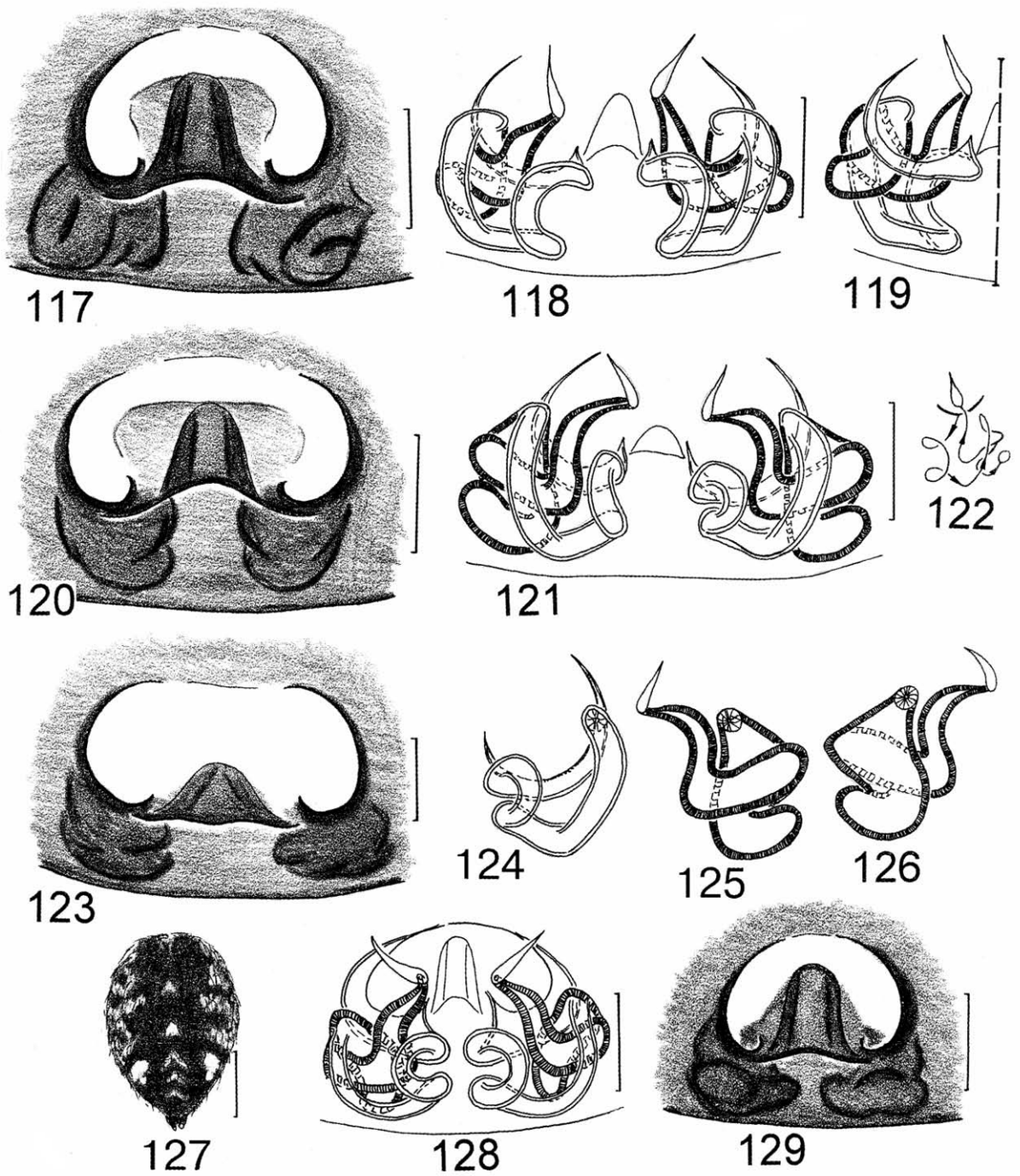
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jetzt:Bianor maculatus (Keyserling)

Keys.1883,S.1447-1449,T.122,f.4-4e(♀ u.♂)

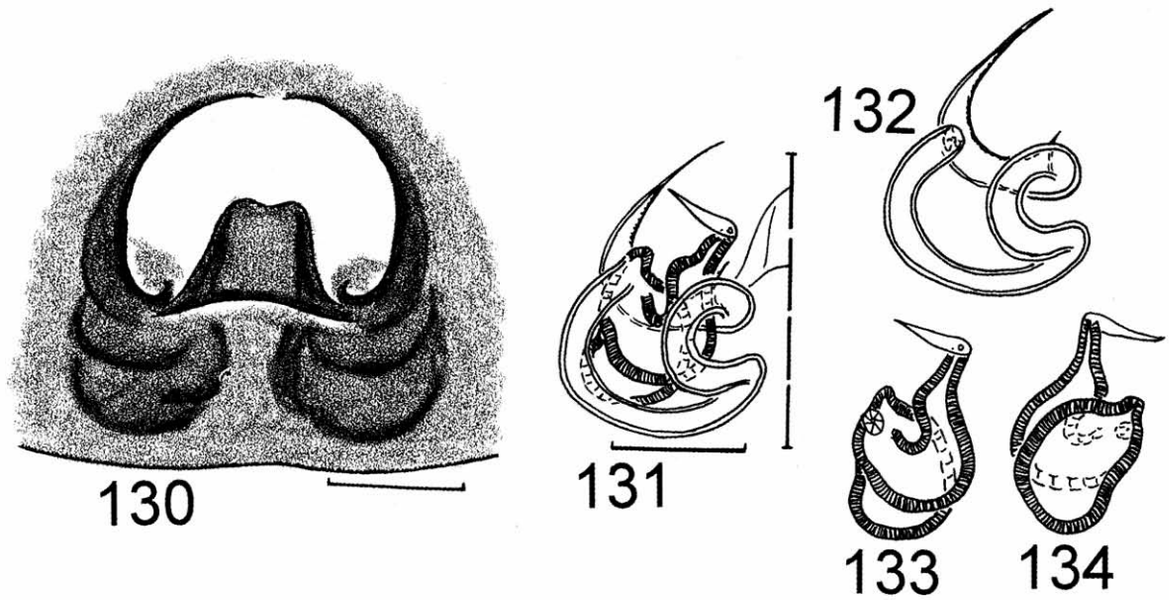
Figs 116a. The museum card for the type specimens of *Scythropa maculata* to show that the holotype was lost.

Рис. 116а. Музейная карточка типовых экземпляров вида *Scythropa maculata*, чтобы продемострировать, что голотип утерян.



Figs 117–129. Female copulatory organs and somatic characters of *Bianor maculatus*: 117, 120, 123, 129 — epigyne, ventral view; 118–119, 121, 128 — spermathecae, ventral view; 122 — diagrammatic course of insemination duct; 124 — insemination duct, dorsal view; 125 — receptacles, ventral view; 126 — ditto, dorsal view; 127 — dorsum of♀. Specimens: 117–126 — from Australia (Syndey); 127–129 — from New Zealand (may be *B. compactus*). Scale: 0.1 mm (117–126, 128–129) and 1 mm (127).

Рис. 117–129. Копулятивные органы и соматические признаки самок *Bianor maculatus*: 117, 120, 123, 129 — эпигина, вентрально; 118–119, 121, 128 — сперматеки, вентрально; 122 — схематический ход спематеки; 124 — оплодотворительный канал, дорзально; 125 — рецептакулы, вентрально; 126 — тоже, дорзально; 127 — дорзум самки. Экземпляры: 117–126 — из Австралии (Сидней); 127–129 — из Новой Зеландии (возможно *B. compactus*). Масштаб: 0,1 мм (117–126, 128–129) и 1 мм (127).



Figs 130–134. Female copulatory organs of *Bianor pseudomaculatus* sp.n. from Bhutan: 130 — epigyne, ventral view; 131 — spermathecae, ventral view; 132 — insemination duct, dorsal view; 133 — receptacles, ventral view; 126 — ditto, dorsal view. Scale: 0.1 mm.

Рис. 130–134. Копулятивные органы самки *Bianor pseudomaculatus* sp.n. из Бутана: 130 — эпигина, вентрально; 131 — сперматеки, вентрально; 132 — оплодотворительный канал, дорзально; 133 — рецептакулы, вентрально; 126 — тоже, дорзально. Масштаб: 0,1 мм.

DIAGNOSIS. See comments under "Diagnosis" of *B. pseudomaculatus* sp.n. below, and also "Comments" under *B. compactus* above.

DESCRIPTION. Male (from Australia, Warwick). Measurements. Carapace 2.33 long, 1.88 wide, 1.38 high at PLE. Ocular area 1.40 long, 1.35 wide anteriorly and 1.85 wide posteriorly. Diameter of AME 0.45. Abdomen 2.85 long, 1.88 wide. Cheliceral length 1.08. Clypeal height 0.15. Length of leg segments: leg I — 1.88 + 1.15 + 1.35 + 1.05 + 0.65; leg II — 1.08 + 0.66 + 0.63 + 0.70 + 0.39; leg III — 1.30 + 0.70 + 0.64 + 0.80 + 0.43; leg IV — 1.33 + 0.69 + 0.78 + 0.88 + 0.43. Leg spination. Leg I: Fm d 0-0-1-2; Tb v 0-2-2-2ap; Mt v 0-2-2ap. Leg II: Fm d 0-0-1-2; Tb pr 0-1, v 2-2ap; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1ap; Mt v 1-1ap, pr and rt 2ap. Leg IV: Fm d 0-0-1-1ap; Tb rt 0-1; Mt pr and rt 1ap. Coloration. Carapace russet, shagreened (=punctured-reticulate), sparsely covered with white appressed scales. Black around eyes. Clypeus russet, hairless; "cheeks" sparsely covered with white appressed scales. Abdomen gray-brown, with large dorsal scutum and colour markings of white spots as in Fig. 115. Book-lung covers and spinnerets yellow-brown. Leg I: femur dark brown, tibia and patella orange, metatarsus and tarsus russet. Legs II–IV brown with yellow tarsi. Palps russet. Palpal structure as in Figs 105–107.

Female (from Australia, Warwick). Measurements. Carapace 2.05 long, 1.83 wide, 1.18 high at PLE. Ocular area 1.30 long, 1.30 wide anteriorly and 1.30 wide posteriorly. Diameter of AME 0.43. Abdomen 2.65 long, 2.10 wide. Cheliceral length 0.80. Clypeal height 0.13. Length of leg segments: leg I — 1.20 + 0.75 + 0.83 + 0.63 + 0.45; leg II — 0.95 + 0.60 + 0.55 + 0.54 + 0.38; leg III — 1.18 + 0.63 + 0.60 + 0.70 + 0.40; leg IV — 1.33 + 0.69 + 0.78 + 0.88 + 0.43. Leg spination. Leg I: Fm d 0-0-1-2; Tb v 0-2-2-2ap; Mt v 0-2-2ap. Leg II: Fm d 0-0-1-2; Tb pr 0-1, v 1-1ap; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr 0-1, v 1-1; Mt pr 2ap, rt 1-2ap, v 1-1ap. Leg IV: Fm d 1ap; Tb rt 0-1; Mt pr and rt 1ap. Coloration as described for the male (Fig. 127), but lighter and different as follows: palpi entirely yellow; clypeus densely covered with white hairs; book-lung cover yellow; all legs: femora brown, remaining segments yellow to brownish yellow. Epigyne and spermathecae as in Figs 117–126, 128–129.

COMMENTS. I was informed by the curator of arachnids in the Zoological Museum of Hamburg (Germany) [H. Dastych, *in litt.*] that the holotype of *Scythropa maculata* was indeed deposited in this museum before the Second World War, but was lost during the war (see Fig. 116a; the museum card for this species). Therefore, I designate a neotype for *Bianor maculatus* using the ♀ specimen collected from the locality Hunter Valley, N of Sydney, being closest to the original type locality (Peak Downs, Sydney). *Bianor maculates* is the type species of the genus *Bianor*, therefore designating a neotype for it is mandatory to stabilize the taxonomic status of the genus.

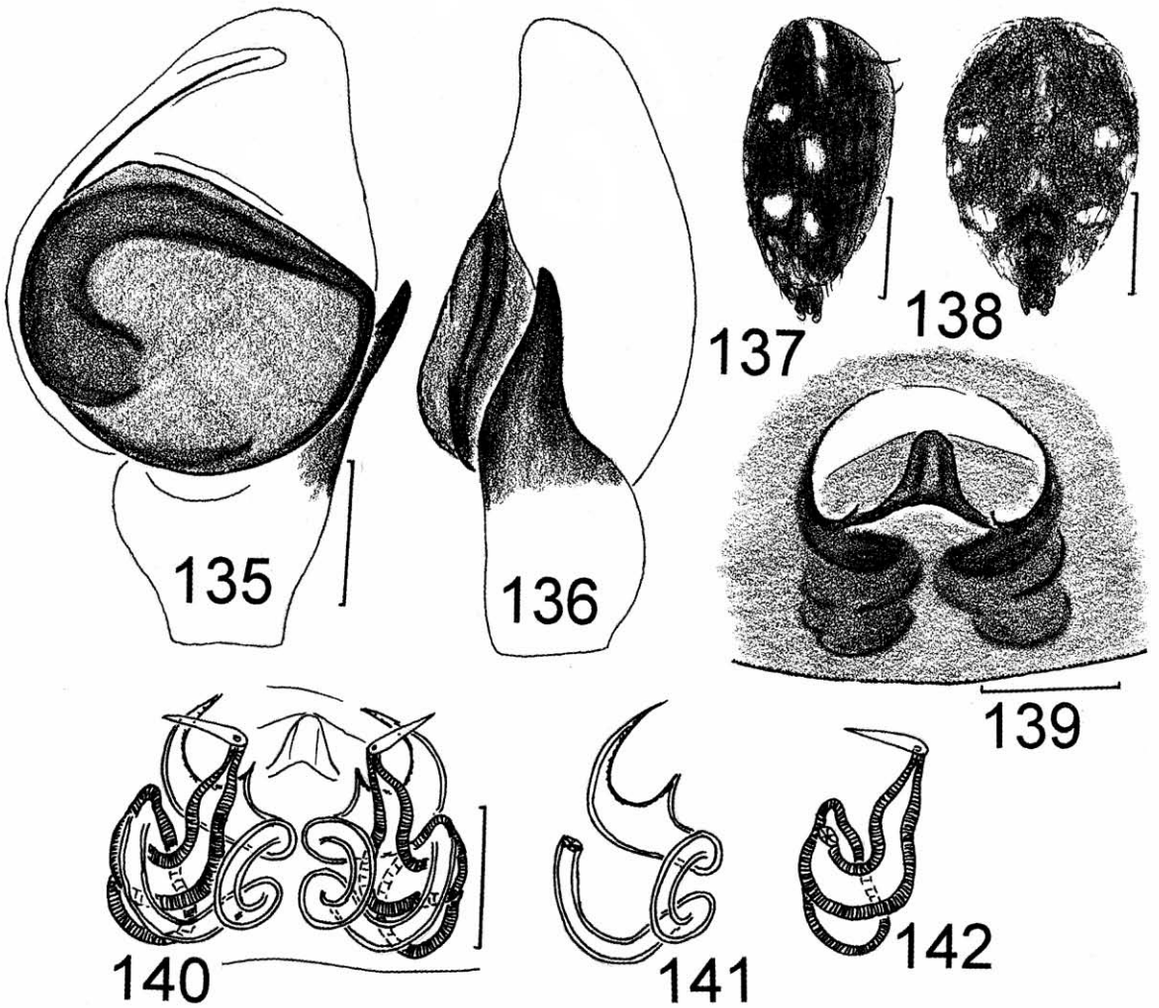
DISTRIBUTION. Australia, including the Australian Islands (Queensland: Cannett Cay, Motmot) [Patoleta & Żabka, 1999], and New Zealand [present data]. The records from Samoa and New Caledonia [Bonnet, 1955] have not been confirmed so far [*vide* Żabka, 1985]; it is very likely that the latter records actually belong to *B. vitiensis* described and known from Viti Levu in Fiji [Berry *et al.*, 1996].

HABITAT. Sand dunes, beach (marram) in New Zealand [present data].

Bianor murphyi **sp.n.**
Figs 135–142.

Material. Holotype ♂ (AMNH), Kenia, Rift Val., Barringo, 1100 m a.s.l., 31.07.1974, J. Murphy.

Paratype: KENYA: 1♀ (AMNH), Lake Barringo (N. shore), 0.5 km S of Kampi Ya Samaki, 16–17.05.1975, A. J. Penniman.



Figs 135–142. Copulatory organs and somatic characters of *Bianor murphyi* sp.n. (♂ holotype, ♀ paratype; both from Kenya): 135–136 — palp of ♂, ventral and dorsal view; 137–138 — dorsum of ♂, lateral and dorsal views; 139 — epigyne, ventral view; 140 — spermathecae, ventral view; 141 — insemination duct, dorsal view; 142 — receptacles, ventral view. Scale: 0.1 mm (135–136, 139–142) and 0.5 mm (137–138).

Рис. 135–142. Копулятивные органы и соматические признаки *Bianor murphyi* sp.n. (♂ — голотип, ♀ — паратип; оба из Кении): 135–136 — пальпус самца, вентрально и ретролатерально; 137–138 — дорзум самца, латерально и дорзально; 139 — эпигина, вентрально; 140 — сперматеки, вентрально; 141 — оплодотворительный канал, дорзально; 142 — рецептакулы, вентрально. Масштаб: 0,1 мм (135–136, 139–142) и 0,5 мм (137–138).

DIAGNOSIS. This is the smallest member of the genus *Bianor*, and its male can be easily distinguished by the transverse-elongate tegulum (Fig. 135) and abdomen coloration (Figs 137–138). The female shows a typical spermathecal confomation and is indistinguishable from other African species, *e.g. B. albobimaculatus* (cf. Figs 140–142 and 19–27, 36–46). The small size and dorsal colour-markings (Fig. 138) seem to be the only characters to distinguish *B. murphyi* sp.n. from the latter species. Besides, the ♀ paratype was only provisionallty matched to the ♂ holotype, as both were collected from the same locality.

DESCRIPTION. Male (the ♂ holotype). Measurements. Carapace 1.43 long, 1.13 wide, 0.70 high at PLE. Ocular area 0.75 long, 0.95 wide anteriorly and 1.08 wide posteriorly. Diameter of AME 0.30. Abdomen 1.35 long, 0.98 wide. Cheliceral length 0.45. Clypeal height 0.10. Length of leg segments: leg I — 0.80 + 0.58 + 0.55 + 0.45 + 0.38; leg II — 0.55 + 0.38 + 0.35 + 0.30 + 0.28; leg III — 0.63 + 0.25 + 0.33 + 0.38 + 0.33; leg IV — 0.63 + 0.25 + 0.40 + 0.38 + 0.38. Leg spination. Leg I: Fm d 0-1-1ap; Tb v 0-1-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-1ap; Tb pr 0-1, v 1-0; Mt v 1-2ap. Leg III: Fm d 0-2 ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 1 ap, v 2ap. Leg IV: spineless. Coloration. Carapace russet, sparsely covered with white appressed scales. Black around eyes. Clypeus russet, "cheeks" sparsely covered with white scales. Chelicerae russet. Maxillae and labium brown, with white apices. Sternum yellow-brown, tinged with brazen. Abdomen: dorsum gray, with colour markings consisting of white spots as shown in Figs 137–138; sides and venter yellowish, tinged with gray. Book-lung covers yellow, tinged with gray. Spin-

nerets yellow, tinged with gray. Legs I brown, tinged with brazen, femora swollen, tibia and metatarsi covered with pale protruding hairs. Legs II–IV: femora brown, tarsi yellow, patellae, tibiae and metatarsi yellow with brown rings and lines. Palpi brown, tinged with brazen; with yellow cymbial tips. Palpal structure as in Figs 135–136.

Female (a provisionally matched female from the type locality). Measurements. Carapace 1.50 long, 1.40 wide, 0.78 high at PLE. Ocular area 0.95 long, 1.00 wide anteriorly and 1.38 wide posteriorly. Diameter of AME 0.33. Abdomen 2.38 long, 1.70 wide. Cheliceral length 0.50. Clypeal height 0.13. Length of leg segments: leg I — 0.88 + 0.58 + 0.53 + 0.48 + 0.33; leg II — 0.63 + 0.43 + 0.38 + 0.35 + 0.35; leg III — 0.88 + 0.50 + 0.38 + 0.43 + 0.35; leg IV — 0.88 + 0.48 + 0.50 + 0.55 + 0.35. Leg spination. Leg I: Fm 0-1-1ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1ap; Tb pr 0-1, v 1-0; Mt 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 1ap, v 1-2ap. Leg IV: Fm d 1ap; Mt pr and rt 1ap. Coloration as described for the male, but paler. Dorsum with a pair of pale white spots in the posterior half. Palps yellow, with brownish femora. Epigyne and spermathecae as in Figs 139–142.

DISTRIBUTION. Known from the type locality only (Lake Barringo in Kenya).

HABITAT. The holotype was collected in grass and close to hot springs.

ETYMOLOGY. The specific is named in honour of Dr. J. Murphy (Hampton, UK), who collected the holotype and provided a lot of exellent *Bianor* and *Harmochirus* specimens used in the present study.

Bianor pseudomaculatus **sp.n.**
Figs 108, 110–114, 130–134.

Bianor maculatus (misidentified): Żabka, 1985: 203–204, f. 16–25 (♂♀ from the IZW, examined).

Material. Holotype: 1 ♂ (ISEA), India, Punjab, Patiala City, University campus (30°21′N, 76°27′E), 24–25.06.1999, Yu. M. Marusik.

Paratypes: INDIA: 1 ♂ (ZMTU), Meghalaya, East Khasi Hills, Untyngka, 1400 m a.s.l., 6.05.1979, P. T. Lehtinen; 1 ♀ (MCZ), Calcutta, date and coll. (?). — BHUTAN: 3 ♂♂, 1 ♀ (NHMB), 1 ♀ (ISEA), Thimphu, 20–31.05.1972, coll. (?); 3 ♀♀ (NHMB), same locality, 30.07.1972, coll. (?); 1 ♂, 4 ♀♀ (NHMB), Gogona, 3100 m a.s.l., 10–21.06.1972, coll. (?); 1 ♀ (NHMB), Sampa-Kotoka, 1400–2600 m a.s.l., 9.06.1972, coll. (?); 2 ♀♀ (NHMB), Dechhi Paka, 3300 m a.s.l., 20.06.1972, coll. (?); 1 ♀ (ISEA), Paro, 2300 m a.s.l., 28.04.1972, coll. (?). — VIETNAM: 1 ♂ (MCZ), Ho Chi Minh City (=Saigon), 11.1966–02.1967, P. Fleischner.

Other material. VIETNAM: 1 ♂ (IZW, previously determined as *B. maculatus*), ca. 80 km NW of Vinh, Phu Ruy, 17.06.1959, B. Pisarski & J. Prószyński.

DIAGNOSIS. *Bianor pseudomaculatus* sp.n. is most closely related to *B. maculatus*, but can be distinguished by the following characters: the absence of a central white spot on the dorsum (cf. Figs 113–114 and 115); the clearly different shape of the tegulum (cf. Figs 110–111 and 105–106); and the arrangement of the spermathecal loops (cf. Figs 131 and 118, 121, 128). Male legs I contrastinly bi-coloured (dark brown to black femora + red/yellow-red other segments) in *B. pseudomaculatus* sp.n., and uniformly brown to dark brown in *B. maculatus*. Male legs III and IV are also diagnistic: *B. maculatus* has uniformly brown/gray-brown legs with yellow tarsi and without differentiated rings (Fig. 109), while *B. pseudomaculatus* sp.n. has clearly marked brown rings on a yellow background (Fig. 108). By the shape of tegulum, the males of *B. pseudomaculatus* sp.n. are also similar to *B. wunderlichi* sp.n. (cf. Figs 11–12) and *B. vitinesis*, but from the former they differ in the absence of the dorsal colour markings (cf. Figs 10 and 113), and from the latter by the leg III–IV colorations [yellow with brown rings in *B. pseudomaculatus* sp.n. (Fig. 108), uniformly brown in *B. vitiensis*].

DESCRIPTION. Male (the holotype). Measurements. Carapace 1.83 long, 1.60 wide, 1.15 high at PLE. Ocular area 1.05 long, 1.10 wide anteriorly and 1.50 wide posteriorly. Diameter of AME 0.35. Abdomen 2.13 long, 1.38 wide. Cheliceral length 0.73. Clypeal height 0.15. Length of leg segments: leg I — 1.40 + 0.90 + 1.05 + 0.80 + 0.60; leg II — 0.88 + 0.53 + 0.50 + 0.53 + 0.35; leg III — 1.00 + 0.50 + 0.38 + 0.53 + 0.33; leg IV — 1.00 + 0.53 + 0.53 + 0.70 + 0.33. Leg spination. Leg I: Fm d 0-1-2ap; Tb v 1-1-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-2ap; Tb pr 0-1, v 0-1; Mt v 2-2ap. Leg III: Fm d 2 ap; Tb pr and rt 0-1; Mt pr and rt 2 ap, v 1ap. Leg IV: Fm d 1ap, Tb rt 0-1; Mt pr and rt 1ap. Coloration. Carapace dark brown, densely covered with white appressed scales. Clypeus dark brown, tinded with brazen. Maxillae and labium russet. Abdomen: dorsum yellowish brown, without pronounced colour markings (Fig. 113). Sides and venter gray. Book-lung covers yellow-brown. Spinnerets brown. Legs I russet, femora swollen, tibia and metatarsi covered with pale protruding hairs. Legs II–IV: femora, patellae and tibiae russet, metatarsi yellow-brown, tarsi yellow (Fig. 108). Palpi russet, with yellow cymbial tips. Palpal structure as in Figs 110–112.

Female (paratype from Bhutan, Thimphu). Measurements. Carapace 1.75 long, 1.68 wide, 1.20 high at PLE. Ocular area 1.23 long, 1.20 wide anteriorly and 1.63 wide posteriorly. Diameter of AME 0.38. Abdomen 3.08 long, 2.28 wide. Cheliceral length 0.65. Clypeal height 0.15. Length of leg segments: leg I — 1.13 + 0.90 + 0.85 + 0.63 + 0.45; leg II — 1.03 + 0.55 + 0.63 + 0.53 + 0.35; leg III — 1.23 + 0.60 + 0.63 + 0.68 + 0.40; leg IV — 1.28 + 0.65 + 0.80 + 0.90 + 0.45. Leg spination. Leg I: Fm d 0-1-1ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1, v 1-2ap; Mt v 2-2ap. Leg III: Fm d 2 ap; Tb pr and rt 0-1, v 1-1ap; Mt pr and rt 1 ap, v 1-2ap. Leg IV: Tb v 0-1-0; Mt v 2ap. Coloration. Carapace and eye field russet, with Black around eyes. Clypeus yellow-brown, densely covered with white hairs. Chelicerae russet. Maxillae and labium russet, with white apices. Sternum russet, with black ending. Abdomen: dorsum and sides gray, with numerous small white/yellow spots forming transverse and longitudinal lines; venter yellow-gray. Book-lung covers and spinnerets yellow. Legs I russet, darker and stronger than other legs. Remaining legs yellow-brown, but femora usually darker (brown). Palps yellow. Epigyne and spermathecae as in Figs 130–134; see also Żabka [1985: 203, figs 22–24, sub *Bianor maculatus*].

ETYMOLOGY. The specific name reflects the close relationships of this species to *B. maculatus*, which it was earlier mixed up with.

DISTRIBUTION. India and Vietnam [present data; Żabka, 1985: sub *B. maculatus*].

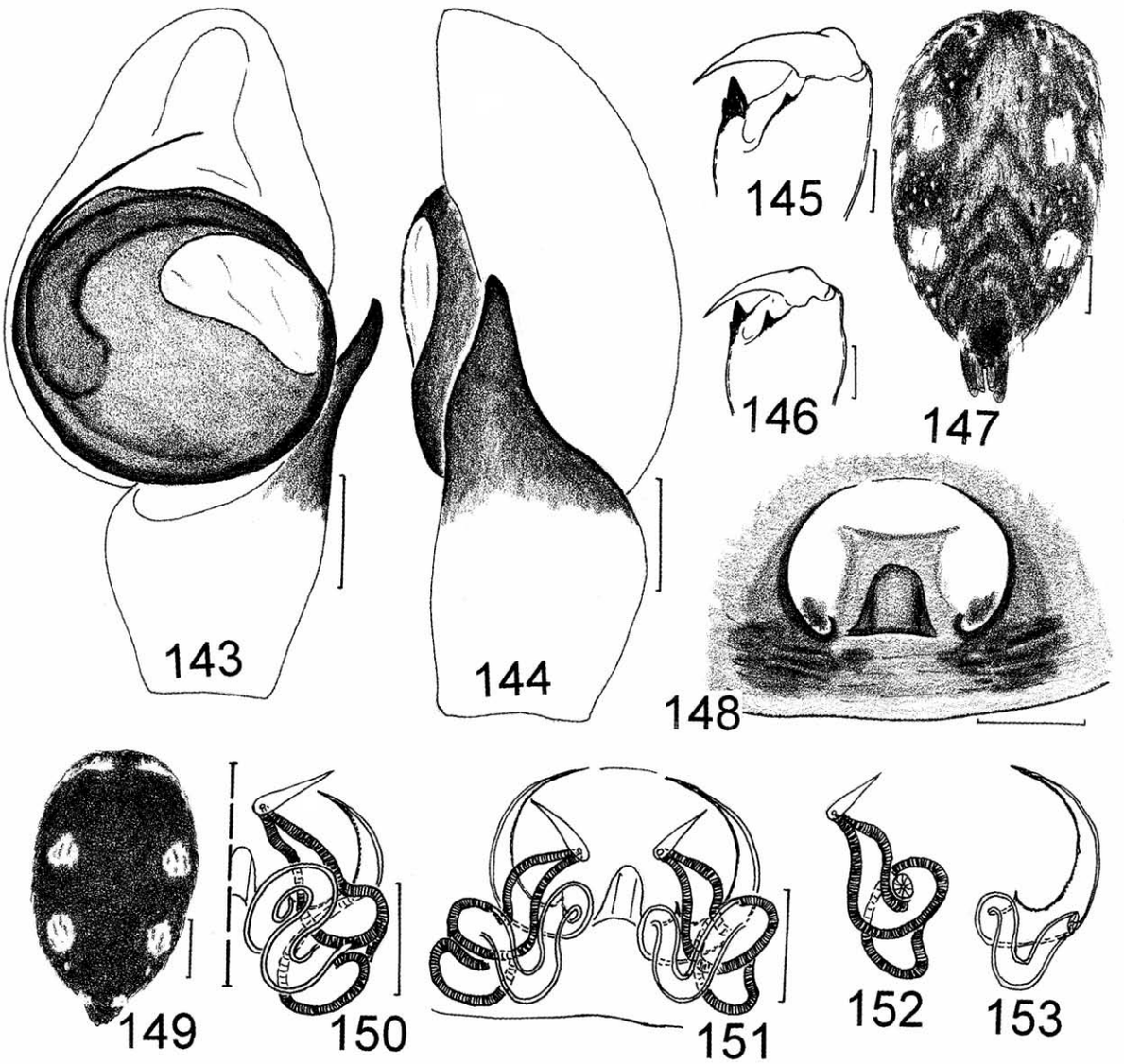
HABITAT. In India, grassy dry slopes [present data].

Bianor punjabicus **sp.n.**
Figs 143–153.

Material. Holotype: 1 ♂ (ISEA), India, Punjab, Patiala City, University campus (30°21′N, 76°27′E), 3–8.05.1999, Yu. M. Marusik.

Paratypes: INDIA: 1 ♂ (ISEA), 1 ♂ (ZMUM), together with holotype. — AFGHANISTAN: 1 ♂ (NMP), Nengrahar Prov., ca. 40 km NE of Jalabad, 16.03.1966, Povolný & Tenora.

Other material. INDIA: 2 ♀♀ (ISEA), 1 ♀ (ZMUM), India, Punjab, Patiala City, University campus (30°21′N, 76°27′E), 24–25.06.1999, Yu. M. Marusik.

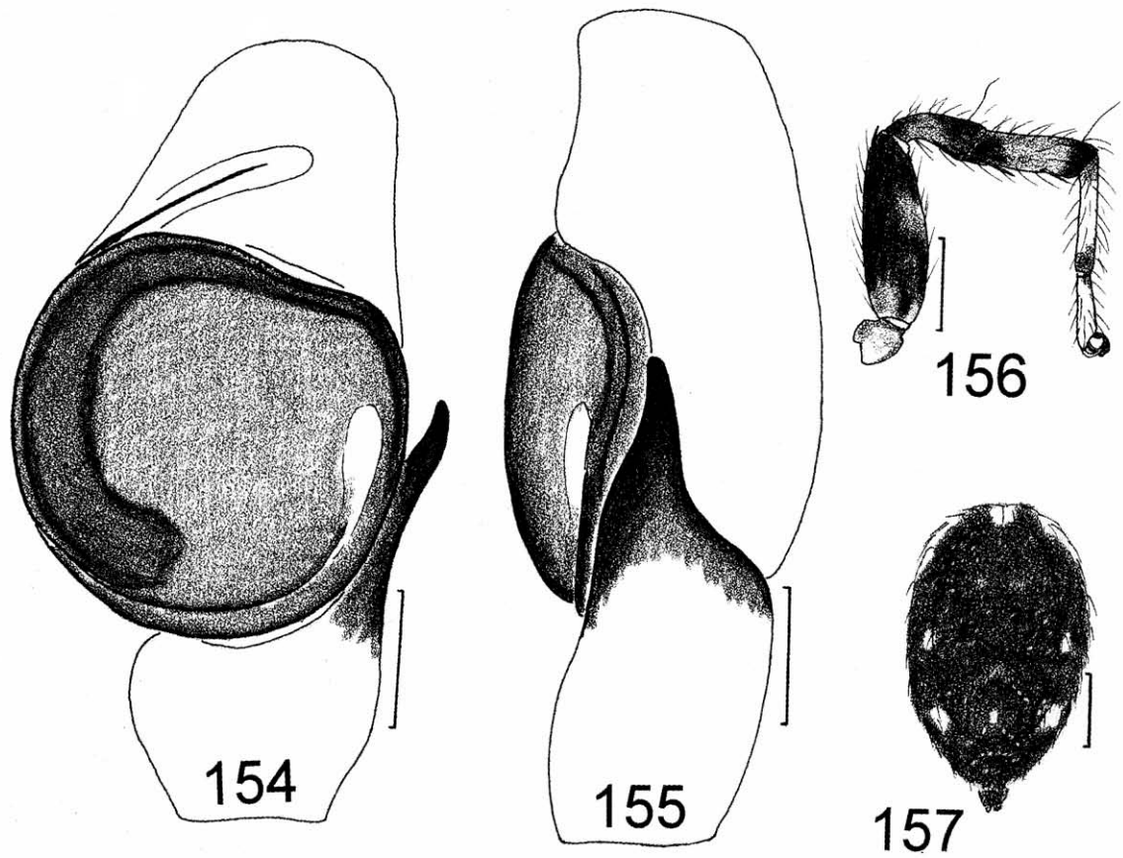


Figs 143–153. Copulatory organs and somatic characters of *Bianor punjabicus* sp.n. (♂ paratype and ♀ from India, Punjab): 143–144 — palp of ♂, ventral and retrolateral view; 145–146 –chelicerae of ♂; 147 — dorsum of ♀; 148 — epigyne, ventral view; 149 — dorsum of ♂; 150–151 — spermathecae, ventral view; 152 — receptacles, ventral view; 153 — insemination duct, dorsal view. Scale: 0.1 mm (143–144, 148, 150–153), 0.25 mm (145–146) 0.5 mm (149) and 1 mm (147).

Рис. 143–153. Копулятивные органы и соматические признаки *Bianor punjabicus* sp.n. (♂ паратип и ♀ из Индии, Пенджаб): 143–144 — пальпус самца, вентрально и ретролатерально; 145–146 — хелицера самца; 147 — дорзум самки; 148 — эпигина, вентрально; 149 — дорзум самца; 150–151 — сперматеки, вентрально; 152 — рецептакулы, вентрально; 153 — оплодотворительный канал, дорзально. Масштаб: 0,1 мм (143–144, 148, 150–153), 0,25 мм (145–146) 0,5 мм (149) и 1 мм (147).

DIAGNOSIS. This species is most closely related to *B. angulosus*, but males can easily be distinguished by the size and position of the membranous area of the tegulum and the position of the sperm duct (cf. Figs 143, 144 and 57, 63). Females of both species are practically indistinguishable.

DESCRIPTION. Male (paratype from India, Punjab). Measurements. Carapace 2.13 long, 1.70 wide, 0.93 high at PLE. Ocular area 1.18 long, 1.28 wide anteriorly and 1.63 wide posteriorly. Diameter of AME 0.43. Abdomen 2.13 long, 1.38 wide. Cheliceral length 0.58. Clypeal height 0.13. Length of leg segments: leg I — 1.13 + 0.98 + 1.10 + 0.83 + 0.50; leg II — 0.75 + 0.35 + 0.53 + 0.50 + 0.40; leg III — 1.18 + 0.60 + 0.50 + 0.90 + 0.38; leg IV — 1.00 + 0.50 + 0.60 + 0.73 + 0.38. Leg spination. Leg I: Fm d 0-1-2ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-2ap; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 0-0-1-2ap; Tb pr and rt 0-1, v 1ap; Mt pr 1ap, rt 1-1ap, v 2ap. Leg IV: Fm d 0-1-2ap; Tb rt 0-1; Mt v 2-2ap. Coloration. Carapace brown, metallic shining, with dark brown eye field and symmetrical white patches of scales behind PLE and in the area of the fovea. Clypeus brown, sparsely covered with white scales. Chlicerae dark brown. Labium and maxillae dark brown, with white apices. Sternum dark brown, its margins densely covered with white hairs. Abdomen: dorsum dark brown, with 3 pairs of white spots



Figs 154–157. Male copulatory organs and somatic characters of *Bianor senegalensis* sp.n. (♂ holotype from Senegal): 154–155 — palp of ♂, ventral and retrolateral view; 156 — leg IV of ♂; 157 — dorsum of ♂. Scale: 0.1 mm (154–155), 0.5 mm (156) and 1 mm (157).

Рис. 154–157. Копулятивные органы и соматические признаки самца *Bianor senegalensis* sp.n. (♂ голотип из Сенегала): 154–155 — пальпус самца, вентрально и ретролатерально; 156 — нога IV самца; 157 — дорзум самки. Масштаб: 0,1 мм (154–155), 0,5 мм (156) и 1 мм (157).

composed of appressed scales (Fig. 149). Sides and venter gray, covered with light scales. Book-lung covers yellow, tinged with brown. Spinnerets brown. First legs dark brown (almost black), remaining legs yellow-brown, with brown lines and patches. Palp russet, its cymbium yellow on tips and its femur dorsally and distally covered with white appressed scales. Palpal structure as in Figs 143–144.

Female (provisionally matched female from the type locality). Measurements. Carapace 2.50 long, 2.00 wide, 1.00 high at PLE. Ocular area 1.50 long, 1.43 wide anteriorly and 1.95 wide posteriorly. Diameter of AME 0.50. Abdomen 3.13 long, 2.00 wide. Cheliceral length 0.90. Clypeal height 0.10. Length of leg segments: leg I — 1.42 + 0.88 + 1.20 + 0.88 + 0.50; leg II — 1.00 + 0.75 + 0.63 + 0.50 + 0.38; leg III — 1.40 + 0.80 + 0.63 + 0.70 + 0.45; leg IV — 1.35 + 0.63 + 0.83 + 0.88 + 0.40. Leg spination. Leg I: Fm 0-1-2ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-2ap; Tb v 1-1; Mt 2-2ap. Leg III: Fm d 3ap; Tb pr 0-1, v 1ap; Mt pr and rt 2ap, v 1-1ap. Leg IV: Mt pr and rt 1ap, v 2ap. Coloration. Carapace russet, with black "veins". Its posterior half covered with white appressed scales. Clypeus yellow-brown, covered with white hairs. Chelicerae brown, tinged with red. Labium and maxillae yellow-brown, with white apices. Sternum russet, covered with white hairs. Abdomen: dorsum motley, brown to dark brown, with white spots, patches and bands as shown in Fig. 147; sides brown-gray; venter brown-gray, with yellow longitudinal stripes. Book-lung covers yellow. Spinnerets yellow, tinged with brown. First legs darker and stronger than others, with russet femora, patella and tibia, and yellow-brown metatarsi and tarsi. Remaining legs yellow, tinged with brown, and with brown lines and patches. Palps yellow. Epigyne and spermathecae as in Figs 148, 150–153.

COMMENTS. The females described here under *B. punjabicus* sp.n. are only provisionally matched to the males (the holotype and paratypes), as they were collected exactly from the same locality. However, as it is evident from Figs 47, 50, 73, 150–151, no reliable differences, except for dorsal colour marking (Fig. 147; cf. Fig. 60 and Żabka, 1985: fig. 13 sub *B. hotingchiehi*) can be found in these females as compared to *B. angulosus* (cf. Figs 60–62). Thus, it is very likely that the females at hand in reality belong to the latter species. The matter is in need of special attention in the future. See also "Comments" under *B. angulosus*.

VARIATION. The males of *B. punjabicus* sp.n., likewise those of *B. angulosus*, show a strong variation in the size of the chelicerae. Among the three examined males, chelicerae differ by one and a half times their length (cf. Figs 145 and 146).

DISTRIBUTION. India (Punjab) and NE Afghanistan.

ETYMOLOGY. The specific epithet is derived from the terra typica.

Bianor quadrimaculatus (Lawrence, 1928)

Neaetha quadrimaculata Lawrence, 1928: 61 T. 2 F. 48 (♀ holotype in the SAM, examined).

Bianor quadrimaculatus: Logunov, 1996: 526–527, f. 24–27 (♀, T from *Neaetha*).

Material. ANGOLA: 1 ♀ (SAM, no. B1650), "South West Africa, Kunene R., Erikson's Drift c 1714 BC, 03.1923, R. F. Lawrence".

COMMENTS. As I already noted ealier [Logunov, 1996] this species is quite closely related *to B. albobimaculatus* (or maybe the same), but differs in having narrower receptacles. Males from the type locality are required to prove it is indeed a separated species.

DESCRIPTION. See Logunov [1996].

Bianor senegalensis **sp.n.** Figs 154–157.

Material. SENEGAL: 1 ♂ holotype (AMNH), Dakar Peninsular, 01–04.1945, E. H. Newcomb.

DIAGNOSIS. The shape of the tegulum and the position of the seminal duct (Fig. 154; cf. Figs 4, 11, 85, 89) are diagnostic for this species. See also comments under "Diagnosis" of *B. kovaczi* sp.n.

DISTRIBUTION. Known from the type locality only.

DESCRIPTION. Male (the holotype). Measurements. Carapace 1.90 long, 1.55 wide, 1.00 high at PLE. Ocular area 1.15 long, 1.21 wide anteriorly and 1.49 wide posteriorly. Diameter of AME 0.38. Abdomen 2.00 long, 1.28 wide. Cheliceral length 0.68. Clypeal height 0.15. Length of leg segments: leg I — 1.20 + 0.73 + 0.91 + 0.73 + 0.45; leg II — 0.80 + 0.50 + 0.48 + 0.38 + 0.33; leg III — 0.95 + 0.45 + 0.50 + 0.58 + 0.33; leg IV — 1.00 + 0.50 + 0.59 + 0.65 + 0.35. Leg spination. Leg I: Fm d 2ap; Tb v 0-0-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-2ap; Tb pr 0-1, v 1-0; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr, rt and v 0-1ap; Mt 4ap. Leg IV: Fm d 2ap; Mt 4ap. Coloration. Carapace dark russet, shagreened (=punctured-reticulate), covered with white appressed scales forming white patches behind PLE and in the area of the fovea. Black around eyes. Clypeus brown, sparsely covered with white scales, but "cheeks" densely covered with white scales. Sternum dark brown, covered with white hairs. Maxillae, labium and chelicerae dark russet. Abdomen: dorsum gray-brown, with a large scutum and two rows of white patches as in Fig. 157; sides gray-brown, with two elongated successive white spots; venter yellow-brown. Book-lung covers and spinnerets yellow-brown. Leg I dark brown. Legs II–IV: femora dark brown, remaining segments yellow with brown rings as in Fig. 156. Palps brown, their patellae with a transverse distal row of whire scales. Palpal structure as in Figs 154–155.

Female unknown.

ETYMOLOGY. The specific epithet is derived from the terra typica.

Bianor vitiensis Berry, Beatty & Prószyński, 1996 Figs 158–166.

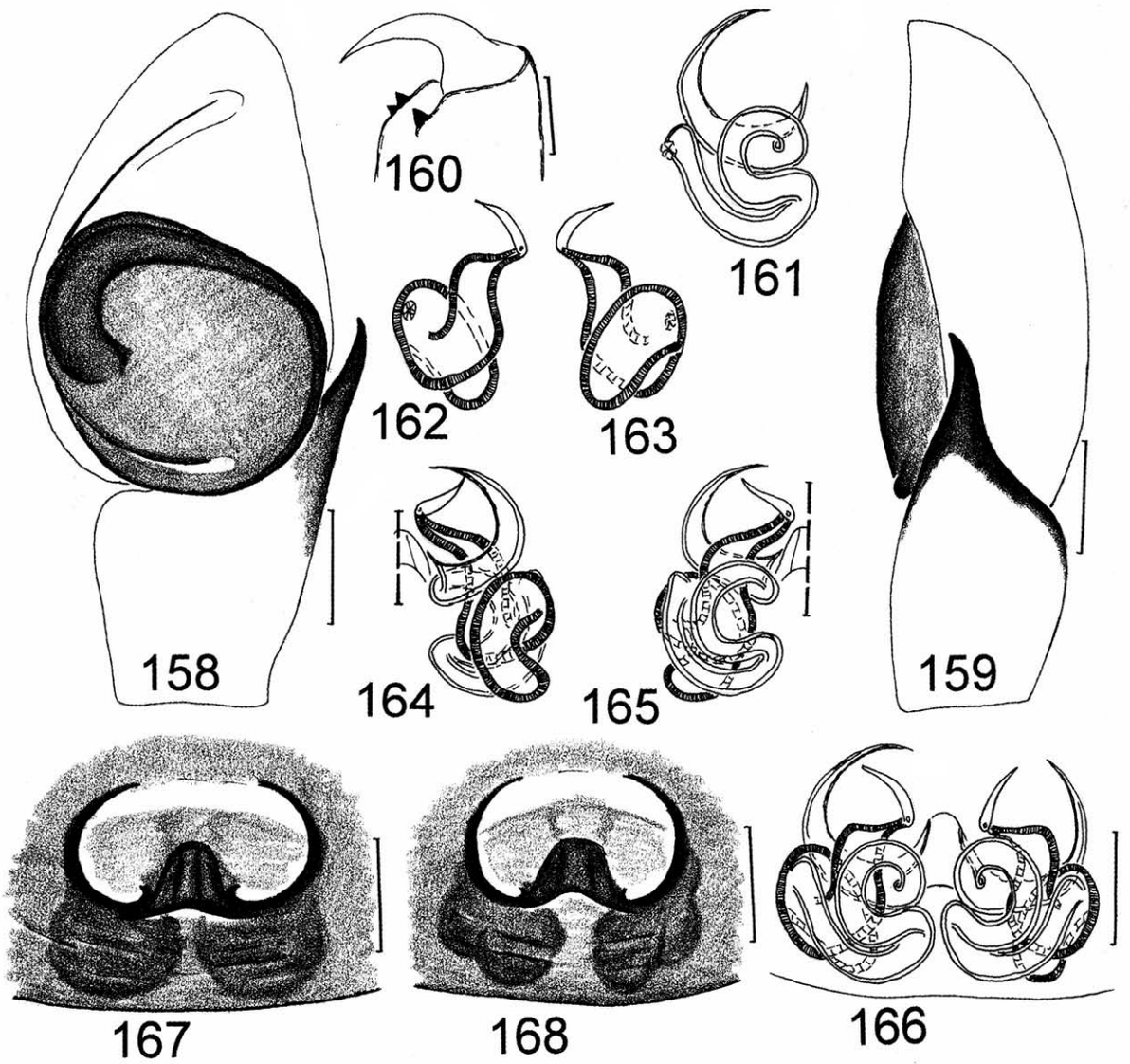
Bianor vitiensis Berry, Beatty & Prószyński, 1996: 222–223, f. 25-28, m. 2 (♂♀, ♀ holotype in the BPBM, examined).

Material. FIJI: 1 ♀ (BPBM, the holotype of *B. vitiensis*), Viti Levu, Tholo-Suva, 6.05.1987, E. R. Berry; 7 ♂♂, 7 ♀♀ (BPBM, the paratypes of *B. vitiensis*), same Is., Nausori, 18.05.1987, J. W. & E. R. Berry; 1 ♀ (BPBM, the paratype of *B. vitiensis*), same Is., 8–10 mi by King's Road N of Nausouri, 19.05.1980, J. A. Beatty; 1 ♀ (BPBM, the paratype of *B. vitiensis*), same Is., hill forest 8 mi NE of Navua, 2.05.1987, J. W. & E. R. Berry; 1 ♂, 1 ♀ (BPBM, the paratypes of *B. vitiensis*), ca. 9 mi W of Suva, 23.05.1987, J. W. & E. R. Berry; 1 ♀ (BPBM, the paratype of *B. vitiensis*), 5 mi E of Komave, 24.05.1987, J. W. & E. R. Berry; 1 ♂, 1 ♀ (BPBM, the paratypes of *B. vitiensis*), 3.4 mi N of Queen's Road on Namosi Road, 7.05.1987, J. W. & E. R. Berry; 2 ♀♀ (BPBM, the paratypes of *B. vitiensis*), same Is., Nandarivatu, 3000 feet a.s.l., 12.04–14.05.1987, J. W. & E. R. Berry; 1 ♀ (BPBM, the paratype of *B. vitiensis*), same Is., Naimborembore (N of Nausori), 8.05.1987, J. A. Beatty; 2 ♀♀ (BPBM, the paratypes of *B. vitiensis*), same Is., Namosi Distr., hill forest on Namosi Road about 7 mi N of Queen's Road, 19.05.1987, J. W. & E. R. Berry.

DIAGNOSIS. By the shape of the tegulum, the males of *B. vitiensis* are similar to *B. wunderlichi* sp.n. (cf. Figs 9–12) and *B. pseudomaculatus* sp.n. (cf. Figs 110–112). From the former species, males differ in the absence of the dorsal colour markings (with white spots in *B. wunderlichi* sp.n.; see Fig. 10), while females possess clearly smaller central pockets on the epigyne (cf. Figs 165–166 and 28–29). From *B. pseudomaculatus* sp.n., males differ by the coloration of legs III–IV [yellow with brown rings in *B. pseudomaculatus* sp.n. (Fig. 108), uniformly brown in *B. vitiensis*].

DESCRIPTION (the paratypes of *B. vitiensis*). Male. Measurements. Carapace 1.60–2.35 long, 1.34–2.05 wide, 0.80–1.28 high at PLE. Ocular area 1.03–1.50 long, 1.08–1.44 wide anteriorly and 1.34–1.93 wide posteriorly. Diameter of AME 0.35–0.50. Abdomen 1.75–3.00 long, 1.15–1.85 wide. Cheliceral length 0.55–1.03. Clypeal height 0.10–0.13. Length of leg segments: leg I — 1.03–1.90 + 0.63–1.20 + 0.70–1.50 + 0.60–1.20 + 0.43–0.78; leg II — 0.70–1.15 + 0.45–0.75 + 0.40–0.70 + 0.40–0.73 + 0.31–0.45; leg III — 0.85–1.38 + 0.45–0.75 + 0.45–0.75 + 0.50–0.85 + 0.31–0.45; leg IV — 0.88–1.43 + 0.45–0.78 + 0.50–0.86 + 0.55–1.03 + 0.38–0.49. Leg spination. Leg I: Fm d 0-0-1-2ap; Pt pr 0-1-0; Tb v 0-2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1-2ap; Pt pr 0-1-0; Tb pr0-1, v 1-2-1ap; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1-1; Mt pr and rt 2ap, v 1-2ap. Leg IV: Fm d 2ap; Tb rt 0-1; Mt 6ap. Coloration uniformly brown. Carapace light brown, shining, almost without scales. Black around eyes. Clypeus light brown, shinging, without scales/hairs. Sternum, maxillae, labium and chelicerae light brown. Abdomen yellowish gray; dorsum without colour markings, with elongate scutum as in all true *Bianor*. Book-lung covers yellow. Spinnerets yellowish gray. Legs yellow-brown, with femur I dark brown ventrally and prolaterally. Palpal structure as in Figs 158–159.

Female. Measurements. Carapace 2.13 long, 1.85 wide, 1.08 high at PLE. Ocular area 1.35 long, 1.38 wide anteriorly and 1.88 wide posteriorly. Diameter of AME 0.45. Abdomen 3.30 long, 2.25 wide. Cheliceral length 0.85. Clypeal height 0.13. Length of leg segments: leg I — 1.20 + 0.74 + 0.85 + 0.68 + 0.48; leg II — 1.00 + 0.60 + 0.61 + 0.55 + 0.45; leg III — 1.25 + 0.63 + 0.63 + 0.70 + 0.45; leg IV — 1.35 + 0.69 + 0.80 + 0.88 + 0.43. Leg spination. Leg I: Fm d 0-0-1-1ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-0-1-1ap; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 2ap, v 1-2ap. Leg IV: Fm d 1-1ap; Tb rt 0-1; Mt pr and rt 2ap. Coloration as in male, but lighter and different as follows: carapace rather densely covered with white appressed scales, clypeus densely covered with white hairs and dorsum with pale colour markings consisting of paired pale declining stripes and patches (as in *B. maculatus*; see Fig. 127). Epigyne and spermathecae as in Figs 161–168.



Figs 158–168. Copulatory organs and somatic characters of *Bianor vitiensis* (paratypes from Fiji): 158–159 — palp of ♂, ventral and retrolateral view; 160 — male chelicera; 161 — insemination duct, dorsal view; 162–163 — receptacles, ventral and dorsal views; 164–166 — spermathecae, ventral view; 167–168 — epigyne, ventral view. Scale: 0.1 mm (158–159, 161–168) and 0.25 mm (160).

Рис. 158–168. Копулятивные органы и соматические признаки *Bianor vitiensis* (паратипы с Фиджи): 158–159 — пальпус самца, вентрально и ретролатерально; 160 — хелицера самца; 161 — оплодотворительный канал, дорзально; 162–163 — рецептакулы, вентрально и дорзально; 164–166 — сперматеки, вентрально; 167–168 — эпигина, вентрально. Масштаб: 0,1 мм (158–159, 161–168) и 0,25 мм (160).

DISTRIBUTION. Known only from Viti Levu in Fiji [Berry *et al.*, 1996]. Besides, it is very likely that the records of *B. maculatus* from Samoa and New Caledonia [see Bonnet, 1955] in reality belong to *B. vitiensis*.

HABITAT. Pine/scrub forests, collected by sweeping and shaking trees, as well as sweeping grassy meadows [Berry *et al.*, 1996].

Bianor wunderlichi **sp.n.**
Figs 9–12, 28–35.

Bianor albobimaculatus (misidentified): Wunderlich, 1987: 269 (♀).

Bianor albobimaculatus (misidentified): Wunderlich, 1991: 36, 63, 510 (♂).

Material. Holotype: 1 ♂ (OXF, 361), "Lampel Coll., Canary Is., B.3, t31".

Paratypes: 2 ♀♀ (OXF, 361), "Lampel Coll., Canary Is., B.3, t37"; 1♂ (SMNH), Gran Canaria, Maspalomas desert, 17.12.1978, T. Kronestedt.

DIAGNOSIS. This species is closely related to *B. albobimaculatus*, but can be easily distinguished by the presence of dorsal brushes of white scales on the palp of ♂al patellae (Fig. 9; absent in *B. albobimaculatus*), by the shape of the tegulum (cf. Figs 11 and 4, 6), by a narrower central pocket and a smaller atrium (cf. Figs 28–29 and 38–39), by the smaller secondary receptacles (cf. Figs 33–34 and 23–24, 43–44), by

the shorter and more rounded abdomen and by the dorsal colour markings in males (cf. Figs 10 and 8). See also comments under "Diagnosis" of *B. pseudomaculatus* sp.n. and *B. vitiensis*.

DESCRIPTION. Male (the holotype). Measurements. Carapace 1.70 long, 1.45 wide, 0.93 high at PLE. Ocular area 1.03 long, 1.10 wide anteriorly and 1.43 wide posteriorly. Diameter of AME 0.36. Abdomen 1.73 long, 1.43 wide. Cheliceral length 0.88. Clypeal height 0.08. Length of leg segments: leg I — 1.20 + 0.75 + 0.88 + 0.65 + 0.44; leg II — 0.75 + 0.50 + 0.48 + 0.43 + 0.35; leg III — 0.93 + 0.50 + 0.48 + 0.53 + 0.30; leg IV — 1.08 + 0.48 + 0.58 + 0.63 + 0.33. Leg spination. Leg I: Fm d 0-1-2; Pt pr and rt 0-1-0; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 0-1-2; Tb pr 0-1, v 1-0; Mt 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 1ap; Mt pr 2ap. Leg IV: Fm d 1ap; Tb rt 0-1; Mt 5ap. Coloration. Carapace dark, russet, covered with white scales and with white patches of scales behind PLE and on fovea. Black around eyes. Eye field shagreened (=punctured-reticulate). Sternum, maxillae, labium and chelicerae dark russet. Abdomen yellow-gray, with dorsum having a large rounded scutum. Colour markings as in Fig. 10. Book-lung covers yellowish. Spinnerets yellow-gray. Leg I dark russet, with a swollen femur. Tibiae and patellae of the first legs equipped with dorsal and ventral rows of long dark bristles. Legs II–IV yellow-brownish. Palps russet, patellae bearing dorsal brushes of white scales (Fig. 9). Palpal structure as in Figs 11–12.

Female (the paratype from the OXF). Measurements. Carapace 1.83 long, 1.68 wide, 1.00 high at PLE. Ocular area 1.20 long, 1.26 wide anteriorly and 1.63 wide posteriorly. Diameter of AME 0.40. Abdomen 2.35 long, 1.88 wide. Cheliceral length 0.58. Clypeal height 0.13. Length of leg segments: leg I — 1.13 + 0.70 + 0.73 + 0.60 + 0.40; leg II — 0.90 + 0.60 + 0.53 + 0.50 + 0.40; leg III — 1.13 + 0.56 + 0.55 + 0.60 + 0.38; leg IV — 1.15 + 0.53 + 0.68 + 0.75 + 0.40. Leg spination. Leg I: Fm d 2ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1, v 1-0; Mt v 2-2ap. Leg III: Fm d 2ap; Tb v 1ap; Mt pr 2ap, v 1-2ap. Leg IV: Tb rt 0-1; Mt 4ap. Coloration as decribed for male, except as follows: white spots on dorsum absent, legs I lacking dark protruding bristles, distal segments of palpi yellow. Epigyne and spermathecae as in Figs 28–35.

DISTRIBUTION. Known from the Canary Islands [present data] and the Azores [Wunderlich, 1991: sub *B. albobimaculatus*]. Most probably, *B. wundelichi* sp.n. inhabits all the Macaronesian Islands. However, all the known records of *Bianor* from the Cape Verde Islands [Simon, 1883; Wesołowska, 1989; Schmidt & Krause, 1998: sub. *B. pulchellus*] seem to actually belong to *B. albobimaculatus* (Schmidt's specimen re-examined).

ETYMOLOGY. The species is named in honour of Mr. Jörg Wunderlich, my friend and collegue from Germany, who has described many new species from the Canary Islands.

HARMOCHIRUS Simon, 1885

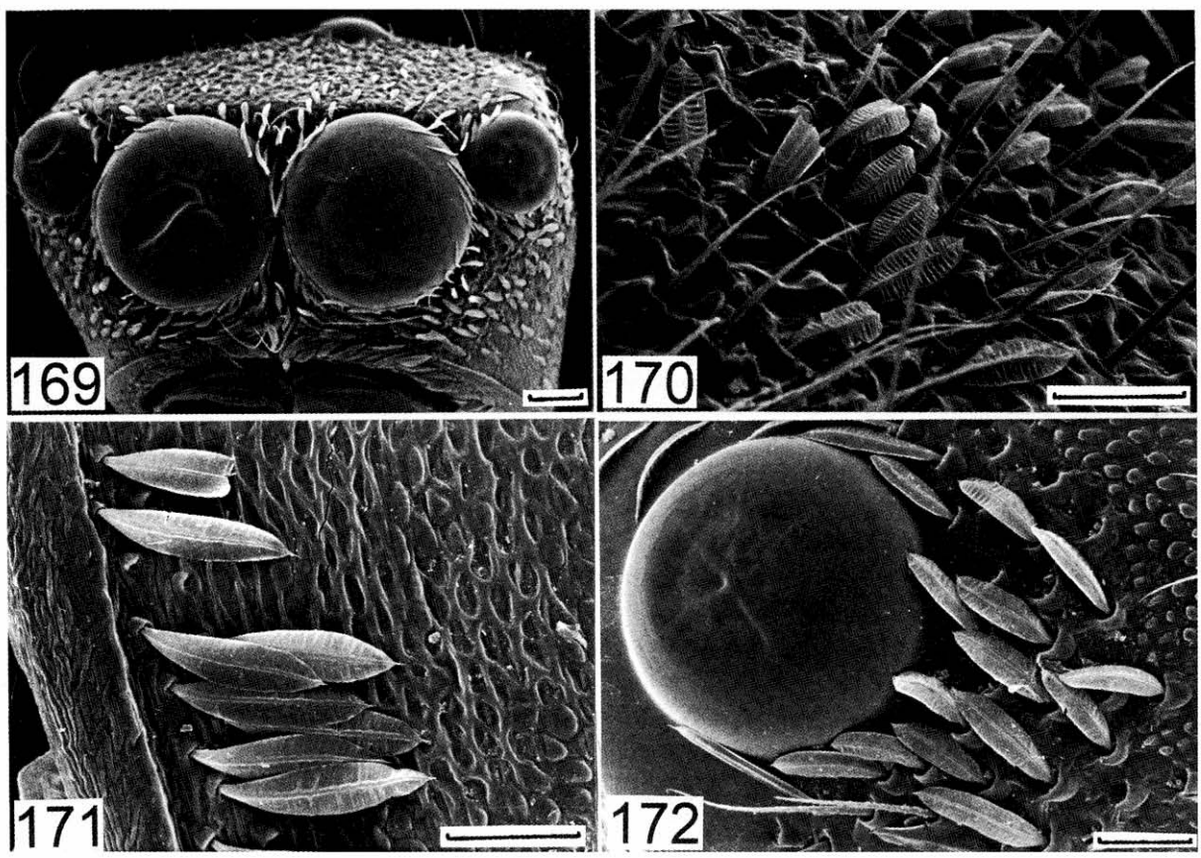
Velloa Peckham & Peckham, 1903: 216-217. Synonymized with *Harmochirus* by Wesołowska [1994].

Type species: *Harmochirus malaccensis* Simon, 1885 by monotypy, currently in synonymy with *Ballus brachiatus* Thorell, 1877 [*vide* Simon, 1903a].

REDEFINITION. Small fissidentate/unidentate spiders ranging from 2.5 to 4.3 mm in length. Sexes similar in general body form, but males usually smaller and different in having a dorsal abdominal scutum (lacking in ♀) and a stronger, more distinctly swollen tibia I. Carapace: rather high and trapezoidal (Fig. 180–181, 206, 213, 236), markedly punctured and reticulate (=shagreened) (Fig. 170); eye field often covered with white appressed scales; scales lancet-shaped, with a median keel and a corrugated surface (Figs 169–172). Eyes: in three rows; anterior row 1.0–1.4 times narrower than posterior one; second row midway between ALE and PLE; PLE elevated; quadrangle length 62–74% of carapace length. Clypeus: low, vertical (Fig. 169); 15–46% of AME diameter. Chelicerae: promargin with a pair of tiny teeth (Figs 174, 200); retromargin with one small/medium fissidentate or unidentate tooth (Figs 173, 200, 207, 235). Maxillae: square or rectangular-elongate, maxilla of ♂ with a tiny endite tooth (Figs 179, 237). Labium: triangular, directed anteriad. Sternum: oval, elongate, with slightly concave anterior margin. Pedicel: short; never visible in dorsal view. Abdomen: oval or rounded, 1.1–1.2 times longer than wide in ♂♂ and 1.2–1.5 times in ♀♀; dorsum either uniformly brown/black or with colour markings consisting of white spots and lines (Figs 180); males always with dorsal scutum (Fig. 206). Legs: in both sexes legs I always stronger and longer than others, with femora and tibiae strongly swollen (more distinctly so swollen in ♂); femora (distally) and tibia densely covered with protruding scale-like black bristles (Figs 2, 233–234); legs II–IV more or less subequally developed and alike in both sexes; tarsal organ representing a rounded hole (Fig. 265). Leg formula: ♂ — I,IV,III,II; ♀ — I,IV,III,II or IV,I,III,II. Leg spination (only generalized pattern given): ♂: Fm I and II d 1ap, Tb I v 0-2-2-2, Tb II v 1-1, Mt I and II v 2-2ap; ♀: Tb I v 0-2-2-2, Tb II v 1-1, Mt I and II v 2-2ap. Female palp: of general shape, without spines and apical claws. Male palp: cymbium of general shape; tegulum always flat, tegular knob absent (Figs 178, 195); membranous area of the tegulum well-marked (Figs 177, 247–248), its position being of taxonomic value. Female copulatory organs: epigyne always with well-developed central blind-ending pocket (Figs 182, 183); fossae well-developed (Fig. 191); copulatory openings hidden beneath the atrial lips; spermathecae always of two-chambered configuration and consisting of long insemination ducts (always with the first loop) (Figs 185, 197, 250), primary and secondary receptacles separated (Figs 189–190, 201, 203, 252); fertilisation ducts and ducts of accessory glands usually well-developed and visible (Figs 185, 197, 250, 254).

DIAGNOSIS. Of the number of closely related genera (Table 1), *Harmochirus* is most closely related to *Sibianor* gen.n. and *Bianor*. *Harmochirus* differs in the absence of a tegular knob (present in *Sibianor* gen.n.) (cf. Figs 178, 195 and 271, 273) and the ventral scutum (present in *Sibianor* gen.n.), and has a strongly swollen tibia I (only thickened in *Sibianor* gen.n.; cf. Figs 2 and 1), an elevated PLE (not elevated in *Sibianor* gen.n.), a fissidentate retromarginal tooth (unidentate in *Sibianor* gen.n.) and leg I longest in females (legs III/IV in *Sibianor* gen.n.). *Harmochirus* can be easily separated from *Bianor* by the following characters: PME midway between ALE and PLE (slightly closer to ALE in *Bianor*), ocular area equal or wider than CW (narrower in *Bianor*), fringes on leg I present (absent in *Bianor*), tibia I strongly swollen (normal in *Bianor*; cf. Figs 2 and 3) male chelicerae never modified (modified in *Bianor*) and retromarginal tooth fissidentate (unidentate in *Bianor*). Besides, all true *Harmochirus* species possess a sharp endite tooth on the maxillae of males and differ in this character from *Bianor*, except for *B. angulosus*.

COMMENTS. The genus *Chirothecia* Taczanowski, 1878 was considered a senior synonym of *Velloa* Peckham & Peckham, 1903 [*vide* Berland & Millot, 1941: sub *Valloa*]. However, the type species of the latter genus, *V. modesta*



Figs 169–172. Carapace scales of *Harmochirus brachiatus* (♀ specimen from Sumatra): 169 — "face", frontal view; 170 — scales of the eye field (anterior part); 171 — marginal scales; 172 — scales beneath PLE. Scale: 100 μm (169) and 50 μm (170–172).

Рис. 169–172. Чешуйки карапакса *Harmochirus brachiatus* экземпляр самки с Суматры): 169 — "фейс" спереди; 170 — чешуйки глазного поля (спереди); 171 — краевые чешуйки; 172 — чешуйки под задними боковыми глазами. Масштаб: 100 μm (169) и 50 μm (170–172).

Peckham & Peckham, 1903 (re-examined !), is represented by an immature specimen actually belonging to *Harmochirus*. Therefore, I agree with Wesołowska's [1994] opinion and treat *Velloa* as a junior synonym of *Harmochirus*. The genus *Chirothecia* shows only a superficial resemblance to *Harmochirus* in possessing a heavily sclerotized and swollen legs I and a shagreened (=punctured-reticulate) carapace; the copulatory organs in both genera have nothing in common to assume any relationships between these genera [see also Galiano, 1972].

DISTRIBUTION. Afrotropical, S. Palaearctic and Oriental regions.

Survey of species

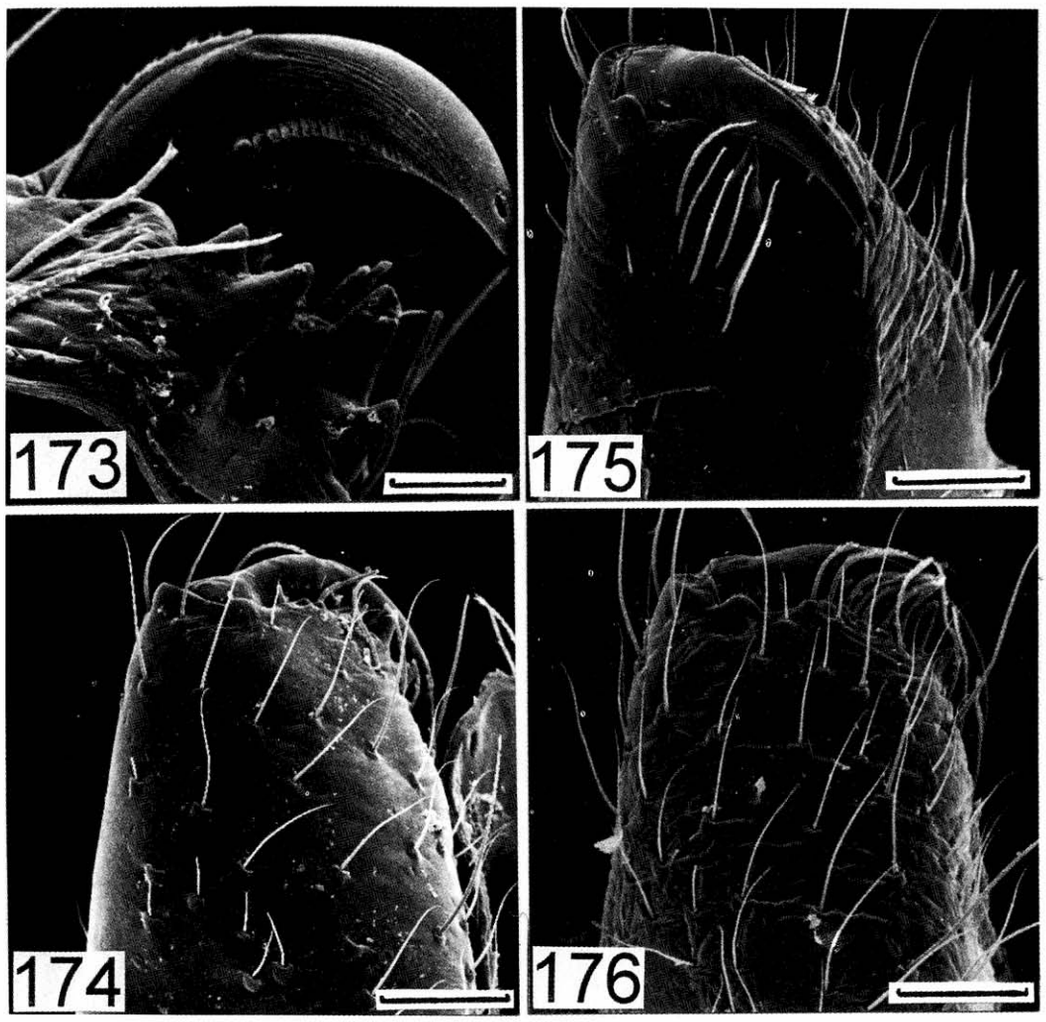
Harmochirus bianoriformis (Strand, 1907)

Velloa bianoriformis Strand, 1907: 746 (♂♀).
Velloa bianoriformis: Strand, 1908: 192 (♂♀).

COMMENTS. Clark [1974] revealed the identity of *Velloa bianoriformis* with *Harmochirus luculentus*, but has not formally synonymized them. It is impossible to verify this assumption, as the type specimens of *V. bianoriformis* seemed to be lost. Based on the re-examination of the holotype of *H. luculentus*, I came to the conclusion that the latter species and the specimens identified by both Clarck [1974] and Lessert [1936] as *Velloa bianoriformis* (re-examined !) are doubtless conspecific. Although, the taxonomic status of *H. bianorifimis* remains uncertain until specimens from the type locality have been collected and examined, it is safe to assume that this species may be a junior synonym of *H. luculentus*.

Harmochirus brachiatus (Thorell, 1877)
Figs 2, 169–174, 177–191, 247, 265.

Ballus brachiatus Thorell, 1877: 626-628 (♂ holotype in the SMNH, examined).
Harmochirus malaccensis Simon, 1885b: 441 (♂ holotype, not examined). Synonymized with *Harmochirus nervosus* by Thorell [1895]; synonymized with *H. brachiatus* by Simon [1903a].
Harmochirus nervosus Thorell, 1890a: 68 (♂ holotype, not examined). Synonymized with *H. brachiatus* by Simon [1903b].
Harmochirus nervosus: Thorell, 1892: 246, 473 (♂).
Harmochirus brachiatus: Thorell, 1892: 250, 473.
Harmochirus nervosus: Thorell, 1895: 329 (♂).
Harmochirus brachiatus: Simon, 1903a: 867 (♂).
Harmochirus brachiatus: Simon, 1903b: 735 (♂).
Harmochirus brachiatus: Bösenberg & Strand, 1906: 373, pl. 9, f. 147; pl. 13, f. 356 (♂♀).
Harmochirus brachiatus: Narayan, 1915: 395.
Harmochirus brachiatus: Strand, 1918: 110 (♂♀).
Harmochirus brachiatus: Prószyński, 1976: m. 213.

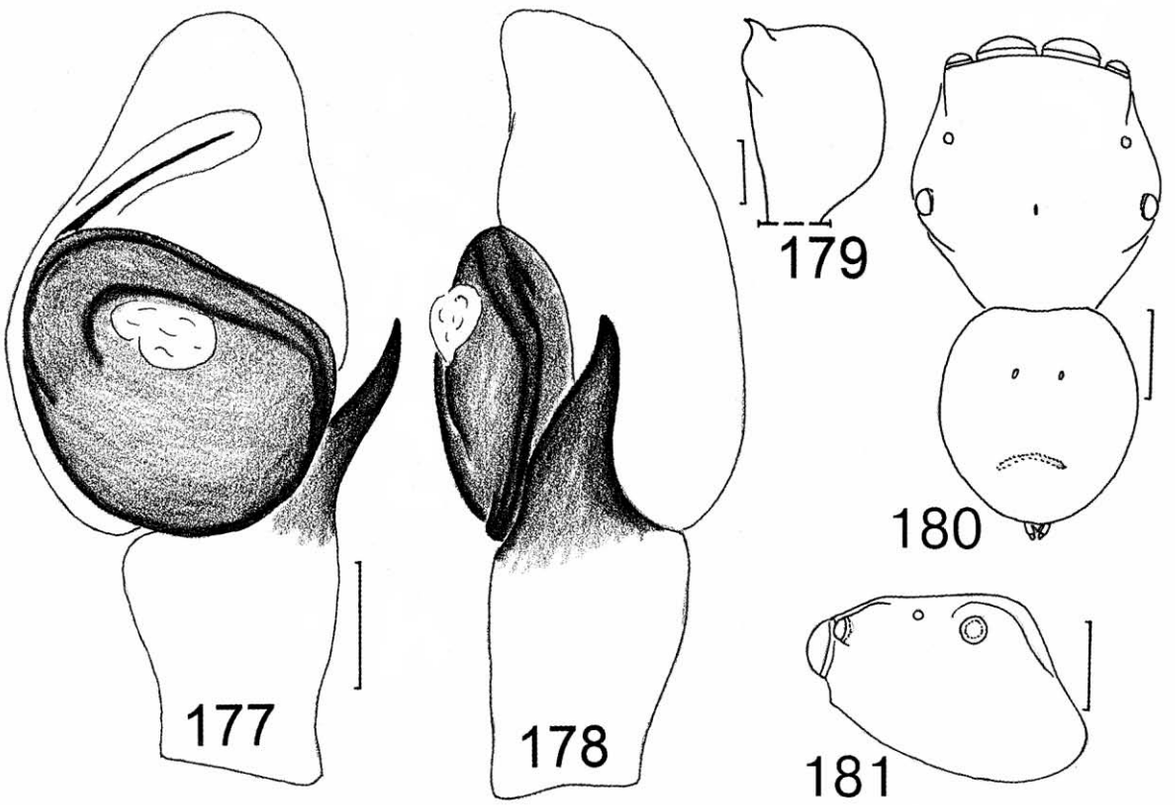


Figs 173–176. Female chelicerae of *Harmochirus brachiatus* (♀ from Sumatra) (173–174) and *Sibianor larae* (♀ from Finland) (175–176): 173–175 — retromargin; 174–176 — chelicera, frontal view. Scale: 50 μm (173) and 100 μm (174–176).

Рис. 173–176. Хелицеры самок *Harmochirus brachiatus* (♀ с Суматры) (173–174) и *Sibianor larae* (♀ из Финляндии) (175–176): 173–175 — retromargin; 174–176 — хелицера спереди. Масштаб: 50 μm (173) и 100 μm (174–176).

Harmochirus brachiatus: Prószyński, 1984: 55–56 (♀).
Harmochirus brachiatus: Davies & Żabka, 1989: 214, pl. 22 (♂♀).
Harmochirus brachiatus: Yaginuma, 1986: 236, f. 131.3 (♂).
Harmochirus brachiatus: Prószyński, 1987: 59, 108 (♂♀).
Harmochirus brachiatus: Chikuni, 1989: 147, f. 3 (♂♀).
Harmochirus brachiatus: Feng, 1990: 205, f. 180.1–4 (♂).
Harmochirus brachiatus: Chen & Zhang, 1991: 304, f. 322.1–5 (♂).
Harmochirus brachiatus: Logunov *et al.*, 1997: 5, f. 9–10 (♂♀).
For other sources see Bonnet [1957] and Prószyński [1990].

Material. BHUTAN: 1 ♂ (NHMB), Balu-Ihura, 20 m a.s.l., 28.06.1972, leg.(?); 2 ♀♀ (NHMB), "Phuntsholing, 2/400 m, Exp. 1972, 1974". — CHINA: 2 ♀♀ (ZMTU), Yunnan, 5 km N of Mengla, 3.10.1987, P. T. Lehtinen; 1 ♀ (MCZ), Guangdong (=E. Kwantung), Yim Na San, 12.06.1936, L. Gressitt; 1 ♂ (MCZ), Guangdong (=E. Kwantung), Tai-yong, 6.08.1936, L. Gressitt; 2 ♂♂, 1 ♀ (MCZ), Fujiang (=Fukien Prov.), Minhow (Foochow), 1925, H. H. Chung; 1 ♀ (MCZ), Jiangxi (=S. Kiangsi), Tai Au Hong, 7.07.1935, L. Gressitt. — VIETNAM: 1 ♂ (ZMUM), Prov. Daklak, ca. 25 km SSW of Buon Ma Thuot, Dak Linh, ~500 m a.s.l., 28–29.06.1986, L. N. Medvedev & S. I. Golovatch. — THAILAND: 3 ♀♀ (ZMTU), Phitsanulok Province Phitsanulok, 17.11.1976, P. T. Lehtinen. — INDONESIA: 1 ♂ (SMNH, 1818, holotype of *Ballus brachiatus*), "Java, v. Hass."; 1 ♂ (NHMW, 12.317), "Java: Buitenzorg, leg.(?), E. Reimoser det."; 1 ♂ (MCZ), "Buitenzang(?)..."; 1 ♂, 2 ♀♀ (NHMW, 12.316), "Sumatra: Medan, leg. L. Tulmex, E. Reimoser det."; 1 ♂ (ZMTU), Sumatra Barat, ca. 4 km SE of Padangpanjang, 26.09.1978, P. T. Lehtinen; 1 ♂ (ZMTU), Sumatra Barat, Padangpanjang Distr., Gunung Singalang, 1500–1700 m a.s.l., 25.09.1978, P. T. Lehtinen; 1 ♀ (ZMTU), same district, Kotobaru, 28–29.10.1978, P. T. Lehtinen; 1 ♀ (ZMTU), Sumatra Utara, Deli Serdang, Perbaungan, 21.09.1978, P. T. Lehtinen; 1 ♂ (MCZ), Sumatra, Morea Mahat, rest house, date and coll. ?; 1 ♂ (MCZ), no exact locality, 01.1920, E. Jacobson; 1 ♀ (ZMTU), Kalimantan, Timur, Samarinda Distr., Sanga Sanga Muara, 29.10.1979, P. T. Lehtinen; 1 ♀ (ZMTU), Sulawesi Utara, Minahassa, Tonsea Distr., Airmadidi, 22.10.1979, P. T. Lehtinen; 1 ♀ (ZMTU), Sulawesi Utara, Gorontalo Distr., Datahu, ~600 m a.s.l., 24.10.1979, P. T. Lehtinen; 1♀ (ZMTU), Bali, Tabanan Distr., Tabanan, 10.10.1979, P. T. Lehtinen; 1 ♂, 3 ♀♀ (AMNH), Bali, Ambengan, 10–20.01.1990, S. Djojosudharmo; 1 ♂ (ZMTU), Macau, Ilha de Coloana, 31.10.1987, P. T. Lehtinen. — MALAYSIA: 1 ♀ (ZMTU), Singapore, Singlap, 30.10.1976, P. T. Lehtinen; 1 ♂ (CFAS), Peninsular Malaysia, Pinang, Tembeling, 4°4′N, 102°19′E, 21–24.04.1990. V. & B. Roth; 1 ♀ (ZMTU), same



Figs 177–181. Male copulatory organs and somatic characters of *Harmochirus brachiatus* (specimen from Sumatra): 177–178 — palp of ♂, ventral and retrolateral views; 179 — maxilla of ♂, ventral view; 180 — ♂, general appearance; 181 — carapace of ♂, lateral view. Scale: 0.1 mm (177–179) and 0.25 mm (180–181).

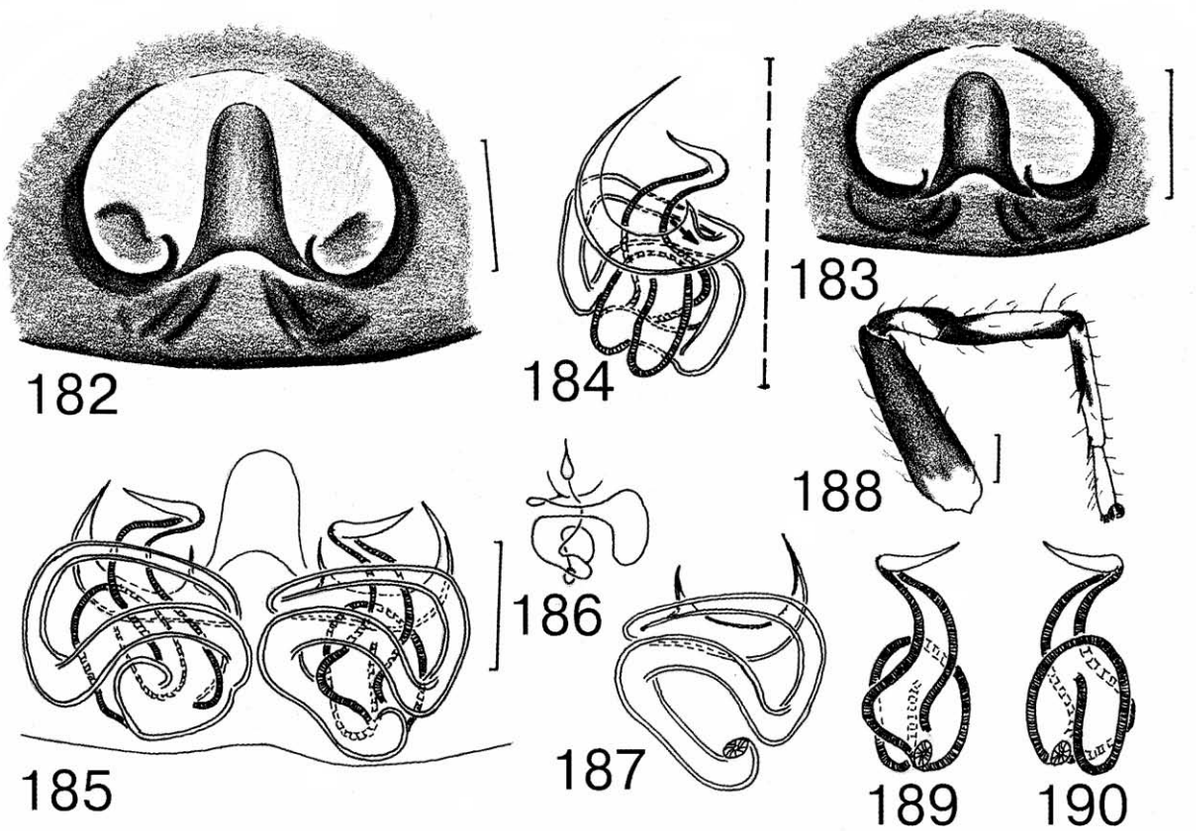
Рис. 177–181. Копулятивные органы и соматические признаки самца *Harmochirus brachiatus* (экземпляр с Суматры): 177–178 — пальпа самца, вентрально и ретролатерально; 179 — максилла самца, вентрально; 180 — общий вид самца; 181 — карапакс самца, латерально. Масштаб: 0,1 мм (177–179) и 0,25 мм (180–181).

peninsular, Selangar, Templer Park, 20.11.1979, P. T. Lehtinen; 1 ♂ (AMNH), same peninsular, Selangor, Kepong, 08.1944, U.S. Scrub; 1 ♀ (ZMTU), same peninsular, Johor, Kota Tinggi, Jalan Lombong, B. F. Station, rain forest, 31.10–4.11.1976, P. T. Lehtinen; 1 ♀ (AMNH), same peninsular, Pahang, Cameron Highlands, 07.1948, N. L. H. Krauss; 1 ♂, 2 ♀♀ (AMNH), same peninsular, W. Pahang, Genting, 600 m a.s.l., secondary jungle, 4.12.1990, J. A. Murphy; 1 ♀ (ZMTU), Borneo, Sabah, Tawau Distr., 4.11.1979, P. T. Lehtinen; 2 ♀♀ (ZMTU), Borneo, Sabah, Sandakan, 5.11.1979, P. T. Lehtinen; 1 ♂ (ZMTU), Borneo, Tuaran Distr., Mt Kinabalu, N. P. Headquarter, ~1550 m a.s.l., grass and herb vegetation, 10.11.1976, P. T. Lehtinen; 2 ♂♂, 1 ♀ (AMNH), Borneo, Sabah, Sandakan, Ulu Dusun, jungle edge, 6.08.1979, J. A. Murphy.

DIAGNOSIS. This species is most closely related to *H. zabkai* sp.n. and *H. insulanus*, but can easily separated from them by the shape and size of the tegulum (cf. Figs 177, 247 and 194, 248), the longer central blind pocket of the epigyne (cf. Figs 182–183 and 196) and the larger first loop of the spermathecae (cf. Figs 185, 187 and 197–198, 250–256).

DESCRIPTION. Male (specimens from Sumatra, Medan). Measurements. Carapace 1.73–2.23 long, 1.35–1.95 wide, 0.90–1.33 high at PLE. Ocular area 1.11–1.65 long, 1.08–1.61 wide anteriorly and 1.35–1.98 wide posteriorly. Diameter of AME 0.38–0.56. Abdomen 1.33–2.03 long, 1.08–1.73 wide. Cheliceral length 0.55–0.88. Clypeal height 0.13–0.16. Length of leg segments: leg I — 1.45–2.20 + 0.71–1.25 + 1.13–1.83 + 1.20–2.13 + 0.83–1.38; leg II — 0.80–1.25 + 0.40–0.70 + 0.59–0.88 + 0.63–1.00 + 0.38–0.54; leg III — 0.95–1.38 + 0.45–0.58 + 0.60–0.80 + 0.63–0.95 + 0.33–0.45; leg IV — 1.03–1.43 + 0.45–0.63 + 0.70–1.00 + 0.80–1.18 + 0.35–0.45. Leg spination. Leg I: Tb v 0-2-2-2; Mt v 0-2-2ap. Leg II: Fm d 1ap; Tb pr 0-1, v 1-2; Mt v 2-2ap. Leg III: Fm d 1ap; Tb pr and rt 0-1, v 1ap; Mt v 2-2ap, pr and rt 2ap. Leg IV: Fm d 1ap; Tb v 1ap; Mt 5ap. Coloration. Carapace dark brown, shagreened (=punctured-reticulate), sparsely covered with white scales (Figs 169–172). Edges of carapace bordered by a row of white scales. Black around eyes. Sternum, maxillae and chelicerae brown. Labium dark brown to black. Abdomen rounded, dark gray, its dorsum completely covered by a scutum. Spinnerets and book-lung covers yellow-brown. Leg I strongest and longest with swollen tibium and ventral and dorsal rows of scale-like black bristles (Fig. 2). Remaining legs of usual form, with coxae and metatarsi yellow and remaining segments yellow with brown sides. Palps dark brown, with cymbial apex yellow. Palpal structure as in Figs 177–178, 247.

Female (specimen from Sumatra, Medan). Measurements. Carapace 1.83 long, 1.53 wide, 0.98 high at PLE. Ocular area 1.28 long, 1.35 wide anteriorly and 1.60 wide



Figs 182–190. Female copulatory organs and somatic characters of *Harmochirus brachiatus* (specimens from Sumatra): 182–183 — epigyne, ventral view; 184–185 — spermathecae, ventral view; 186 — diagrammatic course of the spermathecae; 187 — insemination duct, dorsal view; 189, 190 — receptacles, ventral and dorsal views; 188 — leg IV of ♀, median view. Scale: 0.1 mm (182–187, 189–190) and 0.25 mm (188).

Рис. 182–190. Копулятивные органы и соматические признаки самок *Harmochirus brachiatus* (экземпляры с Суматры): 182–183 — эпигина, вентрально; 184–185 — сперматеки, вентрально; 186 — схематический ход каналов сперматеки; 187 — оплодотворительный канал, дорзально; 189, 190 — рецептакулы, вентрально и дорзально; 188 — нога IV самки, медиально. Масштаб: 0,1 мм (182–187, 189–190) и 0,25 мм (188).

posteriorly. Diameter of AME 0.45. Abdomen 1.93 long, 1.53 wide. Cheliceral length 0.55. Clypeal height 0.08. Length of leg segments: leg I — 1.13 + 0.68 + 0.83 + 0.70 + 0.50; leg II — 0.85 + 0.50 + 0.53 + 0.58 + 0.38; leg III — 0.98 + 0.50 + 0.55 + 0.63 + 0.38; leg IV — 1.10 + 0.50 + 0.60 + 0.79 + 0.40. Leg spination. Leg I: Tb v 0-2-2-2ap; Mt v 0-2-2ap. Leg II: Tb pr 0-1, v 1-2; Mt v 2-2ap. Leg III: Tb pr and rt 0-1, v 1ap; Mt pr and rt 2ap, v 1-1ap. Leg IV: Mt 5ap. Coloration as in male, but abdomen lacking a scutum and often with characteristic colour markings of white patches; leg IV motley, as in Fig. 188. Epigyne and spermathecae as in Figs 182–187, 189–191.

DISTRIBUTION. From Bhutan in the North-West, eastward to Vietnam, and southward to Indonesia and Malayasia. The record of *H. brachiatus* from the Phillipines by Barrion & Litsinger [1995: fig. 46] is erroneous and is to be assigned to a species in *Stertinius* or a related genus; certainly not in *Harmochirus* or *Bianor*.

HABITAT. The species usually occurs in the litter of jungle (=rain forests; both natural and secondary), bamboo and deciduous forests, oil palm plantations and in high grassy medows (both natural and cultivated).

Harmochirus insulanus (Kishida, 1914)
Figs 194–203.

Harmochirus brachiatus (misidentified): Bösenberg & Strand, 1906: 373, pl. 9, f. 147, pl. 13, f. 356 (♂♀).

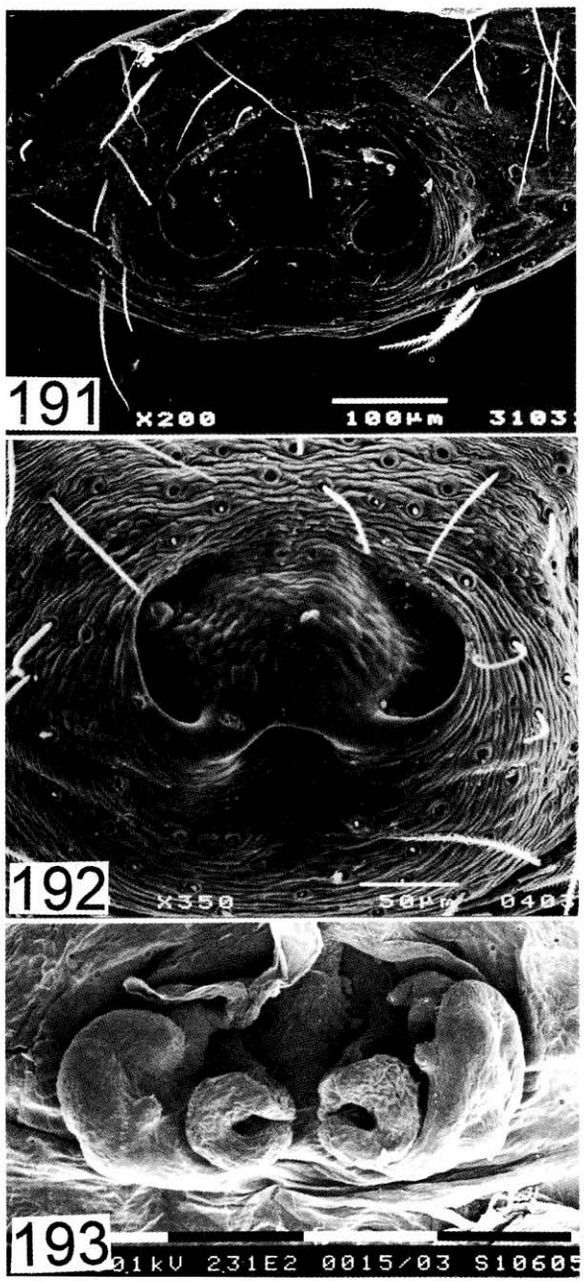
Harmochirus brachiatus (misidentified; *e.p.*): Peng *et al.*, 1993: 79-81, f. 229–241 (♂♀).

Harmochirus pullus (misidentified): Bohdanowicz & Prószyński, 1987: 57–59, f. 38–44 (♂ only).

Harmochirus insulanus: Logunov *et al.*, 1997: 3–7, f. 1–10 (♂♀). For a complete set of references see Logunov *et al.* [1997].

Material. JAPAN: 1 ♀ (NSMT, 3298; det. hitherto as *H. brachiatus*), Kanagawa Pref., Kawasaki-shi, Masugatayama, 15.07.1984, K. Kumada; 1 ♂ (IZW), Kochi City, 07.1939, Y. Ishikawa; 1 ♀ (MMUM; det. hitherto as *H. brachiatus*), Honshu, Tottori Pref., Tottori, Fukui, Amenohohino-mikoto, 18.05.1989, N. Tsurusaki. — CHINA: 1♀ (MCZ), "Chekiang, Mokanshan, N. Gist Gee of Soochow" (=Gansu, near Jiuquan (=Su-chow) [ca. 39°45′N, 98°31′E]), date and coll.?; 1♀ (MCZ), Hainan (no exact locality), 11–12.06.1935, L. Gressitt; 1♀ (MCZ), Guangdong (=E. Kwantung), Tsin Leong San, 5.06.1936, L. Gressitt; 3 ♀♀ (MCZ), Guangdong (=E. Kwantung), Mei-hsien, 8–9.06.1936, L. Gressitt. For other material examined see Logunov *et al.* [1997].

DIAGNOSIS. This species is most closely related to *H. luculentus*, but differs in lacking the white hairs on the clypeus



Figs 191–193. Female copulatory organs of *Harmochirus brachiatus* (♀ from Sumatra) (191) and *Sibianor larae* sp.n. (192–193) (epigyne — ♀ from Buryatia; spermathecae — ♀ from Sweden): 191–192 — epigyne, ventral view; 193 — spermathecae, dorsal view.

Рис. 191–193. Копулятивные органы самок *Harmochirus brachiatus* (♀ с Суматры) (191) и *Sibianor larae* p.n. (192–193) (эпигина — ♀ из Бурятии; сперматека — ♀ из Швеции): 191–192 — эпигина, вентрально; 193 — сперматеки, вентрально.

in males (cf. Fig. 216) and by the structure of the spermathecae in females (cf. Figs 197–198 and 218). Besides, *H. insulanus* can be confused with *H. zabkai* sp.n., but both species are distinguishable by: dorsum with characteristic colour markings forming a white transverse line [*vide* Logunov *et al.*, 1997: Figs 1 and 4] (absent in *H. zabkai* sp.n.); body size twice as big as in *H. zabkai* sp.n.; femora and tibia I twice as thin as (almost not swollen) in *H. zabkai* sp.n.; and the shape of the tegulum and the structure of the spermathecae is clearly different in both species (cf. Figs 194 and 248).

DISTRIBUTION. China [present data; Peng *et al.*, 1993: sub *H. brachiatus*] and Japan [Logunov *et al.*, 1997].

DESCRIPTION. See Logunov *et al.* [1997].

Harmochirus lloydi Narayan, 1915

Harmochirus lloydi Narayan, 1915: 394–395, pl. 32, f. 1 (♀ holotype, not examined).

COMMENTS. I have been unable to find and re-examine the ♀ holotype of *H. lloydi*. Thus, its taxonomic status remains uncertain. However, it is very likely that this species, which was originally described from India, may be a senior synonym of *H. zabkai* sp.n. (see below).

Harmochirus luculentus Simon 1885
Figs 206–246.

Harmochirus luculentus Simon, 1885a: 387 (♂ holotype in the MNHN, examined).

Harmochirus luculentus: Simon, 1903a: 866, 867 (♂).

Harmochirus luculentus: Clark, 1974: 16 (♂).

Harmochirus luculentus: Prószyński, 1987: 59, 108 (♂♀).

Harmochirus luculentus: Wesołowska, 1994: 205–206, f. 21–24 (♂).

Harmochirus albibarbis Peckham & Peckham, 1895: 171, pl. 16, f. 3 (♂ holotype in the MCZ, examined). **Syn.n.**

Harmochirus albibarbis: Simon, 1903a: 867.

Harmochirus albibarbis: Narayan, 1915: 395 (a–b).

Harmochirus albibarbis: Wesołowska, 1994: 198–199, f. 1–3 (♂).

Velloa bianoriformis (misidentified): Lessert, 1936: 291–293, f. 87–90 (♂♀ in the MRAC, examined).

Velloa bianoriformis (misidentified): Caporiacco, 1940a: 862 (♀).

Harmochirus bianoriformis (misidentified): Wesołowska, 1994: 199–201, f. 4–13 (♂♀, T from *Velloa*).

Velloa elegans Peckham & Peckham, 1903: 218, pl. 24, f. 10 (♀ holotype in the MCZ, examined). **Syn.n.**

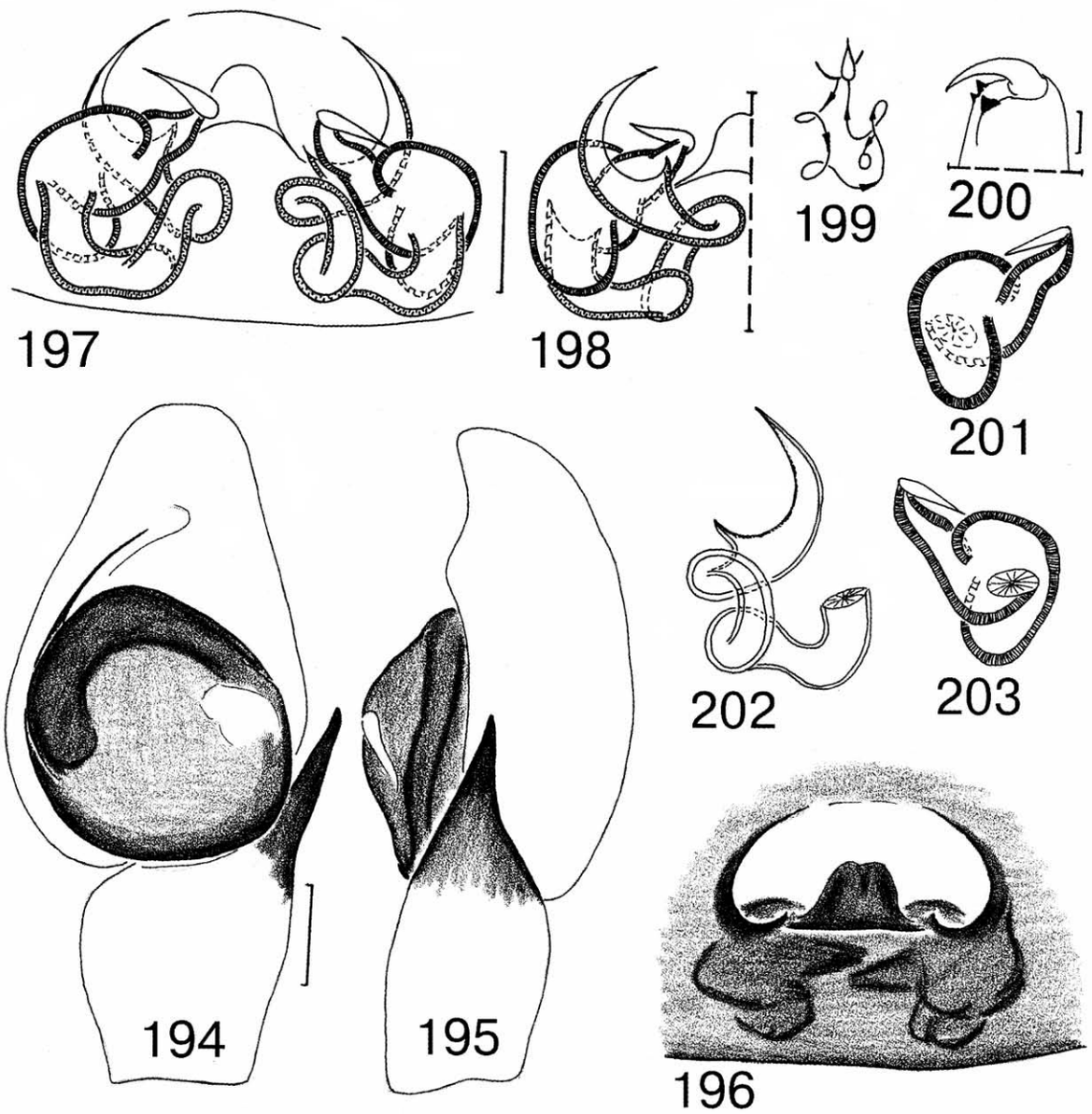
Harmochirus elegans: Wesołowska, 1994: 203–204, f. 14–15 (♀, T from *Velloa*).

Harmochirus duboscqi: Wesołowska, 1994: 201–202, f. 16–20 (♂♀, T from *Partona*)

Material. TANZANIA: 1 ♂ (MNHN. N.7553; the holotype of *H. luculentus*), "Zanzibar (=Zanguebar; coast of Tanzania)"; 1 ♂ (MCZ, 891, the holotype of *H. albibarbis*), "Zanzibar"; G. W. & E. G. Peckham Coll. — SOUTH AFRICAN REPUBLIC: 1 ♂ (NCIP), Grootvadersbos, Heidelberg. C. P., on stairs, 31.01.1989, N. Dippenaar; 1 ♂ (NCIP), North Western Prov., Rustenburg, sweep net, 30.01.1981, M. Stiller; 1 ♂ (NCIP), Northern Prov., Traneen, Letataba, 5.09.1979, C. J. Cilliers; 1 ♂ (NCIP), same Prov., Traneen, Estate, Letaba, 15.01.1980, C. J. Cilliers. — RWANDA: 1 ♂ (MRAC; det. by D. Clarck as *Velloa bianoriformis*), Kisenyi, 01.1952, Q. E. Bertrand — CONGO: 1 ♂ (MRAC; det. by D. Clarck as *Velloa bianoriformis*), Uvira, 25.02.1956, G. Marlier. — ZAIRE: 2 ♂♂, 3 ♀♀, 1 juv. (MRAC; det. by R. Lessert as *Velloa bianoriformis*), Kisantu, date ?, R. P. Vanderyst. — ZIMBABWE: 1 ♀ (MCZ, 594, the holotype of *Velloa elegans*), Mashonaland, Gazaland; G. W. & E. G. Peckham Coll.; 1 ♂ (CFAS), Victoria Falls [17°56′S, 25°59′E], 1–8.02.1995, W. J. Pulawski; 1 ♀ (CFAS), Falcon College [20°13′S, 28°58′E], 10–17.11.1990, V. D. & B. Roth; 1 ♂ (CFAS), Kariba, 16.10.1990, V. D. & B. Roth. — UGANDA: 1 ♀ (MMUM), Pakwach, sweepnet by Nile, 7.04.1995, D. Penney.

Other material. PAKISTAN/KENYA (?): 7 ♂♂, 17 ♀♀ (NHMB), "Meruru" [Merui in Pakistan; or Meru in Kenia].

DIAGNOSIS. This species is most closely related to *H. insulans*, but can be readily separated by the white haired

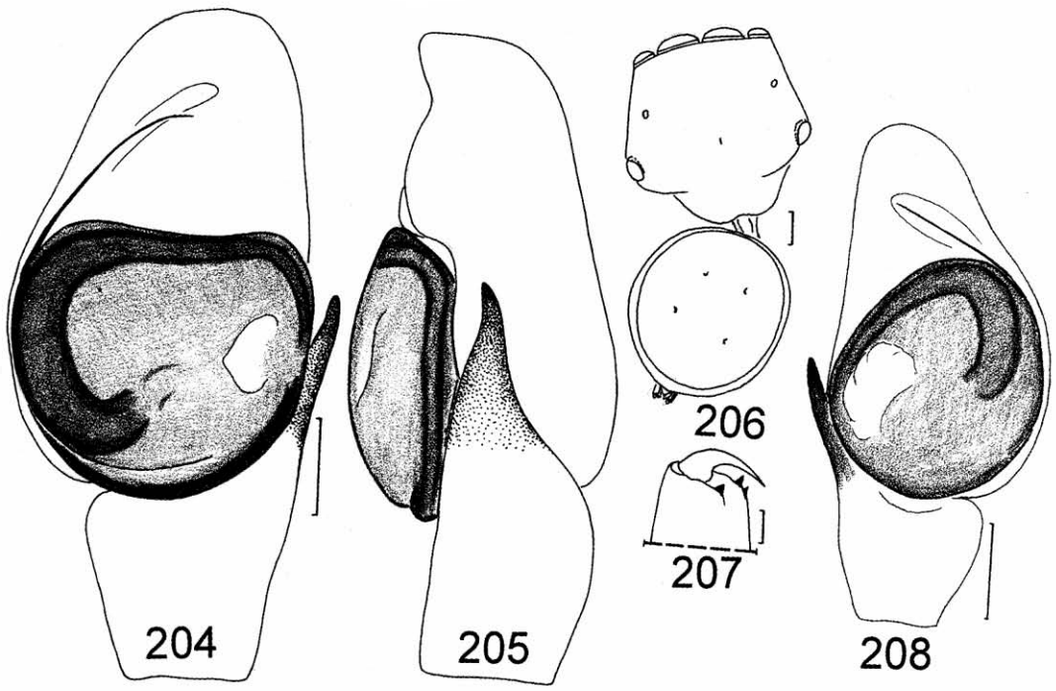


Figs 194–203. Copulatory organs and somatic characters of *Harmochirus insulanus*: 194–195 — palp of♂, ventral and retrolateral views; 196 — epigyne, ventral view; 197–198 — spermathecae, dorsal and ventral views; 199 — diagrammatic course of the spermathecae; 201, 203 — receptacles, dorsal and ventral views; 202 — insemination duct, dorsal view. Specimens: 194–195, 200 — Japan, Tokyo; 196–199, 201–203 — Japan, Masugatayama. Scale: 0.1 mm (194–199, 201–203) and 0.25 mm (200).

Рис. 194–203. Копулятивные органы и соматические признаки *Harmochirus insulanus*: 194–195 — пальпа самца, вентрально и ретролатерально; 196 — эпигина, вентрально; 197–198 — сперматеки, вентрально и дорзально; 199 — схематический ход каналов сперматеки; 201, 203 — рецептакулы, дорзально и вентрально; 202 — оплодотворительный канал, дорзально. Экземпляры: 194–195, 200 — Япония, Токио; 196–199, 201–203 — Япония, Масугатаяма. Масштаб: 0,1 мм (194–199, 201–203) и 0,25 мм (200).

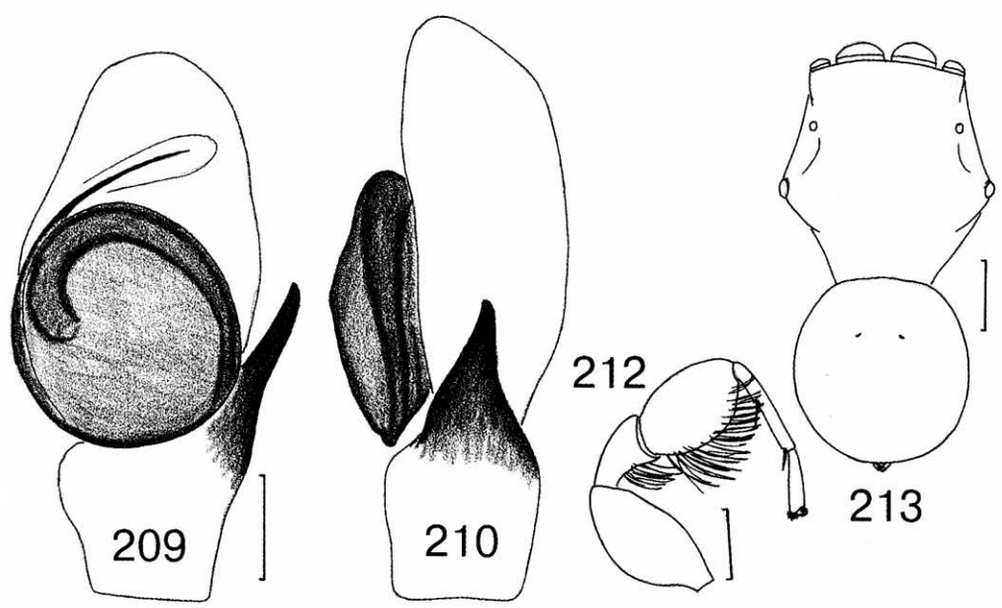
clypeus (a triangular white spot) in males (Fig. 216) and by the structure of the spermathecae in females (cf. Figs 248 and 194).

DESCRIPTION. Male (the holotype of *H. albibarbis*). Measurements. Carapace 1.65 long, 1.45 wide, 0.90 high at PLE. Ocular area 1.10 long, 1.11 wide anteriorly and 1.53 wide posteriorly. Diameter of AME 0.35. Abdomen 1.30 long, 1.18 wide. Cheliceral length 0.38. Clypeal height 0.16. Length of leg segments: leg I — 1.00 + 0.60 + 0.75 + 0.73 + 0.45; leg II absent in holotype; leg III — 0.80 + 0.45 + 0.43 + 0.55 + 0.30; leg IV — 0.93 + 0.45 + 0.53 + 0.60 + 0.30. Leg spination not studied because the holotype specimen is strongly damaged. Coloration. Carapace roughly shagreened (=punctured-reticulate), dark brown, sparsely covered with white scales; its shape as in Figs 206, 213. Black around eyes. Clypeus dark brown, densely covered with white hairs (Fig.



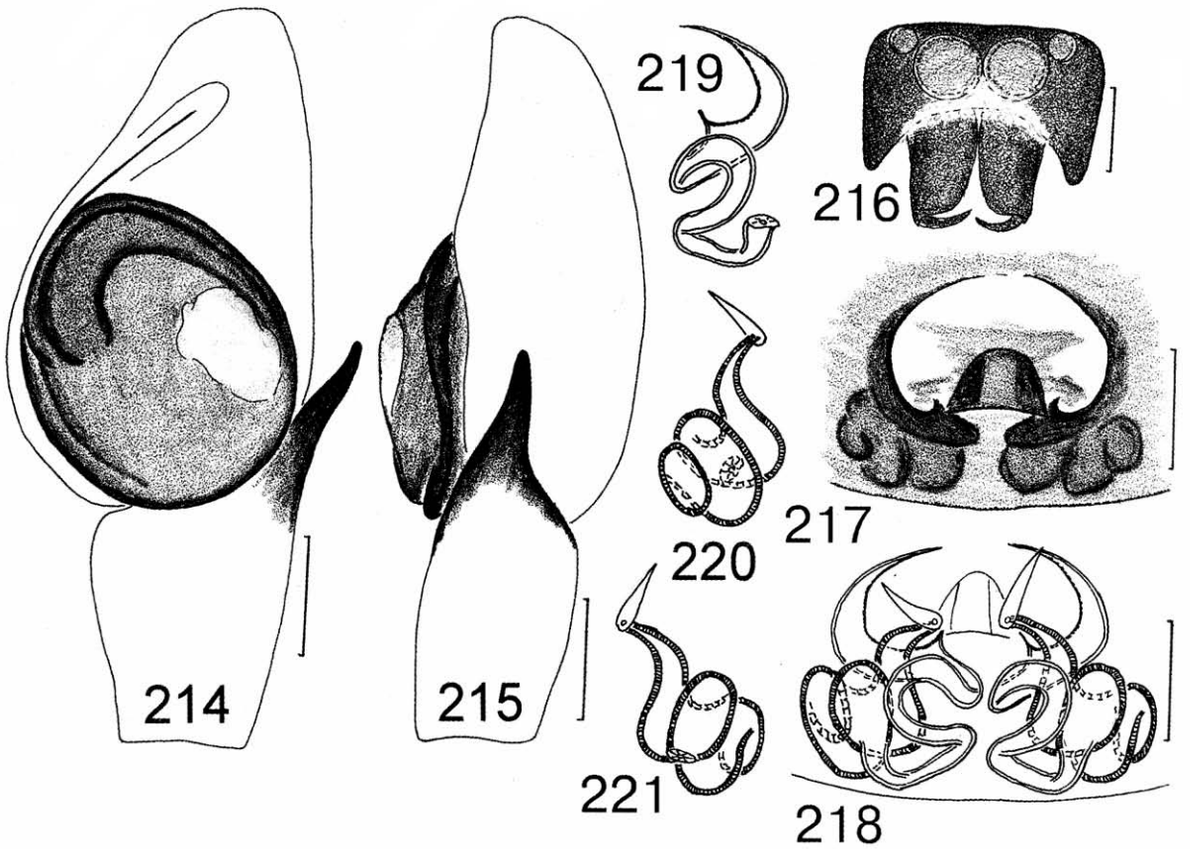
Figs 204–208. Copulatory organs and somatic characters of *Harmochirus luculentus* (♂ holotype in Tanzania) (206–208) and *Harmochirus* sp. (palp of ♂ from an unknown locality, which was found in the same vial as the holotype of *H. luculentus*) (204–205): 204, 208 — palp of ♂, ventral view; 205 — ditto, retrolateral view; 206 — general appearance of the holotype; 207 — chelicera of ♂. Scale: 0.1 mm (204–205, 207–208) and 0.25 mm (206).

Рис. 204–208. Копулятивные органы и соматические признаки *Harmochirus luculentus* (♂ голотип из Танзании) (206–208) и *Harmochirus* sp. (пальпус ♂ из неизвестного локалитета, который находился вместе в пробирке с голотипом *H. luculentus*) (204–205): 204, 208 — пальпа самца, вентрально; 205 — тоже, ретролатерально; 206 — общий вид голотипа; 207 — хелицера самца. Масштаб: 0,1 мм (204–205, 207–208) и 0,25 мм (206).



Figs 209–213. Male copulatory organs and somatic characters of *Harmochirus luculentus* (the ♂ holotype of *H. albibarbis* from Tanzania): 209–210 — palp of ♂, ventral and dorsal views; 212 — leg I of ♂; 213 — general appearance. Scale: 0.1 mm (209–210), 0.2 mm (212) and 1 mm (213).

Рис. 209–213. Копулятивные органы и соматические признаки самца *Harmochirus luculentus* (голотип *H. albibarbis* из Танзании): 209–210 — пальпа самца, вентрально и ретролатерально; 212 — нога I самца; 213 — общий вид. Масштаб: 0,1 мм (209–210), 0,2 мм (212) и 1 мм (213).



Figs 214–221. Copulatory organs and somatic characters of *Harmochirus luculentus* (♂ from Congo, Ubvira; ♀ from Zaire, Kisantu): 214–215 — palp of ♂, ventral and dorsal views; 216 — "face", frontal view; 217 — epigyne, ventral view; 218 — spermathecae, dorsal view; 219 — insemination duct, dorsal view; 220–221 — receptacles, dorsal and ventral views. Scale: 0.1 mm (214–215, 217–221) and 0.5 mm (216).

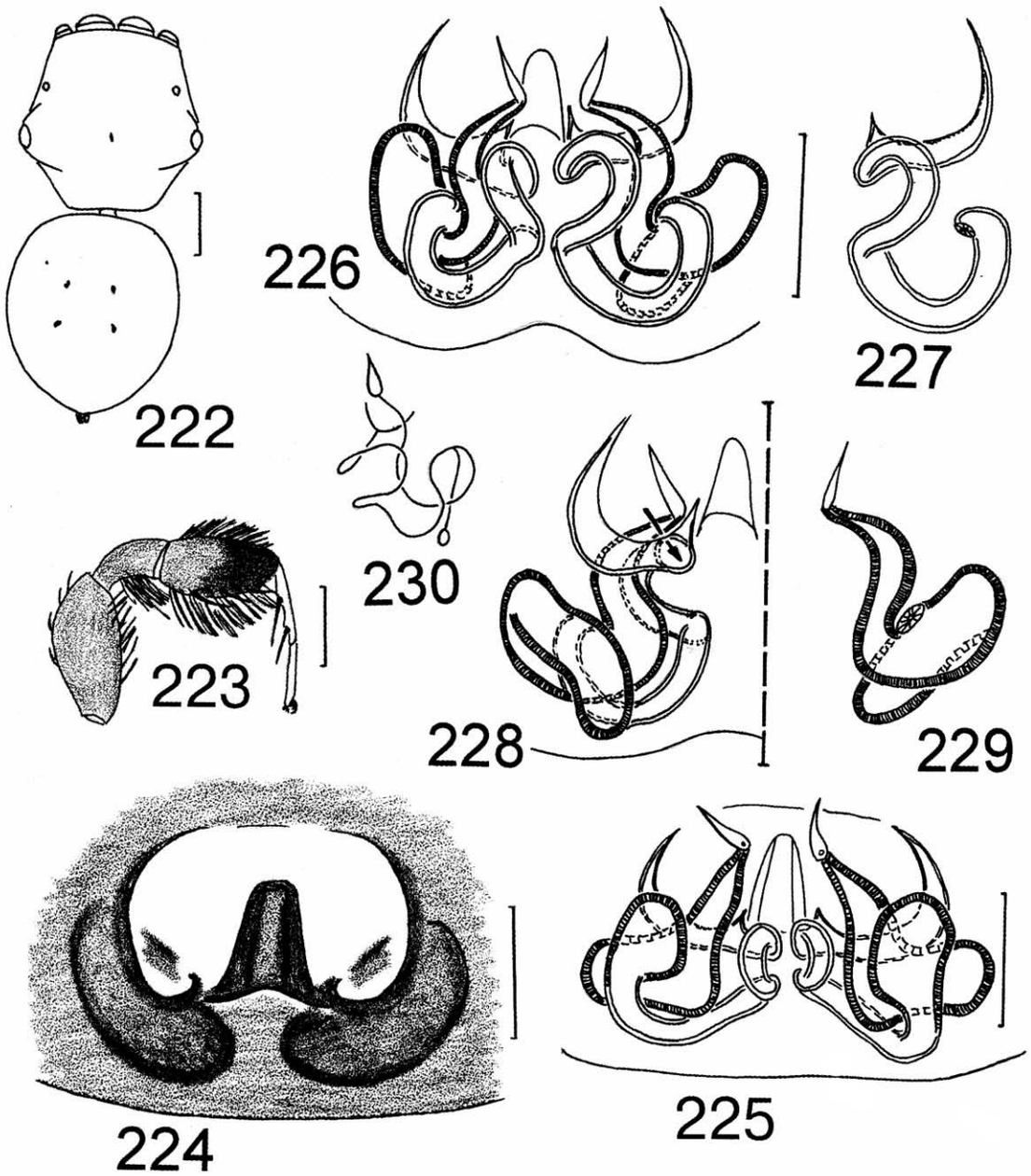
Рис. 214–221. Копулятивные органы и соматические признаки *Harmochirus luculentus* (♂ из Конго, Убвира; ♀ из Заира, Кисанту): 214–215 — пальпа самца, вентрально и ретролатерально; 216 — "фейс" спереди; 217 — эпигина, вентрально; 218 — сперматеки, дорзально; 219 — оплодотворительный канал, дорзально; 220–221 — рецептакулы, дорзально и вентрально. Масштаб: 0,1 мм (214–215, 217–221) и 0,5 мм (216).

216). Sternum and chelicerae brown. Maxillae and labium brown with white tips. Abdomen uniformly, brownish gray, its dorsum completely covered by a scutum (Fig. 206). Book-lung covers and spinnerets gray. Leg I as in Fig. 212. Legs brown, but metatarsi and tarsi of all legs yellow. Palp brown, its structure as in Figs 208–210, 214–215.

Female (the holotype of *H. elegans*). Measurements. Carapace 1.63 long, 1.39 wide, 0.79 high at PLE. Ocular area 1.16 long, 1.14 wide anteriorly and 1.54 wide posteriorly. Diameter of AME 0.36. Abdomen 1.71 long, 1.50 wide. Cheliceral length 0.43. Clypeal height 0.10. Length of leg segments: leg I — 1.03 + 0.58 + 0.73 + 0.61 + 0.37; leg II — 0.73 + 0.43 + 0.47 + 0.49 + 0.34; leg III — 0.87 + 0.49 + 0.43 + 0.53 + 0.37; leg IV — 0.99 + 0.47 + 0.61 + 0.69 + 0.36. Leg spination. Leg I: Fm d 0-1, pr 1ap; Tb v 2-2-2ap; Mt v 2-2ap. Leg II: Fm d 1 ap; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1ap; Tb pr and rt 0-1, v 1ap; Mt pr, rt and v 2ap. Leg IV: Fm d 0-1; Tb rt 0-1, v 0-1ap; Mt pr 1ap, rt and v 2ap. Coloration. Carapace shagreened (=punctured-reticulate), russet, sparsely covered with white scales and hairs; its shape as in Fig. 222. Black around eyes. Sternum, maxillae, labium and chelicerae yellowish brown. Abdomen dark gray, without colour markings. Book-lung covers and spinnerets yellowish brown. Leg I (Fig. 223): femur and patella yellow-brown; tibia russet proximally and dark brown distally; tarsus yellow. Legs II–IV: femora brownish; remaining segments yellow; besides, tibia II anteriorly with a brown longitudinal stripe, tibiae and metatarsi III and IV posteriorly with a brown longitudinal stripe. Epigyne and spermathecae as in Figs 217–221, 224–230.

COMMENTS. The vial with the ♂ holotype of *H. luculentus* contains a separate left palp of ♂ of a different species (Figs 204–205). This palp was drawn by Wesołowska [1994: Figs 21–24] under the name *H. luculentus*. However, the ♂ holotype itself possesses only the right palp (the left one is absent), which structure is indeed the same as in *H. albibarbis* (cf. Figs 208 and 214–215). Besides, the face of the ♂ holotype of *H. luculentus* possesses a typical triangular white spot (Fig. 216). Therefore *H. albibarbis* is to be synonymized with *H. luculentus*. I do not propose a new name for the separate palp, as (1) palpal features themself are not enough for diagnosing species both in *Harmochirus*, and in *Bianor*, and (2) the origin of this palp is unknown.

Clarck [1974] was of the opinion that Lessert [1936] reported on *H. luculentus* under the name *Velloa bianoriformis* from E. Africa (Zaire). Later, Wesołowska [1994] reported on Lessert's specimens under the name *H. bianoriformis*.

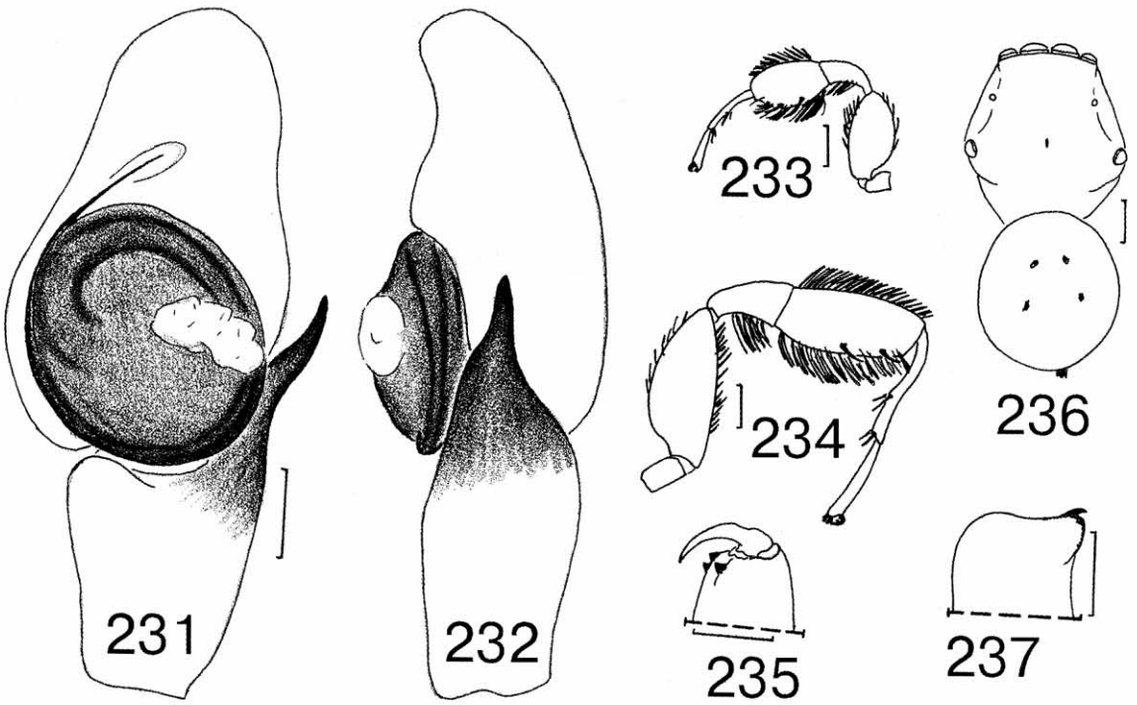


Figs 222–230. Female copulatory organs and somatic characters of *Harmochirus luculentus* (222–223, 226–230 — the♀ holotype of *Velloa elegans* from Zimbabwe, in synonymy; 224–225 —♀ from Uganda): 222 — general appearance; 223 — leg I; 224 — epigyne, ventral view; 225–226, 228 — spermathecae, dorsal and ventral view; 227 — insemination duct, dorsal view; 229 — receptacles, ventral view; 230 — diagrammatic course of the spermathecae. Scale: 0.1 mm (224–230) and 0.5 mm (222–223).

Рис. 222–230. Копулятивные органы и соматические признаки самок *Harmochirus luculentus* (222–223, 226-230 —♀, голотип *Velloa elegans* из Зимбабве; 224–225 — ♀ из Уганды): 222 — общий вид; 223 — нога I, латерально; 224 — эпигина, вентрально; 225–226, 228 — сперматеки, дорзально; 227 — оплодотворительный канал, дорзально; 229 — рецептакулы, вентрально; 230 — схематический ход каналов сперматеки. Масштаб: 0,1 мм (224–230) и 0,5 мм (222–223).

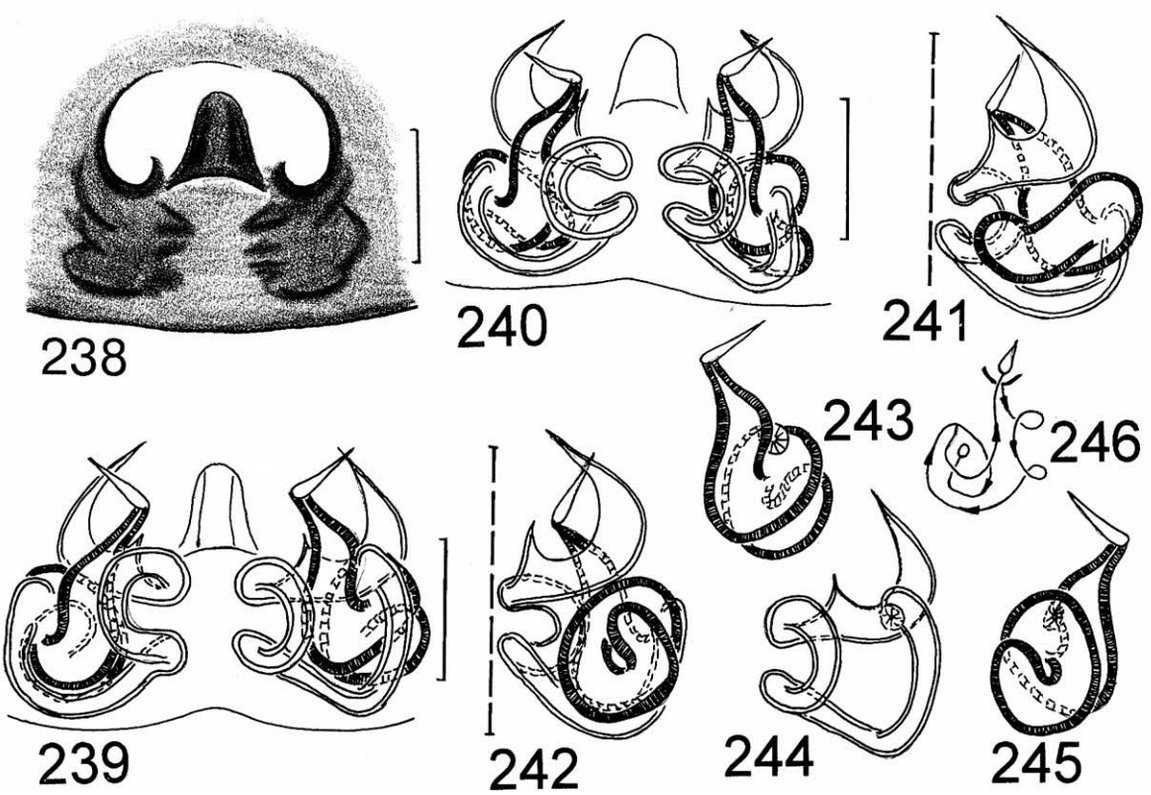
Figs 238–246. Female copulatory organs and somatic characters of *Harmochirus luculentus* (♀ from "Meruru"): 238 — epigyne, ventral view; 239–242 — spermathecae; 243, 245 — receptacles, dorsal and ventral views; 244 — insemination duct, dorsal view; 246 — diagrammatic course of the spermathecae. Scale: 0.1 mm.

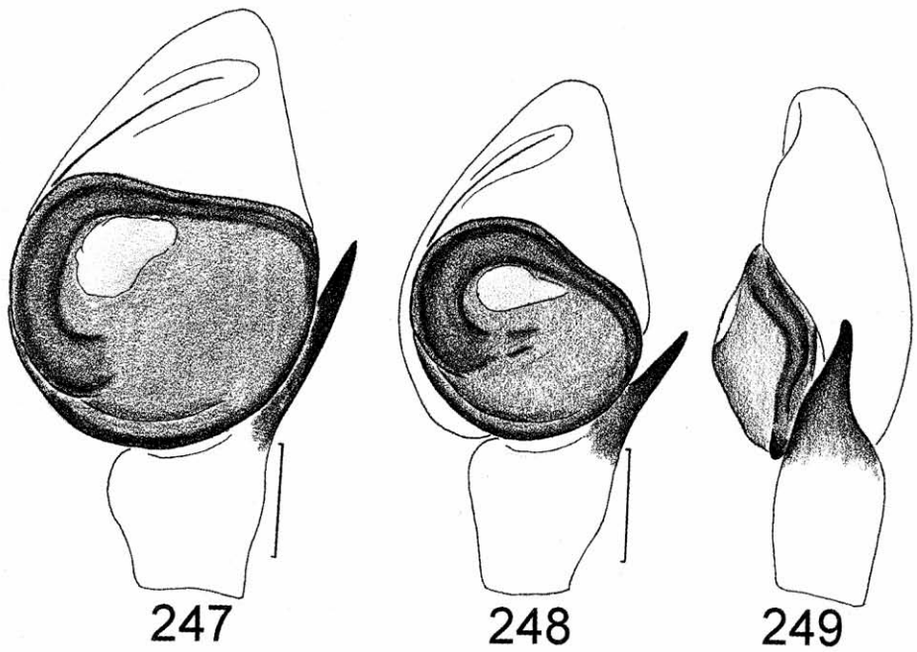
Рис. 222–230. Копулятивные органы и соматические признаки самок *Harmochirus luculentus* (♀ из "Meruru"): 238 — эпигина, вентрально; 239–242 — сперматеки; 243, 245 — рецептакулы, дорзально и вентрально; 244 — оплодотворительный канал, дорзально; 246 — схематический ход каналов сперматеки. Масштаб: 0,1 мм.



Figs 231–237. Male copulatory organs and somatic characters of *Harmochirus luculentus* (♂ from "Meruru"): 231–232 — palp of ♂, ventral and retrolateral views; 233–234 — male leg I, variation; 235 — chelicera of ♂; 236 — ♂, general appearance; 237 — maxilla of ♂. Scale: 0.1 mm (231–232) and 0.25 mm (233–237).

Рис. 231–237. Копулятивные органы и соматические признаки самца *Harmochirus luculentus* (♂ из "Meruru"): 231–232 — пальпа самца, вентрально и ретролатерально; 233–234 — нога I самца, изменчивость; 235 — хелицера самца; 236 — общий вид самца; 237 — максилла самца. Масштаб: 0,1 мм (231–232) и 0,5 мм (233–237).





Figs 247–249. Male copulatory organs of *Harmochirus brachiatus* (♂ from Indonesia, Sabah) and *H. zabkai* (♂ paratype from India, Punjab): 247–248 — palp of ♂, ventral view; 249 — ditto, retrolateral view. Scale: 0.1 mm.

Рис. 247–249. Копулятивные органы самцов *Harmochirus brachiatus* (♂ из Индонезии, Сабах) и *H. zabkai* (♂ паратип из Индии, Пенджаб): 247–248 — пальпа самца, вентрально; 249 — тоже, ретролатерально. Масштаб: 0,1 мм.

I have re-examined these specimens and found that they to indeed belong to *H. luculentus*.

DISTRIBUTION. South Africa, Congo, Rwanda [present data], Tanzania [Simon, 1885a; Peckham & Peckham, 1895: sub *H. albibarbis*], Zaire and Mozambique [Lessert, 1936: sub *Velloa bianoriformis*; Wesołowska, 1994: sub *H. albibarbis*].

The record from Pakistan(?) should be considered doubtful, as I have failed to find the locality "Meruru" (as written on the label) on available maps. It is very likely that this is actually Meru in Kenia. The problem requires special attention in the future. As I could not distinguish between the specimens from "Meruru" (see Figs 231–246) and other material on *H. luculentus* (Figs 204–230), I included this record as "Other material" examined.

Harmochirus zabkai **sp.n.**
Figs 248–256.

Harmochirus brachiatus (misidentified): Żabka, 1985: 205–206, f. 39–49 (♂♀).

Harmochirus brachiatus (misidentified): Tikader, 1975: 410–411, f. 1–5 (♂♀).

Material. Holotype: 1 ♂ (ISEA), India, Punjab, Patiala City, University campus [30°21'N, 76°27'E], 3–8.05.1999, Yu. M. Marusik.

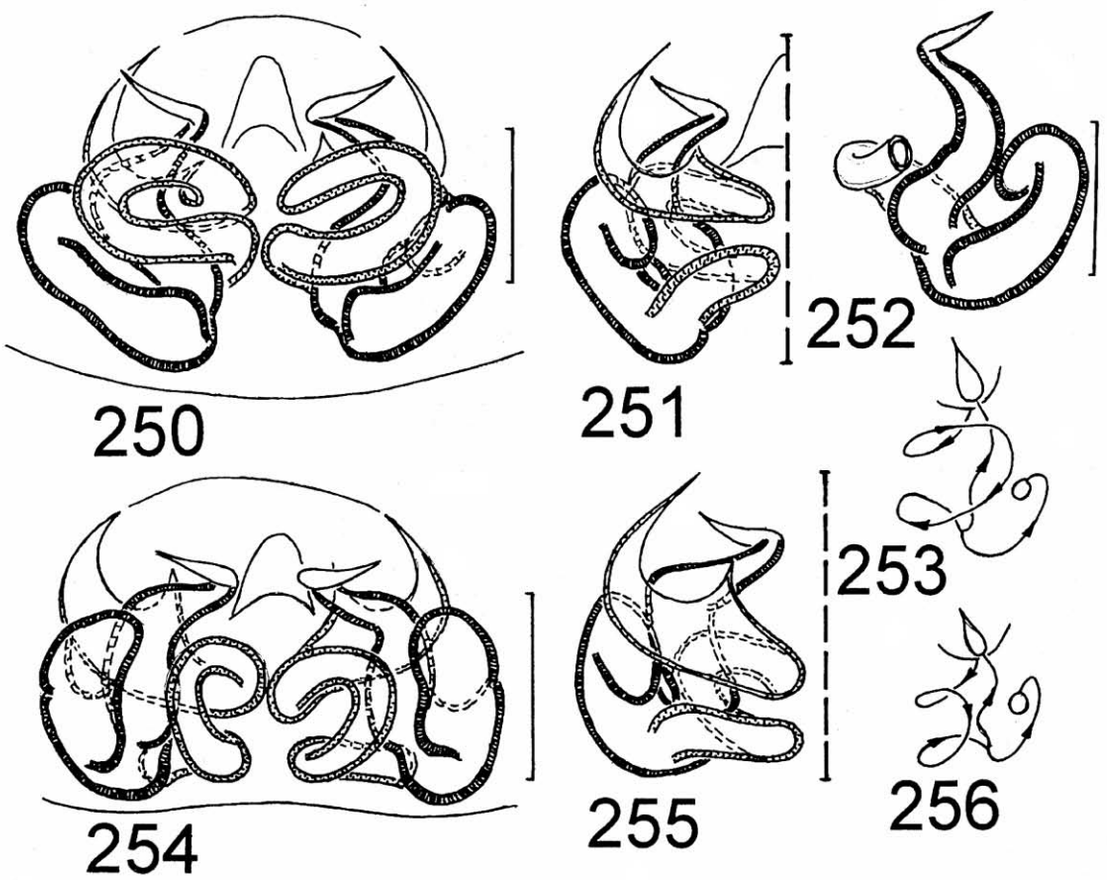
Paratypes. NEPAL: 1♂ (ZMTU), Bagmati, Gokarna, 13.05.1979, P. T. Lehtinen. — INDIA: 1 ♂, 1 ♀ (ISEA), Punjab, Patiala City, University campus [30°21'N, 76°27'E], 24–25.06.1999, Yu. M. Marusik; 1 ♂ (CFAS), Maharashtra, Tulsi Lake in Krishngairi, Upavan Nat. Park (ca. 12 km NW of Bombay Int. Airport), 15-19.05.1989, W. J. Pulawski; 2 ♂♂ (CFAS), "S. India, 8 mi S of Yercand", 4000 feet a.s.l., 6–7.03.1962, E. S. Ross & D. Q. Cavagnaro; 1 ♂ (CFAS), Tamil Nadu, Alagarkoil, ca. 21 km NE of Madurai, 27–28.12.1989, V. & B. Roth; 1♂ (CFAS), Karnataka, Jog Falls [14°14'N, 74°50'E], 20–22.01.1990, V. & B. Roth; 1 ♂ (MCZ), Madras, G. W. & E. G. Peckham coll. — VIETNAM: 1 ♂ (CFAS), Bien Hoa AB Kun, 07.1966, G. F. Edmunds. — MALAYSIA: 1 ♂, 1 ♀ (ZMTU), Pulau Pinang, Pinang Hill, ~900 m a.s.l., 21.09.1978, P. T. Lehtinen; 1 ♂, 1 ♀ (AMNH), Selangor, Banting, ~100 m a.s.l., 13.11.1982, W. Cov.

Other material. VIETNAM: 1 ♀ (IZW; det. hitherto as *H. brachiatus*), Yen So, 10 km of Hanoi, 20.05.1966, R. Bielawski & B. Pisarski; 1 ♀ (IZW; det. hitherto as *H. brachiatus*), Co-loa, 20 km NE of Hanoi, 10.05.1966, R. Bielawski & B. Pisarski; 1♀ (IZW; det. hitherto as *H. brachiatus*), "Kalibakoeng".

DIAGNOSIS. *H. zabkai* sp.n. is closely related to *H. insulanus*, but can be separated by the following diagnostic characters: dorsum without colour markings (with a characteristic colour markings of a white transverse line in *H. insulanus* [*vide* Logunov *et al.*, 1997: Figs 1 and 4); body size twice smaller than in *H. insulanus*; femur and tibia I twice as thick (=swollen) as in *H. insulanus* (femora and tibia I almost of normal shape); and the shape of the tegulum and the structure of the spermathecae are clearly different in both species (cf. Figs 248, 250–256 and 194, 197–198). See also comments under "Diagnosis" of *H. brachiatus*.

It is likely that *H. zabkai* sp.n. may turn out to be a junior synonym of *H. lloydii* described from India [Narayan, 1915]. However, the origin of the ♀ holotype of *H. lloydii* is unknown to me, and the original description does not allow identification.

DESCRIPTION (paratypes from India, Punjab). Male. Measurements. Carapace 1.33 long, 1.20 wide, 0.78 high at PLE. Ocular area 0.96 long, 1.18 wide anteriorly and 1.20 wide posteriorly. Diameter of AME 0.30. Abdomen 1.30 long, 1.10 wide. Cheliceral length 0.34. Clypeal height 0.07. Length of leg segments: leg I — 1.01 + 0.50 + 0.86 + 0.79 + 0.46; leg II — 0.61 + 0.38 + 0.41 + 0.44 + 0.30; leg III — 0.68 + 0.37 + 0.40 + 0.49 + 0.27; leg IV — 0.77 + 0.31 + 0.51 +



Figs 250–256. Female copulatory organs of *Harmochirus zabkai* sp.n. (♀ specimens from Vietnam, from the IZW): 250–252, 254-255 — spermathecae; 253, 256 — diagrammatic course of the spermathecae. Scale: 0.1 mm.

Рис. 250–256. Копулятивные органы самок *Harmochirus zabkai* sp.n. (♀ из Вьетнама, IZW): 250–252, 254–255 — сперматеки; 253, 256 — схематический ход каналов сперматеки. Масштаб: 0,1 мм.

1.10 + 0.31. Leg spination. Leg I: Fm d 0-0-1ap; Tb v 0-2-2-2; Mt 0-2-2ap. Leg II: Fm d 0-0-1ap; Tb v 1-1; Mt v 2-2ap. Leg III: Mtv 2ap. Leg IV: Mt v 2ap. Coloration. Carapace russet, shagreened (=punctured-reticulate), with white marginal bands of white scales. Eye field covered with white and irridescent appressed scales. Clypeus russet, hairless. Sternum, maxillae, labium and chelicerae russet. Abdomen brown-gray, dorsum completely covered with a scutum. Book-lung covers and spinnerets yellowish brown. Leg I russet, with yellow metatarsus and tarsus; femur and tibia I strongly swollen, with rows of scale-like black bristles. Legs II–IV yellow, with wide brown lateral bands on femora, patellae and tibia. Palps russet. Palpal structure as in Figs 248–249.

Female. Measurements. Carapace 1.66 long, 1.28 wide, 0.79 high at PLE. Ocular area 1.04 long, 1.09 wide anteriorly and 1.35 wide posteriorly. Diameter of AME 0.34. Abdomen 2.13 long, 1.38 wide. Cheliceral length 0.57. Clypeal height 0.09. Length of leg segments: leg I — 1.00 + 0.48 + 0.79 + 0.68 + 0.43; leg II — 0.78 + 0.43 + 0.50 + 0.50 + 0.30; leg III — 0.84 + 0.38 + 0.48 + 0.53 + 0.35; leg IV — 0.95 + 0.45 + 0.68 + 0.75 + 0.38. Leg spination. Leg I: Tb V 2-2-2; Mt V 2-2AP. Leg II: Tb V 1-1; Mt V 2-2AP. Leg III: Tb RT 0-1-0; Mt 3ap. Leg IV: no spines. Coloration as described for males, except for yellow palps, and femora III, IV brown in distal half. Dorsum lacking scutum. Epigyne and spermathecae as in Figs 250–256.

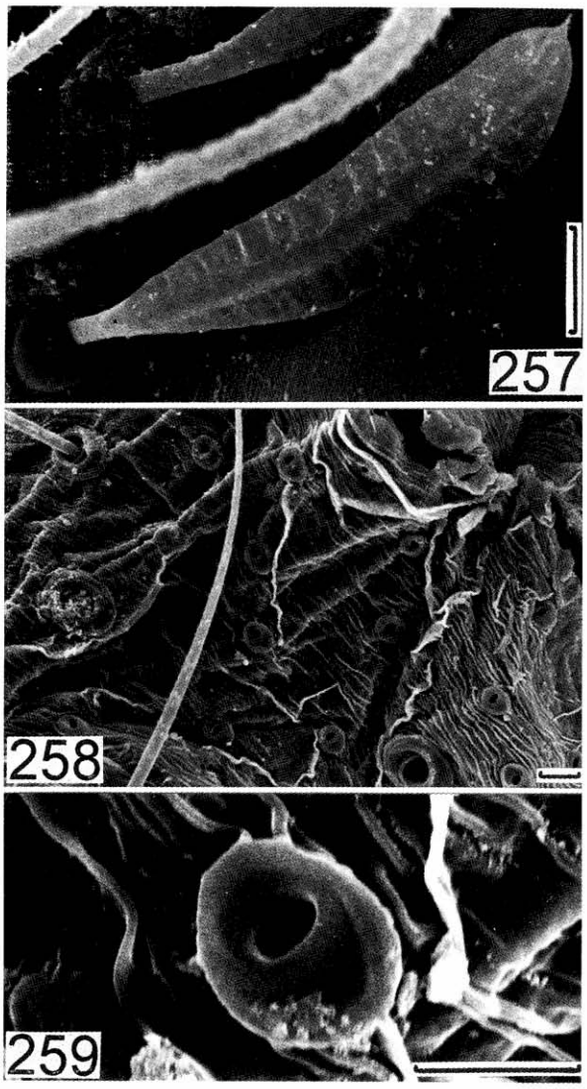
DISTRIBUTION. India, Nepal, Vietnam [present data; Żabka, 1985: sub *H. brachiatus*].

ETYMOLOGY. This specis is named after my colleague and friend, the well-known Polish arachnologist Prof. Marek Żabka.

SIBIANOR gen.n.

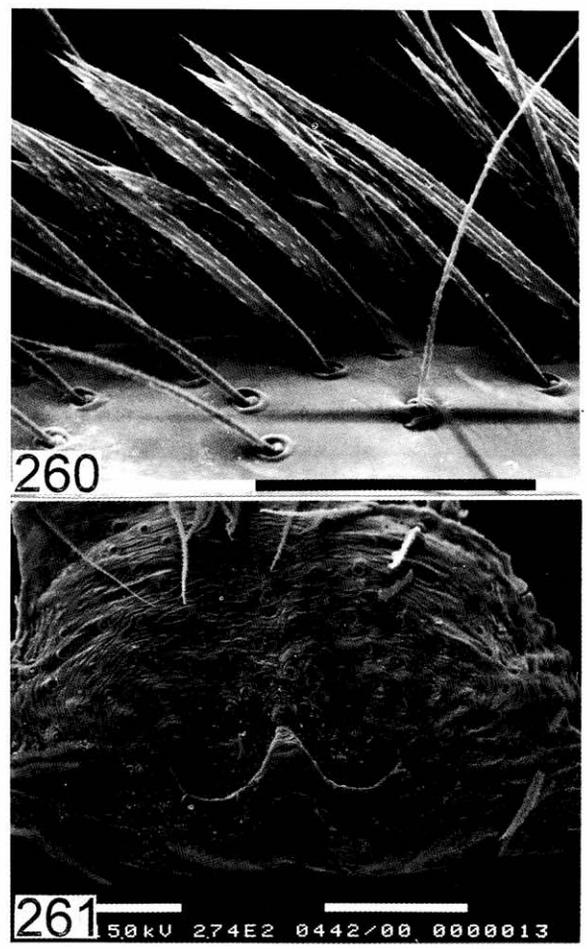
Type species: *Heliophanus aurocinctus* Ohlert, 1865.

DEFINITION. Small unidentate spiders, ranging from 2.40 to 4.70 mm in length. Sexes similar in general body form, but males differ in having an elongated dorsal scutum and also a small ventral scutum (in front of the spinnerets) (both scuta lacking in ♀♀); females often lack a dorsal row of the scale-like bristles on tibia I (always present in ♂♂). Carapace: rather high, markedly punctured-reticulate (=shagreened), and often sparsely covered with white appressed, leaf-shaped scales (Fig. 257). Eyes: in three rows; anterior row 1.2–1.3 times narrower than posterior one; second row midway between ALE and PLE; PLE not elevated; quadrangle length 53–76% of carapace length. Clypeus: vertical, low, 16–31% of AME diameter. Chelicerae: small, vertical; promargin with two small teeth (Figs 176, 302); retromargin with one small tooth (Fig. 175). Maxillae: square or rectangular-elongate, males usually with a tiny endite tooth (Figs 301, 328). Labium: subtriangular, directed anteriad. Sternum: oval, elongate,



Figs 257–259. Carapace scales and abdominal pores of *Sibianor larae* sp.n. (♀ from Finland): 257 — carapace scale; 258 — abdominal pores (anterior part of abdomen, above pedicel); 259 — a single pore. Scale: 5 μm (259) and 10 μm (257–258).

Рис. 257–259. Чешуйки карапакса и брюшные поры *Sibianor larae* sp.n. (♀ из Финляндии): 257 — чешуйка карапакса; 258 — брюшные поры (передняя часть абдомена, надстебельком); 259 — одиночная пора. Масштаб: 5 μm (259) и 10 μm (257–258).

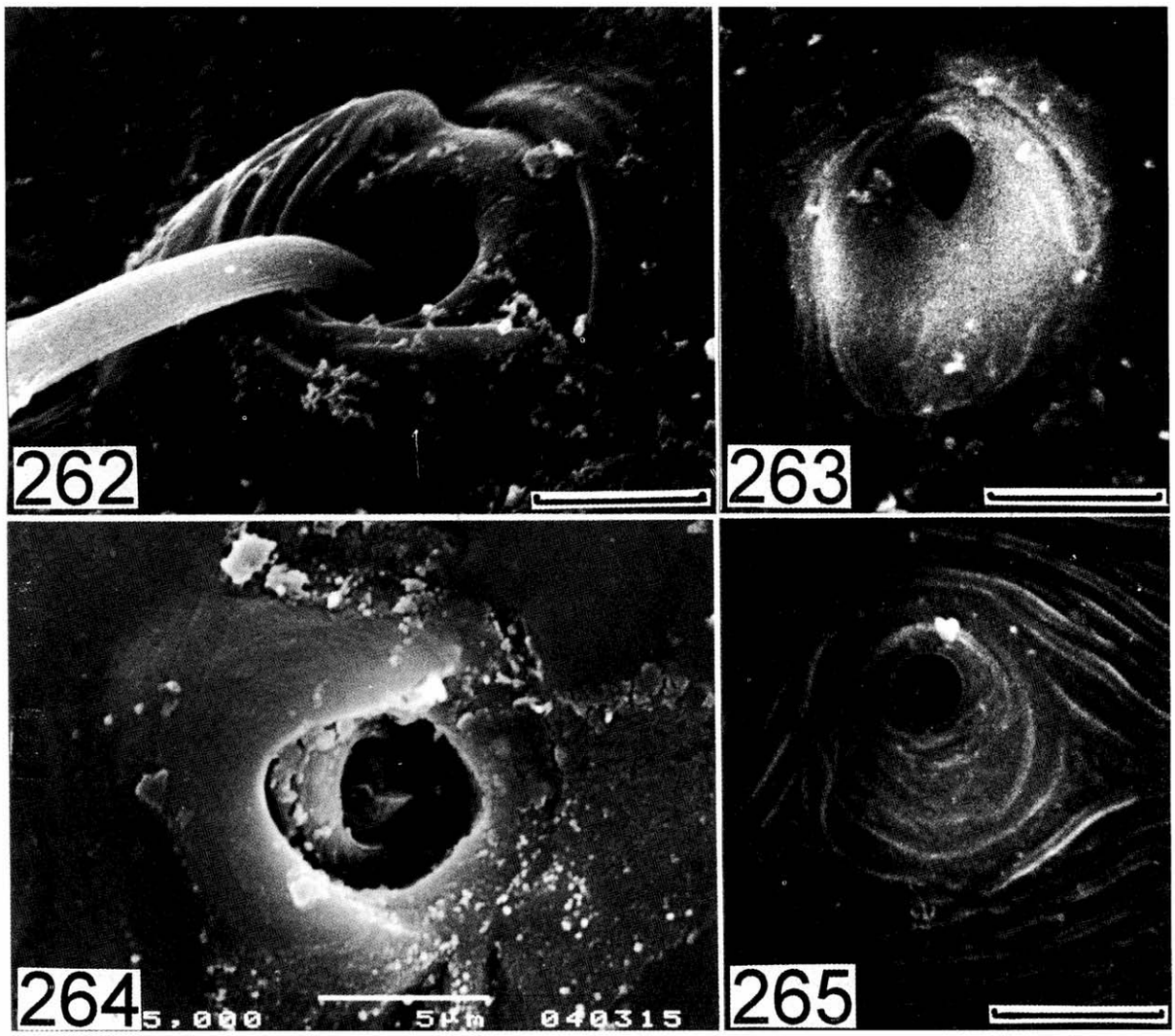


Figs 260–261. Somatic characters of *Sibianor larae* sp.n. (260; ♀ from Finland) and epigyne of *Sitticus striatus* Emerton, 1911 (261; ♀ from USA): 260 — scale-like bristles on tibia I; 262 — epygine, ventral view.

Рис. 260–261. Соматические признаки *Sibianor larae* sp.n. (260; ♀ из Финляндии) и эпигина *Sitticus striatus* Emerton, 1911 (261; ♀ из США): 260 — чешуеобразные шетинки на голени I; 262 — эпигина, вентрально.

with straight or slightly concave anterior margin. Pedicel: short; never visible in dorsal view. Abdomen: elongate, 1.2–1.6 times longer than wide; dorsum either uniformly brown/black (in both sexes), rarely with a colour pattern consisting of paired white spots and lines, or even variegated (Fig. 269); males always with elongate dorsal and small ventral scuta; dorsum with skin pores of uncertain nature behind pedicel, *i.e.* on the anterior side of abdomen (at least, in♀♀) (Figs 258–259). Legs: in both sexes legs I stronger and longer than others, with femora more or less swollen; femora, patellae and tibiae with rows of scale-like black bristles (Figs 1, 260); legs II–IV more or less subequally developed and alike in both sexes; base of trichobotria as shown in Fig. 262, tarsal organ drop-shaped (Fig. 263). Leg formula: ♂ — I,IV,III,II or I,III,IV,II; ♀ — IV,I,III,II or III,I,IV,II. Leg spination (only generalized pattern given): Fm of all legs 1-2ap; Pt of al legs spineless; Mt I and II v 2-2ap; Mt III and IV 2-5 ap. Female palp: of general shape, without spines and apical claws. Male palp: cymbium of general form; the tegular knob usually well-marked (Figs 267, 271, 273, 275), its position being of great taxonomic value (see Figs 270–275). Female copulatory organs: epigyne always with well-developed central blind-ending pocket (Figs 310, 318, 324); fossae well-developed (Fig. 192); copulatory openings hidden beneath the atrial lips; spermathecae always of two-chambered configuration and consisting of long/short insemination ducts (sometimes without the first loop; *e.g.*, Fig. 330), primary and secondary receptacles usually fused together (Fig. 193); fertilisation ducts and ducts of accessory glands usually well-developed and visible (Figs 276, 281, 286).

DIAGNOSIS. Among the closely related genera (Table 1), *Sibianor* gen.n. is closest to *Bianor* and *Microbianor*. From the former genus, *Sibianor* gen.n. differs in the presence of the fringes on leg I (absent in *Bianor*; cf. Figs 1 and 3), of the tegular knob (absent in *Bianor*) (cf. Figs 271, 273 and 5,



Figs 262–265. Somatic characters of *Sibianor larae* sp.n. (262–263; ♀ from Finland), *Pellenes stepposus* (264; ♂ from Tuva) and *Harmochirus brachiatus* (265; ♀ from Sumatra): 262, 264 — trichobotrial base on tarsus I; 263, 265 — tarsal organ on tarsus I. Scale: 5 μm.

Рис. 262–265. Соматические признаки *Sibianor larae* sp.n. (262–263; ♀ из Финляндии), *Pellenes stepposus* (264; ♂ из Тувы) и *Harmochirus brachiatus* (265; ♀ с Суматры): 262, 264 — основание трихоботрии лапке I; 263, 265 — тарзальный орган на лапке I. Масштаб: 5 μm.

7), of the ventral scutum (absent in *Bianor*), as well as the absence of the elevated PLE (present in *Bianor*) and in having the ocular area wider than CW (narrower in *Bianor*), legs III/IV longest in females (legs I in *Bianor*), the second eye row midway between AME and PLE (slightly closer to AME in *Bianor*) and the modified male chelicerae (never modified in *Sibianor* gen.n.). *Sibianor* gen.n. differs from *Microbianor* in possessing the fossae and the funnel-shaped inlet cups in the ♀ copulatory organs, as well as spines on legs IV (all characters absent in *Microbianor*). Besides, *Sibianor* gen.n. differs from *Napoca* by its body shape (cf. Fig. 369) and the position of PME (near ALE in *Napoca* and midway between AME and PLE in *Sibianor* gen.n.); it differs from *Modunda* by the high carapace (low and flat in *Modunda*; Fig. 351), the presence of the endite tooth in males (absent in *Modunda*) and the presence of fringes on leg I and of spines on leg IV (both absent in *Modunda*). See also comments under "Diagnosis" of *Harmochirus*.

DISTRIBUTION. Holarctic and Afrotropical Regions.

Survey of species

Sibianor aemulus (Gertsch, 1934) **comb.n.**

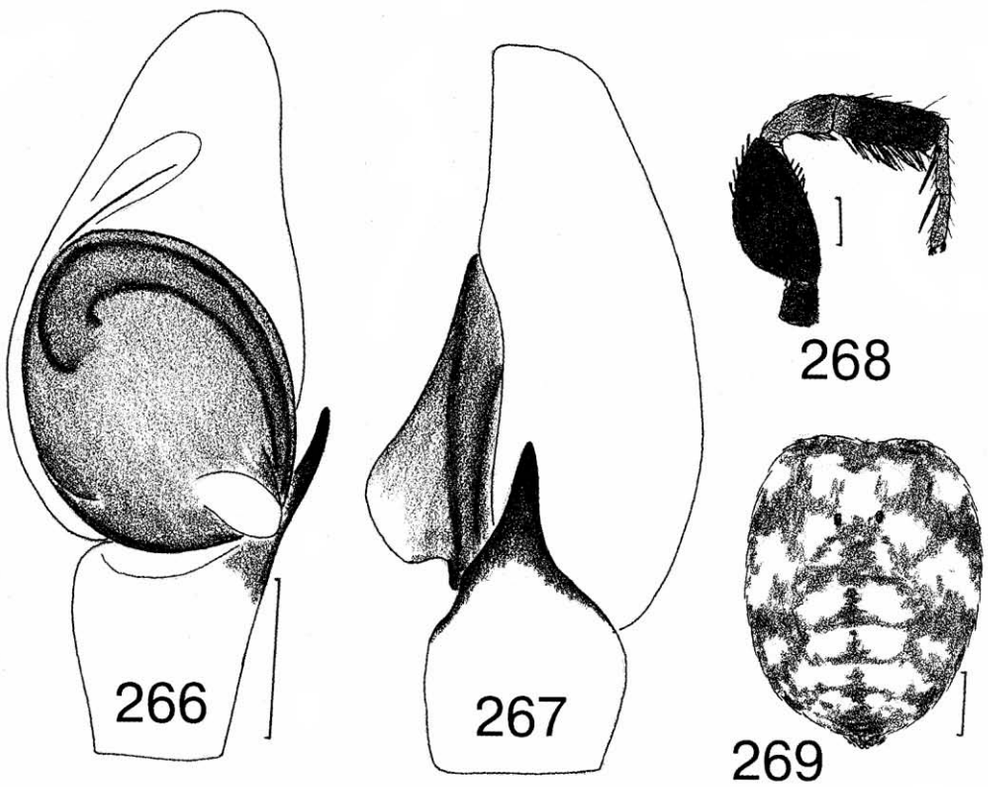
Sassacus aemulus Gertsch, 1934: 22, f. 20 (♂ holotype, not examined).

Bianor aemulus: Maddison, 1978: 76–77, f. 1 (♀, T from *Sassacus*).

Bianor aemulus: Richman & Culer, 1978: 83.

Bianor aemulus: Cutler, 1988: 424.

Material examined USA: 1 ♂ (AMNH), Ontario, Lake Opeongo, Algonquin Park [45°38′N, 78°22′W], 20.07.1943, J. O. & J. P.; 1 ♂ (AMNH), "Wildlife, Alg. Pk., 3.07.1948, O.P."



Figs 266–269. Male copulatory organs and somatic characters of *Sibianor annae* sp.n. (♂ holotype in China, Guangdong): 266–267 — palp, ventral and retrolateral views; 268 — leg I, lateral view; 269 — dorsum. Scale: 0.1 mm (266–267) and 0.25 mm (268–269).

Рис. 266–269. Копулятивные органы и соматические признаки самца *Sibianor annae* sp.n. (the ♂ голотип из Китая, Guangdong): 266–267 — пальпа самца, вентрально и ретролатерально; 268 — нога I самца, латерально; 269 — дорзум. Масштаб: 0,1 мм (266–267) и 0,25 мм (268–269).

COMMENTS. I have been unable to re-examined the holotype of *Sassacus aemulus* and am not certain of the taxonomic status of this species. Both males studied in the present work do not differ from those of *S. tantulus*. However, as it was pointed out by Logunov & Marusik [1991: fig. 1e; 2000; both sub*Bianor a.*], the N. American females of*S. aemulus* differ from Siberian specimens of *S. tantulus* in having striped first legs and therefore N. American population may belong to a separate species. The problem requires special attention in the future.

Sibianor annae **sp.n.**
Figs 266–269.

Material. Holotype: 1 ♂ (MCZ; one palp incompletely developed), China, Guangdong (=E. Kwantung), Tsin Leong San, 3.06.1936, L. Gressitt.

DIAGNOSIS. This species can easily be distinguished from all congeners of*Sibianor*gen.n. by the variegated colour markings of the dorsum (Fig. 269), and by the structure of the palp of ♂ (cf. Figs 266–267 and 270–275, 337, *etc.*).

DESCRIPTION. Male (one palp of the holotype incompletely developed). Measurements. Carapace 1.35 long, 1.25 wide, 0.70 high at PLE. Ocular area 0.85 long, 0.98 wide anteriorly and 1.26 wide posteriorly. Diameter of AME 0.30. Abdomen 1.10 long, 0.93 wide. Cheliceral length 0.40. Clypeal height 0.05. Length of leg segments: leg I — 0.78 + 0.44 + 0.55 + 0.40 + 0.31; leg II — 0.55 + 0.29 + 0.28 + 0.29 + 0.26; leg III — 0.84 + 0.39 + 0.39 + 0.33 + 0.28; leg IV — 0.68 + 0.30 + 0.36 + 0.43 + 0.28. Leg spination. Leg I: Fm d 0-0-1-1ap; Tb v 2-2-2; Mt v 2-2ap. Leg II: Fm d 1ap; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 1-2ap, v 1ap. Leg IV: Fm d 1ap; Tb rt 0-1. Coloration. Carapace light brown, sparsely covered with white scales. Black around eyes. Sternum, maxillae and chelicerae light brown. Labium dark brown. Abdomen: dorsum without scutum, yellow, with brown colour-markings as in Fig. 269; venter brownish yellow. Legs I (Fig. 268): femora and tibiae brown, with dorsal and ventral rows of scale-like black bristles; remaining segments brownish yellow. Legs II–IV: femora brownish, remaining segments yellow, but tibiae and metatarsi with brown rings. Palps brownish yellow. Palpal structure as in Figs 266–267.

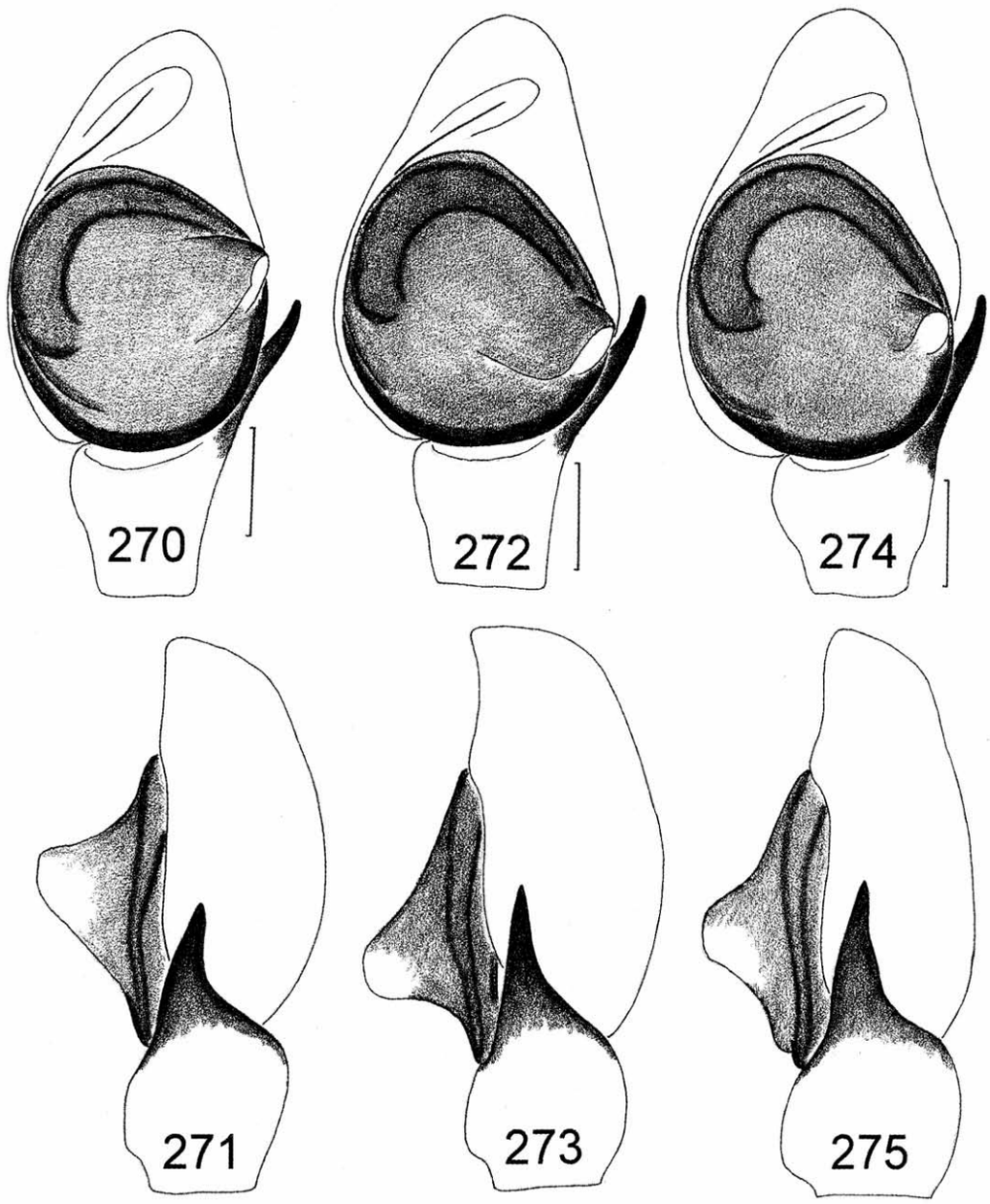
Female unknown.

DISTRIBUTION. Known from the type locality only.

ETYMOLOGY. The species is dedicated to my daughter, Anna D. Logunova.

Sibianor aurocinctus (Ohlert, 1865) **comb.n.**
Figs 270–271, 276–280.

Heliophanus aurocinctus Ohlert, 1865: 11 (♀ holotype, not examined).



Figs 270–275. Male copulatory organs of *Sibianor aurocinctus* (270–271; ♂ paratype of *Bianor inexploratus* from Tuva), *S. nigriculus* (272–273; N. Korea) and *S. turkestanicus* sp.n. (274–275; ♂ paratype from Kyrghyzstan, Dzhanghi-Pakhta): 270, 272, 274 — palp of ♂, ventral view; 271, 273, 275 — ditto, retrolateral view. Scale: 0.1 mm.

Рис. 270–275. Копулятивные органы самцов *Sibianor aurocinctus* (270–271; ♂ паратип *Bianor inexploratus* из Тувы), *S. nigriculus* (272–273; С. Корея) и *S. turkestanicus* sp.n. (274–275; ♂ паратип из Киргизии, Джанги-Пахта): 270, 272, 274 — пальпа самца, вентрально; 271, 273, 275 — тоже, ретролатерально. Масштаб: 0,1 мм.

Attus heterophtalmus Westring, 1851: 56 (♀ holotype, not examined). Synonymized with *A. aenescens* by Thorell [1873].

Attus aenescens Simon, 1868: 628 (♂♀). Synonymized with *B. aurocinctus* by Dahl [1912].

Ballus aenescens: Thorell, 1873: 405.

Bianor aenescens: Simon, 1901b: 485, 634, 641.

Bianor aurocinctus: Dahl, 1912: 357, 590.

Bianor aenescens: Locket & Millidge, 1951: 217, f. 108 F,G,H,I. (♂♀).

Bianor aenescens: Miller, 1971: 134, pl. 18, f. 12, pl. 19, f. 3–4 (♂♀).

Bianor aenescens: Šternbergs, 1974: 69.

Bianor aurocinctus: Prószyński, 1976: f. 288, m. 126 (♂).

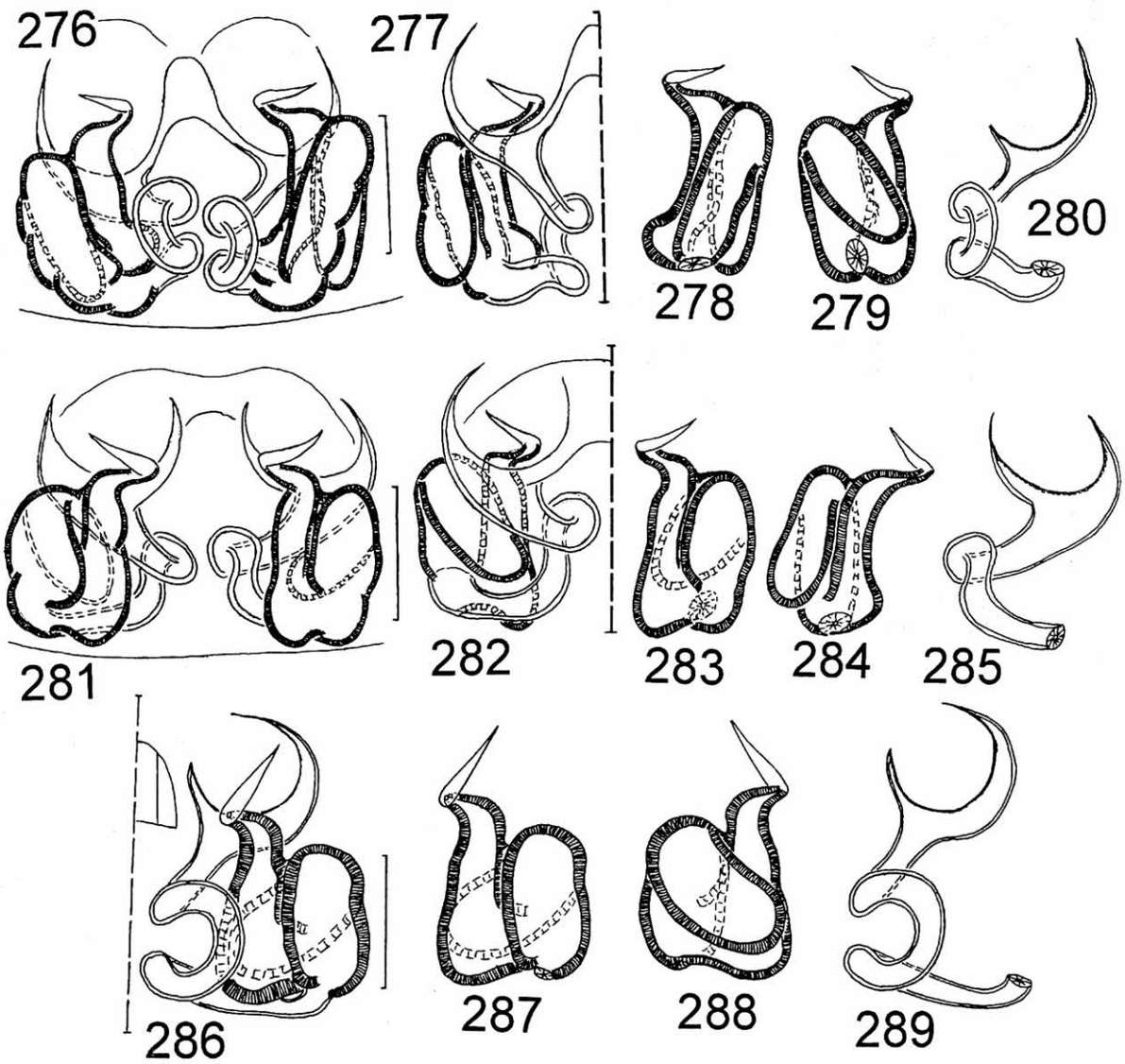
Bianor aenescens: Ovtsharenko, 1978: 683.

Bianor aurocinctus: Wesołowska, 1981: 69–70, f. 80 (♀).

Bianor aurocinctus: Nenilin, 1984a: 12.

Bianor aurocinctus: Nenilin, 1985: 130.

Bianor aurocinctus: Dunin, 1984: 130, f. 1 (♀).



Figs 276–289. Female copulatory organs of *Sibianor aurocinctus* (276–280; ♀ from Ukraine, Provalie), *S. nigriculus* (281–285; ♀ from N. Korea) and *S. turkestanicus* sp.n. (286–289; ♀ paratype from Kyrghyzstan, Dzhanghi-Pakhta): 276, 281, 286 — spermathecae, dorsal view; 277, 282 — ditto, ventral view; 278, 283, 287 — receptacle, dorsal view; 279, 284, 288 — ditto, ventral view; 280, 285, 289 — insemination duct, dorsal view. Scale: 0.1 mm.

Рис. 276–289. Копулятивные органы самок *Sibianor aurocinctus* (276–280; ♀ Украина, Провалье), *S. nigriculus* (281–285; ♀ из С. Кореи) и *S. turkestanicus* sp.n. (286–289; ♀ паратип из Киргизии, Джанги-Пахта): 276, 281, 286 — сперматека, дорзально; 277, 282 — тоже, вентрально; 278, 283, 287 — рецептакулы, дорзально; 279, 284, 288 — тоже, вентрально; 280, 285, 289 — оплодотворительный канал, дорзально. Масштаб: 0,1 мм.

Bianor aurocinctus: Roberts, 1985: 120, f. 49d (♂♀).
Bianor aenescens: Bosmans & de Keer, 1985: 52.
Bianor aenescens: Hansen, 1986: 99–100, f. 6 (♂).
Bianor aenescens: Zhang, 1987: 235, f. 206.1–5 (♂♀).
Bianor aurocinctus: Izmailova, 1989: 151, f 149 (♀).
Bianor aenescens: Feng, 1990: 197, f. 172.1–7 (♂♀).
Bianor aenescens: Chen & Gao, 1990: 179, f. 228a–c (♂♀).
Bianor aenescens: Chen & Zhang, 1991: 288, f. 300.1–3 (♂♀).
Bianor aurocinctus: Heimer & Nentwig, 1991: 494, f. 1321 (♂♀).
Bianor aurocinctus: Peng *et al.*, 1993: 25–26, f. 30–32 (♀ only, ♂ belongs to *Harmochirus pullus*).
Bianor aurocinctus: Żabka, 1997: 41–42, f. 60–69 (♂♀).
Bianor aurocinctus: Logunov *et al.*, 1997: 10.
Bianor inexploratus Logunov, 1991: 56, f. 3.1–3 (♂♀; ♂ holotype in the ZMUM, examined). **Syn.n.**
Bianor inexploratus: Logunov, 1992: 51.
Bianor inexploratus: Danilov & Logunov, 1994: 28.

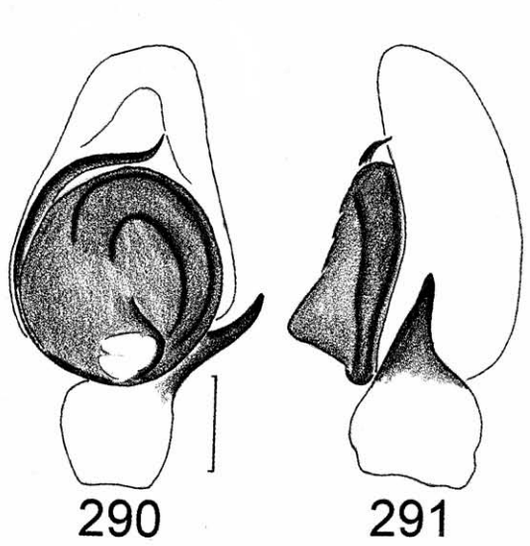
For other sources see Bonnet [1955], Roewer [1954], Prószyński [1990], Logunov & Koponen [2000: sub *Bianor a.*] and Logunov & Marusik [2000: sub *Bianor a.* and *B. inexploratus*].

Material. FRANCE: 9 ♂♂, 3 ♀♀ (MNHN, n935), "Gallia" (no date and exact locality); 2 ♂♂, 1 ♀ (IZW; 49/51), "Francja" (=France; no date and exact locality); 3 ♀♀ (MCZ), France, Paris (no date and collector); 1 ♀ (AMNH), Corsica, Tattone, 850 m a.s.l., chestnut woods, 27.05.1989, J. Murphy. — UNITED KINGDOM:

1 ♂, 1 ♀ (AMNH), "England" (no date and exact locality); 1 ♂ (AMNH), Surrey, Blackheath, 100 m a.s.l., heath, 29.05.1968, J. Murphy; 1 ♀ (AMNH), Surrey, White Downs, 200 m a.s.l., chalk downland, 23.06.1972, J. Murphy. — GERMANY: 1 ♂, 1 ♀ (HAM, Nr. 91/87), "Steinbach / Main Lkr. Ha/3 berge Weinbergsbrache, brachgefallene Fettwiese am Hangfüss", E. Büchheviss; 1 ♀ (ZSM), Bavaria, "Erlangen-Höchstadt", 28.08–20.09.1984, G. Schmidt. — SWITZERLAND: 2 ♂♂ (NHMB, 519a), "U. Basel". — POLAND: 1 ♂ (IZW), Sminouscie, 1–14.06.1965, R. Banikowska; 1♀ (IZW), near Bialystok, Krylowy Most, 30.07–10.08.1972, W. Staręga; 2 ♂♂, 1 ♀ (IZW), Myslenice, coll. W. Kulczyński. — UKRAINE: 3 ♂♂, 4 ♀♀ (ISEA), Voroshilovgrad Area, Sverdlovsk Distr., near Provalie (ca. 48°09′N, 39°51′E), 26.05.1986, N. Yu. Polchaniniova; 1 ♀ (MMUM), Kirovograd Area, near Alexeevka, 16.06.1996, K. V. Evtushenko; 1 ♂ (MMUM), Dnepropetrovsk Area, Pyatikhatki Distr., near Zholtoe, 25.05.1996, K. V. Evtushenko; 1 ♀ (ZMUM), Crimea, Simferopol' Distr., near Kranolesie, 11.07.1981, V. A. Bragina. — GREECE: 1 ♂ (SMNK), Pangeon Mts., 1710–1770 m a.s.l., 18.05–12.06.1993, P. Wolf. — RUSSIA: 1 ♂ (ZMUM), North Osetiya, Kabardino-Sunzhenskii Mt. Range, 3.5 km NW of Kardzhin, ca. 500 m a.s.l., 13.06–5.07.1985, S. K. Alekseev; 1 ♂ (PSUN), Chelyabinsk Area, Troitskii Reserve, near Kukai Lake, reed stand, 14.06.1993, P. Durmanov; 2 ♂♂ (PSUN), Orenburg Area, Kuvandyk Distr., near Aituar, moist meadows (sweeping), 23.05.1997, S. L. Esyunin; 1 ♀ (PSUN), same locality, shrubby steppe (sweeping), 31.05.1996, N. Mazura; 1 ♂, 1 ♀ (MMUM), Chita Area, Dahurian Reserve, SW environs of Barun-Torei Lake, 23.06.1985, O. Kosterin & O. Berezina; 1 ♀ (ZMUM), same locality, between Zun- and Barun-Torei Lakes, steppe, 24–25.06.1995, O. Kosterin & V. Smirnova; 1 ♂ (ISEA), same area, near Nizhnii Tsasuchei Vil., pine forest, 17.06.1995, I. I. Lybechanskii; 1♀ (ISEA), Altai Terr. (W. part), Ivanovskii Mt. Range, ca. 10 km SW of Leninogorsk, 600–1400 m a.s.l., 30.05.1996, R. Yu. Dudko; 2 ♂♂ (ISEA), Buryatia, ca. 40 km NE of Ulan-Ude, Bryanka River, meadow, 9.06.1990, S. N. Danilov.

DIAGNOSIS. *S. aurocinctus* is most closely related to *S. nigriculus* and *S. turkestanicus* sp.n. and can be reliably separated from males only, *viz.* in the shape of the tegulum (cf. Figs 270, 272 and 274) and the position of the tegular knob (cf. Figs 271, 273 and 275). Females of these species are difficult to distinguish (especially between *S. aurocinctus* and *S. nigriculus*). Females of *S. turkestanicus* sp.n. differ from both others in having relatively larger receptacles and longer insemination ducts (cf. Figs 286–289 and 276–285). The spermathecae of *S. aurocinctus* and *S. nigriculus* are slightly different in the arrangement of receptacles (cf. Figs 276 and 281), but for a reliable separation males are required. Besides, *S. aurocinctus* differs from *S. larae* sp.n. by the absence of a red contrasting patella I in both sexes, as well as by the proportions of the tegulum (cf. Figs 271 and 307) and the smaller and thinner first loop of the insemination duct (cf. Figs 276 and 311). See also comment under "Diagnosis" of *S. tantulus*.

DESCRIPTION (specimens from Ukraine, Provalie). Male. Measurements. Carapace 1.50 long, 1.10 wide, 0.70 high at PLE. Ocular area 0.93 long, 0.95 wide anteriorly and 1.15 wide posteriorly. Diameter of AME 0.31. Abdomen 1.58 long, 1.10 wide. Cheliceral length 0.50. Clypeal height 0.05. Length of leg segments: leg I — 0.96 + 0.63 + 0.80 + 0.58 + 0.40; leg II — 0.63 + 0.38 + 0.36 + 0.39 + 0.28; leg III — 0.74 + 0.40 + 0.36 + 0.45 + 0.29; leg IV — 0.76 + 0.38 + 0.48 + 0.53 + 0.35. Leg spination. Leg I: Fm d 1ap; Tb v 1-2; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1, v 1-0; Mt . Leg III: Fm d 2ap; Tb rt 0-1-0, v 1ap; Mt pr and rt 2pa., v 1-1ap. Leg IV: Fm d 1ap; Mt 3ap. Coloration. Carapace russet, shagreened (=punctured-reticulate), sparsely covered with white appressed scales. Black around eyes. Clypeus russet, hairless. Sternum, maxillae, labium and chelicerae yellow-brown. Abdomen gray-brown, without colour markings, but with two scuta (large dorsal and small ventral). Book-lung covers yellow-gray. Spinnerets gray-brown. Leg I: russet, but tibia red; femur and tibia swollen and bearing dorsal and ventral rows of scale-like black bristles. Remaining legs yellow-brown, but femora darker (brown). Palp brown, its structure as in Figs 270–271.



Figs 290–291. Male copulatory organs of *Sibianor japonicus* (♂ holotype in Japan, Okayama Pref.): 290 — palp of ♂, ventral view; 291 — ditto, retrolateral view. Scale: 0.1 mm.

Рис. 290–291. Копулятивные органы самца *Sibianor japonicus* (♂ голотип из Японии, префектура Окаяма): 290 — пальпа самца, вентрально; 291 — тоже, ретролатерально. Масштаб: 0,1 мм.

Female. Measurements. Carapace 1.60 long, 1.26 wide, 0.70 high at PLE. Ocular area 0.95 long, 1.03 wide anteriorly and 1.25 wide posteriorly. Diameter of AME 0.33. Abdomen 2.25 long, 1.53 wide. Cheliceral length 0.55. Clypeal height 0.08. Length of leg segments: leg I — 0.81 + 0.45 + 0.53 + 0.45 + 0.38; leg II — 0.66 + 0.40 + 0.36 + 0.38 + 0.30; leg III — 0.85 + 0.38 + 0.49 + 0.54 + 0.38; leg IV — 0.83 + 0.40 + 0.38 + 0.44 + 0.31. Leg spination. Leg I: Tb v 1-2; Mt v 2-2ap. Leg II: Fm d 1ap; Tbpr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1ap; Tb pr and rt 0-1, v 1ap; Mt pr and rt 2ap, v 1ap. Leg IV: Mt 3ap. Coloration as described for male. Spermathecae as in Figs 276–280.

DISTRIBUTION. This is a Euro-Siberian subboreal species distributed in France and England, through C. Europe and the S. Urals, east to Transbaikalia [present data]. In China (Hunan, *etc.*), the records of *Bianor inexploratus* [Peng *et al.*, 1993; Song *et al.*, 1999] do not belong to *S. aurocinctus* and need a revision in comparison with the pertinent material. In Transbaikalia, one of the records of *Bianor aurocinctus* [Izmailova, 1989: fig. 149] actually refers to *Dendryphantes fusconotatus* [*vide* Danilov, 1997].

HABITAT. Steppe meadows (in N. Osetiya), pine forests (in Transbaikalia), moist meadows, reed stands and shrubby steppes (in the Urals) [present data].

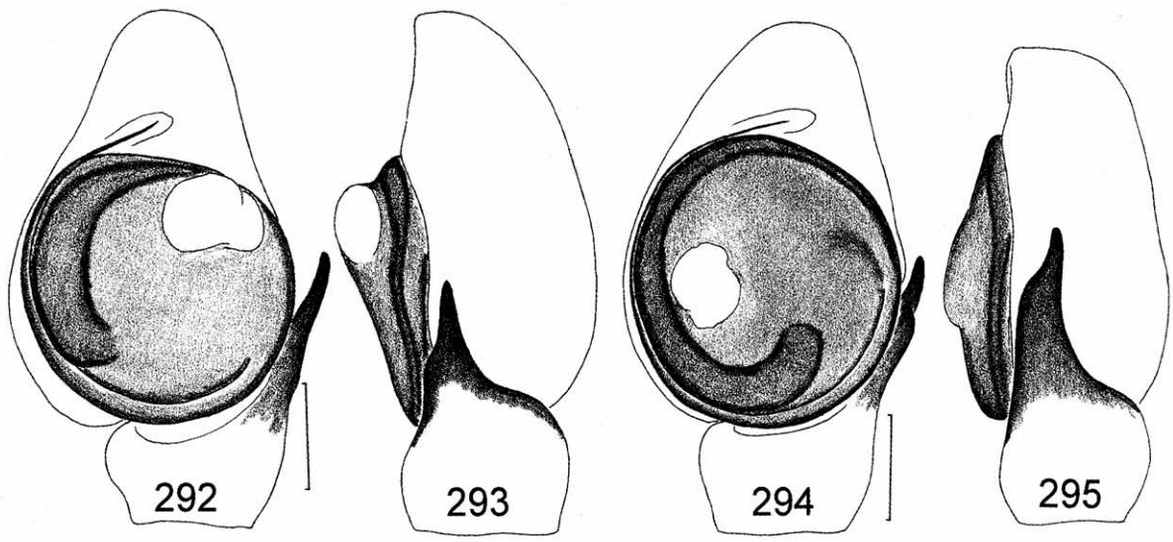
Sibianor japonicus (Logunov, Ikeda & Ono 1997) **comb.n.**

Figs 290–291.

Bianor japonicus Logunov *et al.*, 1997: 11–12, f. 18–20 (♂ holotype in the NSMT, examined).

Bianor japonicus: Logunov & Marusik, 2000: 45.

Material. RUSSIA: 1 ♂ (MMUM), Maritime Prov., Kedrovaya Pad' Reserve, Gakkelevskii Spring, 22.05.1976, B. P. Zakharov.



Figs 292–295. Male copulatory organs of *Sibianor victoriae* sp.n. (292–293; ♂ holotype in Kenya, Naivasha) and *S. kenyaensis* sp.n. (294–295; ♂ holotype in Kenya, Kilifi): 292, 294 — palp of ♂, ventral view; 293, 295 — ditto, retrolateral view. Scale: 0.1 mm.

Рис. 292–295. Копулятивные органы самцов *Sibianor victoriae* sp.n. (292–293; ♂ голотип из Кении, Наиваша) и *S. kenyaensis* sp.n. (294–295; ♂ голотип из Кении, Килифи): 292, 294 — пальпа самца, вентрально; 293, 295 — тоже, ретролатерально. Масштаб: 0,1 мм.

DIAGNOSIS. By the structure of embolus and tegulum, this species is closest to *S. kochiensis* and *S. pullus*, but can easily be distinguished by the straight tibial apophysis (cf. Figs 290 and 296, 322).

DISTRIBUTION. This is a Manchurian-Japanese subboreal species distributed in Japan (Okayama Pref.) [Logunov *et al.*, 1997: sub *Bianor j.*] and Russia (Maritime Prov.) [Logunov & Marusik, 2000: sub *Bianor j.*; present data].

DESCRIPTION. See Logunov *et al.* [1997: sub *Bianor j.*].

Sibianor kenyaensis **sp.n.**

Figs 294–295.

Material. Holotype: 1 ♂ (AMNH), Kenya, Coast, Kilifi, shore shrubes, 0 m a.s.l., 6.09.1977, J. Murphy.

DIAGNOSIS. By its small size, this species is closest to *S. victoriae* sp.n., but differs in having a longer, curved tibial apophysis (cf. Figs 295 and 293) and the tegular knob in a different position (cf. Figs 294 and 292). This species is only tentatively assigned to *Sibianor* gen.n., as females are required to specify its actual taxonomic position (at least, its relationships with *Microbianor* [*vide* Logunov, 2000] need to be considered, when females are found).

DESCRIPTION. Male. Measurements. Carapace 1.09 long, 1.03 wide, 0.63 high at PLE. Ocular area 0.83 long, 0.83 wide anteriorly and 1.08 wide posteriorly. Diameter of AME 0.25. Abdomen 1.33 long, 1.03 wide. Cheliceral length 0.30. Clypeal height 0.05. Length of leg segments: leg I — 0.80 + 0.45 + 0.58 + 0.35 + 0.25; leg II — 0.55 + 0.33 + 0.30 + 0.28 + 0.25; leg III — 0.65 + 0.35 + 0.28 + 0.34 + 0.28; leg IV — 0.69 + 0.28 + 0.38 + 0.40 + 0.33. Leg spination. Leg I: Fm d 0-1-2; Mt v 2-2ap. Leg II: Fm d 1ap. or 2ap; Tb v 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb v 1ap; Mt 3ap. Leg IV: Fm d 2ap; Tb v 1ap; Mt 3ap. Coloration. Carapace shagreened (=punctured-reticulate), brown, with black around eyes. Clypeus and "cheeks" densely covered with white hairs. Sternum, maxillae, labium and chelicerae brown. Abdomen completely brown, but each side with a pair of white patches of scales; dorsum completely covered by scutum. Book-lung covers and spinnerets brown. Legs I brown, but metatarsi and tarsi yellow; femora, patellae and tibiae with dorsal and ventral rows of scale-like black bristles. Legs II–IV completely yellow. Palps yellowish brown. Palpal structure as in Figs 294–295.

Female unknown.

DISTRIBUTION. Known from the type locality only.

ETYMOLOGY. The species is named after the terra typica, Kenya.

Sibianor kochiensis (Bohdanowicz & Prószyński, 1987) **comb.n.**

Figs 296–305.

Harmochirus kochiensis Bohdanowicz & Prószyński, 1987: 60–61, f. 45–48 (♀ holotype in the IZW, examined).

Harmochirus kochiensis: Ikeda, 1993: 136–139, f. 1–4, 5–7, 11–12 (♂♀).

Harmochirus kochiensis: Logunov *et al.*, 1997: 7.

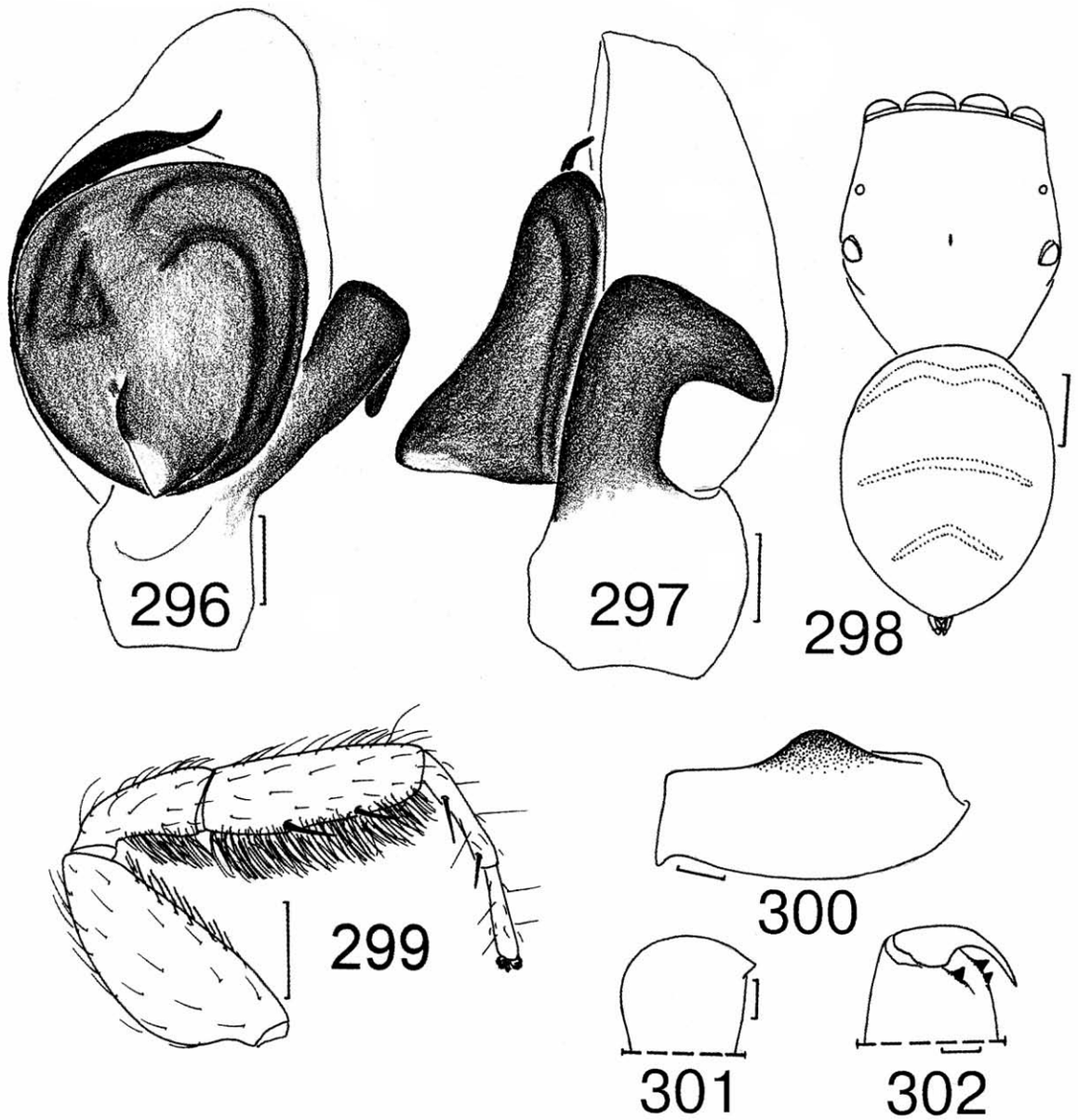
For other sources see Prószyński [1990: sub *Harmochirus k.*] and [Ikeda, 1993: sub *Harmochirus k.*].

Material. JAPAN: 1 ♀ (IZW, the holotype of *H. kochiensis*), Kajikamori, Kochi City, 23.05.1965, K. Nakahira; 1 ♂ (NSMT, 3297), Kanagawa Pref., Hakone, 31.08.1983, K. Kumada; 1 ♂ (NSMT, 3082), Fukuoka Pref., Hikosan, 4–9.07.1958, C. Okuma; 1 ♀ (NSMT, 3084), same locality, 13–16.03.1960, C. Okuma.

DIAGNOSIS. This species is most closely related to *S. pullus*, but differs in having a stronger, hook-shaped tibial apophysis (cf. Figs 297 and 323) and a different shape of central blind-ending pocket of the epigyne (cf. Figs 303 and 324). See also comments under "Diagnosis" of *S. japonicus*.

DISTRIBUTION. Japan [Ikeda, 1993: sub *Harmochirus k.*].

DESCRIPTION. See Ikeda [1993: sub *Harmochirus k.*].



Figs 296–302. Male copulatory organs and somatic characters of *Sibianor kochiensis* (♂ from Japan, Kanagawa Pref.): 296 — palp of ♂, ventral view; 297 — ditto, retrolateral view; 298 — ♂, general appearance; 299 — leg I of ♂, lateral view; 300 — ♂, palpal femur, lateral view; 301 — maxilla of ♂, ventral view; 302 — chelicera of ♂. Scale: 0.1 mm (296–297, 300–302) and 0.5 mm (298, 299).

Рис. 296–302. Копулятивные органы и соматические признаки самца *Sibianor kochiensis* (♂ из Японии, префектура Канагава): 296 — пальпа самца, вентрально; 297 — тоже, ретролатерально; 298 — общий вид самца; 299 — нога I самца, латерально; 300 — бедро пальпы, латерально; 301 — максилла, вентрально; 302 — хелицера самца. Масштаб: 0,1 мм (296–297, 300–302) и 0,5 мм (298, 299).

Sibianor larae **sp.n.**

Figs 1, 175–176, 192–193, 257–260, 262–263, 306–314.

Bianor aurocinctus (misidentified): Palmgren, 1943: 36–37, f. 36 (♂♀).

Bianor aurocinctus (misidentified): Tullgren, 1944: 33–34, f. 42–44 (♂♀).

Bianor aurocinctus (misidentified): Vilbaste, 1969: 154–156, f. 128–129 (♂♀).

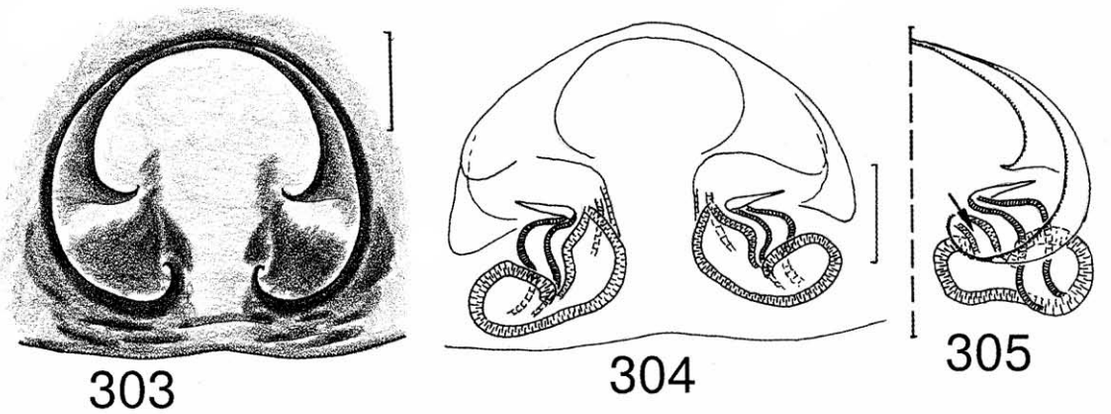
Bianor aurocinctus (misidentified): Logunov & Marusik, 1991: 39, f. 1–3 (♂♀).

Bianor aurocinctus (misidentified): Logunov, 1991: 565, f. 3.4 (♀).

Bianor aurocinctus (misidentified): Logunov & Wesołowska, 1992: f. 4C–D, 5C (♂♀).

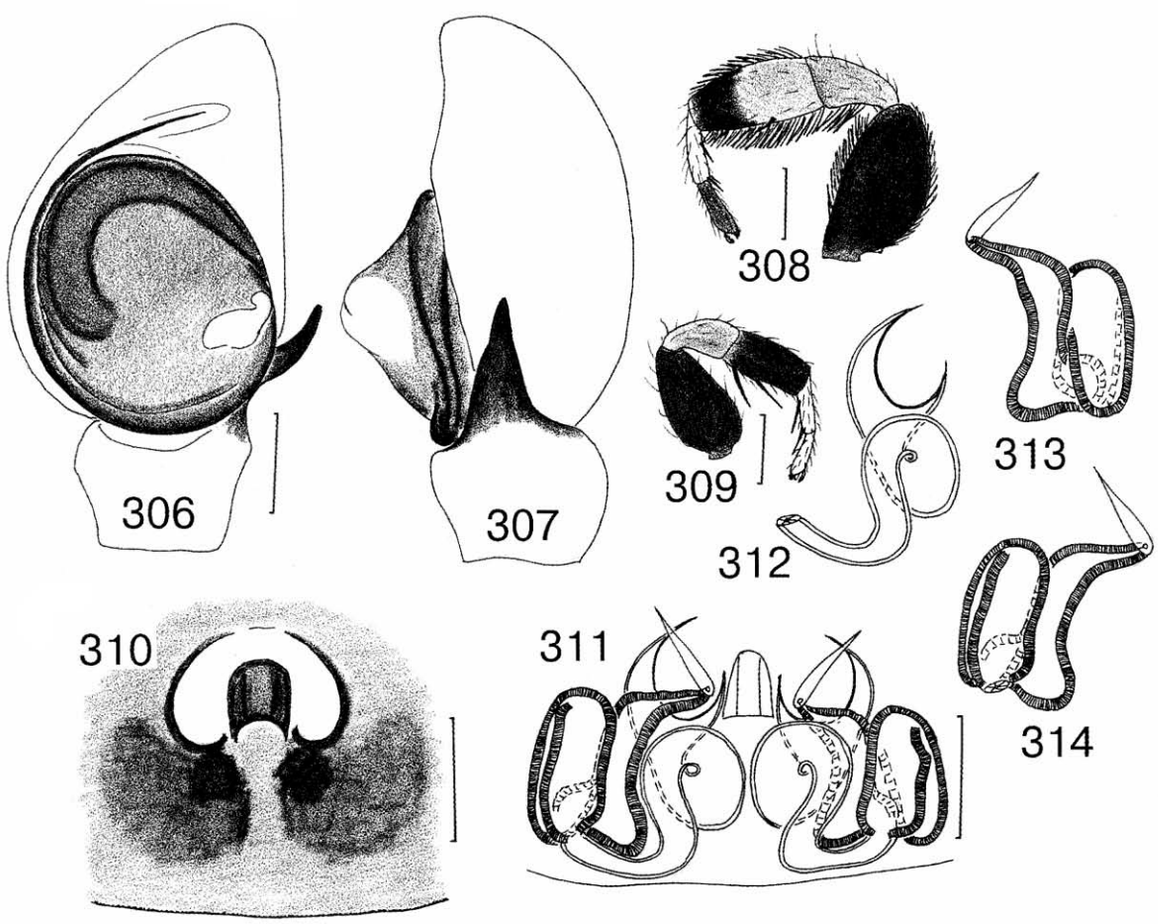
Bianor aurocinctus (misidentified): Danilov & Logunov, 1994: 26.

For other sources see Logunov & Marusik [2000: sub *Bianor aurocinctus*].



Figs 303–305. Female copulatory organs of *Sibianor kochiensis* (♀ from Japan, Hikosan): 303 — epigyne, ventral view; 304–305 — spermathecae, dorsal and ventral views. Scale: 0.1 mm.

Рис. 303–305. Копулятивные органы самки *Sibianor kochiensis* (♀ из Японии, Хикосан): 303 — эпигина, вентрально; 304–305 — сперматека, дорзально и вентрально. Масштаб: 0,1 мм.



Figs 306–314. Copulatory organs and somatic characters of *Sibianor larae* sp.n.: 306–307 — palp of ♂, ventral and retrolateral views; 308 — leg I of ♂, lateral view; 309 — leg I of ♀, lateral view; 310 — epigyne, ventral view; 311 — spermathecae, dorsal view; 312 — insemination duct, dorsal view; 313–314 — receptacles, ventral and dorsal views. Specimens: 306–307 — ♂ holotype of *S. larae* sp.n. from Sakhalin; 308–309 — ♂ and ♀ paratypes from the S. Urals, Bashkirian Reserve; 310 — ♀ paratype from Sakhalin; 311–314 — ♀ paratype from Tyumen Area (S. Yamal). Scale: 0.1 mm (306–307, 310–314) and 0.5 mm (308–309).

Material. Holotype: 1 ♂ (ISEA), Russia, Sakhalin, Aniva Distr., Chekhov's Peak (Mt.), 1000 m a.s.l., 3.07.1986, A. M. Basarukin.

Paratypes. RUSSIA: 1 ♀ (ISEA), Sakhalin, Aniva Distr., near Novo-Alexandrovskoe, 9.07.1989, A. M. Basarukin; 1 ♂, 2 ♀♀ (PSUN), Chelyabinsk Area, Ilmenskii Reserve, forb meadow, 2.06.1986, A. B. Polyanin; 1 ♂, 4 ♀♀ (PSUN), Bashkortostan, Bashkirian Reserve, valley meadow, summer 1988, V. E. Efimik; 1 ♂, 1 ♀ (PSUN), Perm Area, Gornozavodskoi Distr., Baseghi Mt. Range, "Baseghi" Reserve, 1–14.07.1984, S. L. Esyunin; 1 ♂, 4 ♀♀ (PSUN), Tyumen Area, S. Yamal, near Khadyta-Yakha, valley grass meadow, 10.07.1981, S. L. Esyunin. — SWEDEN: 1 ♀ (SMNH), Dalarna, Hamra National Park, 1.07.1963, T. Kronestedt; 1 ♀ (SMNH), Lappland, Jokkmokk, 16.08.1935, N. Bruce; 1 ♀ (SMNH), Medelpad, Fränsta, 17.07.1936, B. Lekander; 2 ♂♂ (SMNH), same province, Vattjom, 1910, G. Adlerz; 1 ♂ (SMNH), Skene, Ehus, 19.07.1974, K. J. Hedqvist; 2 ♂♂ (SMNH), Smeland, Bolmsö, 1949, C.-G. Runquist; 1 ♂ (SMNH), same province, Emmaboda, 3.07.1903, A. Tullgren; 1 ♀ (SMNH), Uppland, Arholma 28–29.06.1950, H. & A. Tullgren; 1 ♀ (SMNH), same province, Täby, near Lake Mörtsjön, 14.05.1984, T. Kronestedt; 1 ♂ (SMNH), same locality, 1.06.1977, T. Kronestedt; 2 ♀♀ (SMNH), Västergötland, Billingen, 23.05.1925, leg. (?); 1 ♀ (SMNH), same province, Kloten, 31.07.1941, K. H. Forsslund — FINLAND: 1 ♂ (ZMTU), Turku, Pomponranha bog (60°30'N, 22°17'E), 24.05–16.08.1999, K. Karhu; 1 ♀ (ZMHU), Mirbelin mlr, Syysjörven, Spää, 2.08.1970, U. Huhta; 1 ♂ (ZMHU), Pudasjärui, Kokkokylä, Aapa, Räme, 6.08.1970, U. Huhta. — UNCERTAIN LOCALITIES: 1 ♂, 1 ♀ (MCZ), no exact locality (from Menge's collection).

Other material. RUSSIA: 1 ♀ juv. (ISEA), Sakhalin, Okha Distr., Saba station, Pil'tun Bay, 4–8.10.1990, A. M. Basarukin.

DIAGNOSIS. *S. larae* sp.n. is most similar to *S. aurocinctus*, but can easily be separated by the red contrasting patella I in both sexes (Figs 308–309), as well as the proportions of the tegulum (cf. Figs 307 and 271) and the bigger and thicker first loop of the insemination duct (cf. Figs 311 and 276).

DESCRIPTION (paratypes). Male. Measurements. Carapace 1.54–1.79 long, 1.16–1.44 wide, 0.50–0.65 high at PLE. Ocular area 0.92–1.10 long, 0.88–1.02 wide anteriorly and 1.14–1.34 wide posteriorly. Diameter of AME 0.28–0.32. Abdomen 1.66–1.90 long, 1.42 wide. Cheliceral length 0.48–0.54. Clypeal height 0.07–0.10. Length of leg segments: leg I — 0.84–1.33 + 0.50–0.75 + 0.70–0.98 + 0.45–0.68 + 0.35–0.40; leg II — 0.63–0.83 + 0.38–0.47 + 0.35–0.47 + 0.35–0.45 + 0.30–0.35; leg III — 0.70–0.87 + 0.33–0.43 + 0.38–0.45 + 0.38–0.50 + 0.30–0.38; leg IV — 0.80–0.90 + 0.33–0.43 + 0.45–0.55 + 0.47–0.60 + 0.33–0.38. Leg spination. Leg I: Fm d 1ap or 0-1-0; Tb v 0-1-2; Mt v 2-2ap. Leg II: Fm d 0-0-1-2; Tb pr 0-1, v 1-0 or 1-1; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1-0, v 1ap; Mt 4ap. Leg IV: Fm d 2ap; Tb rt 0-1 or 0-1-1, v 1ap; Mt 4ap. Coloration. Carapace red to orange, with dark brown eye field, Black around eyes and white marginal band of scales. Sternum brownish, tinged with yellow. Maxillae and labium yellow-brown, but labium sometimes dark brown. Chelicerae brown. Abdomen gray, with dorsal scutum covering almost the entire surface of dorsum. Book-lung covers grayish. Spinnerets gray. Leg I (Figs 1, 308): femur swollen, dark brown; patella reddish; tibia swollen, red, but its distal end dark brown; metatarsus yellow; tarsus brownish. Femur, patella and tibia of the first leg with rows of scale-like black bristles. Leg II: femur brownish, patella and tibia orange, metatarsus and tarsus yellow. Legs III–IV: yellow to orange, sometimes femora darker (brownish). Palpal structure as in Figs 306–307.

Female. Measurements. Carapace 1.50–1.64 long, 1.11–1.33 wide, 0.52–0.57 high at PLE. Ocular area 0.88–1.00 long, 0.91–1.00 wide anteriorly and 1.17–1.33 wide posteriorly. Diameter of AME 0.30–0.32. Abdomen 1.80–2.47 long, 1.31–1.74 wide. Cheliceral length 0.37–0.50. Clypeal height 0.07–0.10. Length of leg segments: leg I — 0.68–0.93 + 0.33–0.53 + 0.43–0.60 + 0.33–0.45 + 0.30–0.40; leg II — 0.65–0.75 + 0.33–0.45 + 0.35–0.43 + 0.30–0.38 + 0.28–0.35; leg III — 0.65–0.86 + 0.38–0.47 + 0.38–0.47 + 0.40–0.43 + 0.25–0.35; leg IV — 0.70–0.93 + 0.35–0.47 + 0.47–0.55 + 0.45–0.55 + 0.30–0.38. Leg spination. Leg I: Tb v 1-1 or -2; Mt v 2-2ap. Leg II: Fm d 2ap; Tb v 1-0; Mt v 2-2ap. Leg III: Fm d 2ap; Tb pr 0-1, rt 1-1, v 0-1; Mt v 1-4ap. Leg IV: Fm d 1ap; Mt 4ap. Coloration as in male, but different as follows: dorsal scutum absent and legs II–IV completely yellow (but femora sometimes with gray patches). Leg I as in Fig. 309. Epigyne and spermathecae as in Figs 192–193, 310–314.

DISTRIBUTION. This is a Euro-Siberian temperate species distributed in Fennoscandia [Palmgren, 1943; Tullgren, 1944; both sub *Bianor aurocinctus*; present data] and Estonia [Vilbaste, 1969: sub *Bianor aurocinctus*], through the middle Urals and Siberia, eastward to Sakhalin [Logunov & Marusik, 1991: sub *Bianor aurocinctus*; present data].

ETYMOLOGY. The species is dedicated to my wife and best friend, Mrs Larisa B. Logunova.

Sibianor latens (Logunov, 1991) **comb.n.**
Figs 315–321.

Bianor latens Logunov, 1991: 54, f. 3.5–6 (♀ holotype in the ZMUM, examined).

Bianor latens: Logunov, 1992: 51

Harmochirus latens: Logunov & Wesołowska, 1992: 116–117, f. 2–3 (♂♀, T from *Bianor*).

Harmochirus latens: Danilov & Logunov, 1994: 30 (♂♀).

Harmochirus latens: Logunov & Koponen, 2000: 75 (♂♀).

For other sources see Logunov & Koponen [2000: sub *Bianor l.*] and Logunov & Marusik [2000: sub *Bianor l.*].

Material. RUSSIA: 1 ♀ (MMUM), Chita Area, Onon Distr., 18–20 km WSW of Nizhnii Tsasuchei Vil., Butyvken Lake, pine forest, 3–4.06.1995, V. V. Dubatolov.

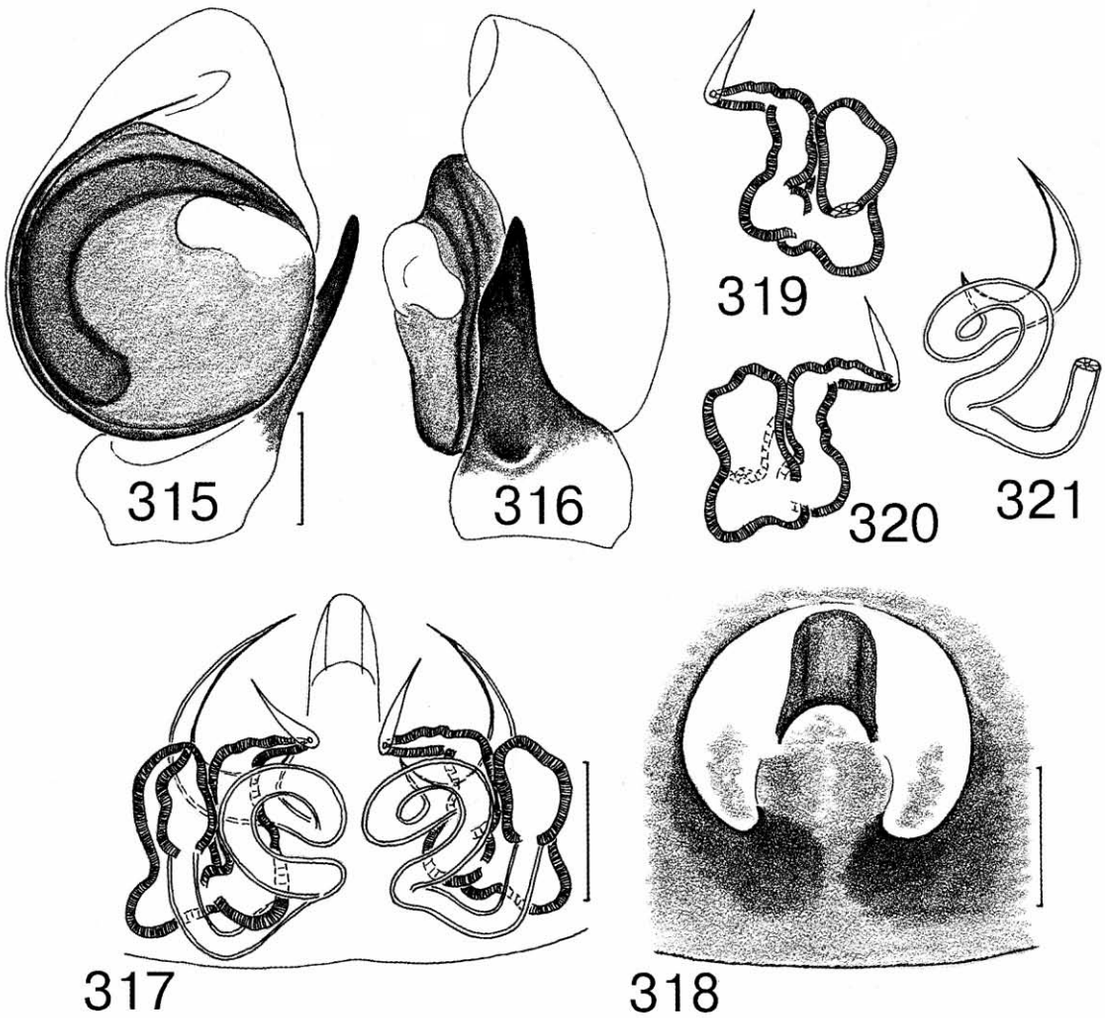
For other material studied see Logunov [1991: sub *Bianor l.*], Danilov & Logunov [1994: sub *Harmochirus l.*] and Logunov & Koponen [2000: sub *Harmochirus l.*].

DIAGNOSIS. This species is most similar to *S. pullus*, but differs in having a straight tibial apophysis (cf. Figs 316 and 323), different shape and proportions of the tegulum (cf. Figs 315 and 322), longer insemination ducts (cf. Figs 321 and 325), and bigger receptacles (cf. 319–320 and 325).

DESCRIPTION. See Logunov [1991: sub *Bianor l.*] and Danilov & Logunov [1994: sub *Harmochirus l.*].

DISTRIBUTION. This species has a S. Siberio-Manchurian(?) subboreal range; from Tuva, through the mountains of S. Siberia, east to Maritime Province [Logunov & Marusik, 2000: sub *Harmochirus l.*]. Its occurrence in N. Korea and NE China is quite possible.

Рис. 306–314. Копулятивные органы и соматические признаки *Sibianor larae* sp.n.: 306–307 — пальпа самца, вентрально и ретролатерально; 308 — нога I самца, латерально; 309 — нога I самки, латерально; 310 — эпигина, вентрально; 311 — сперматека, дорзально; 312 — оплодотворительный канал, дорзально; 313–314 — рецептакулы, дорзально и вентрально. Экземпляры: 306–307 — ♂, голотип *S. larae* sp.n. с Сахалина; 308–309 — ♂ и ♀, паратипы с Южного Урала, Башкирский заповедник; 310 — ♀, паратип с Сахалина; 311–314 — ♀, паратип из Тюменской области (Ю. Ямал). Масштаб: 0,1 мм (306–307, 310–314) и 0,5 мм (308–309).



Figs 315–321. Copulatory organs of *Sibianor latens*: 315–316 — palp of ♂, ventral and retrolateral views; 317 — spermathecae, dorsal view; 318 — epigyne, ventral view; 319–320 — receptacles, dorsal and ventral views; 321 — insemination duct, dorsal view. Specimens: 315–316 — ♂ from the Bolshoi Khekhtsyr Mt. Range (Khabarovsk Province); 317, 319–321 — ♀ from Buryatia; 318 — ♀ from Amur Area. Scale: 0.1 mm.

Рис. 315–321. Копулятивные органы *Sibianor latens*: 315–316 — пальпа самца, вентрально и ретролатерально; 317 — сперматека, дорзально; 318 — эпигина, вентрально; 319–320 — рецептакулы, вентрально и дорзально; 321 — оплодотворительный канал, дорзально. Экземпляры: 315–316 — ♂ с хр. Большой Хехцир (Хабаровский край); 317, 319–321 — ♀ из Бурятии; 318 — ♀ из Амурской области. Масштаб: 0,1 мм.

Sibianor nigriculus (Logunov & Wesołowska) **comb.n.**

Figs 272–273, 281–285.

Harmochirus nigriculus Logunov & Wesołowska, 1992: 118–119, f. 4A–B, 5A–B (♂♀, ♂ holotype in the ZMUM, examined).

Bianor aurocinctus (misidentified): Prószyński, 1979: 303–304, f. 15–16 (♀).

Bianor aurocinctus (misidentified): Paik, 1995: 45 (♀).

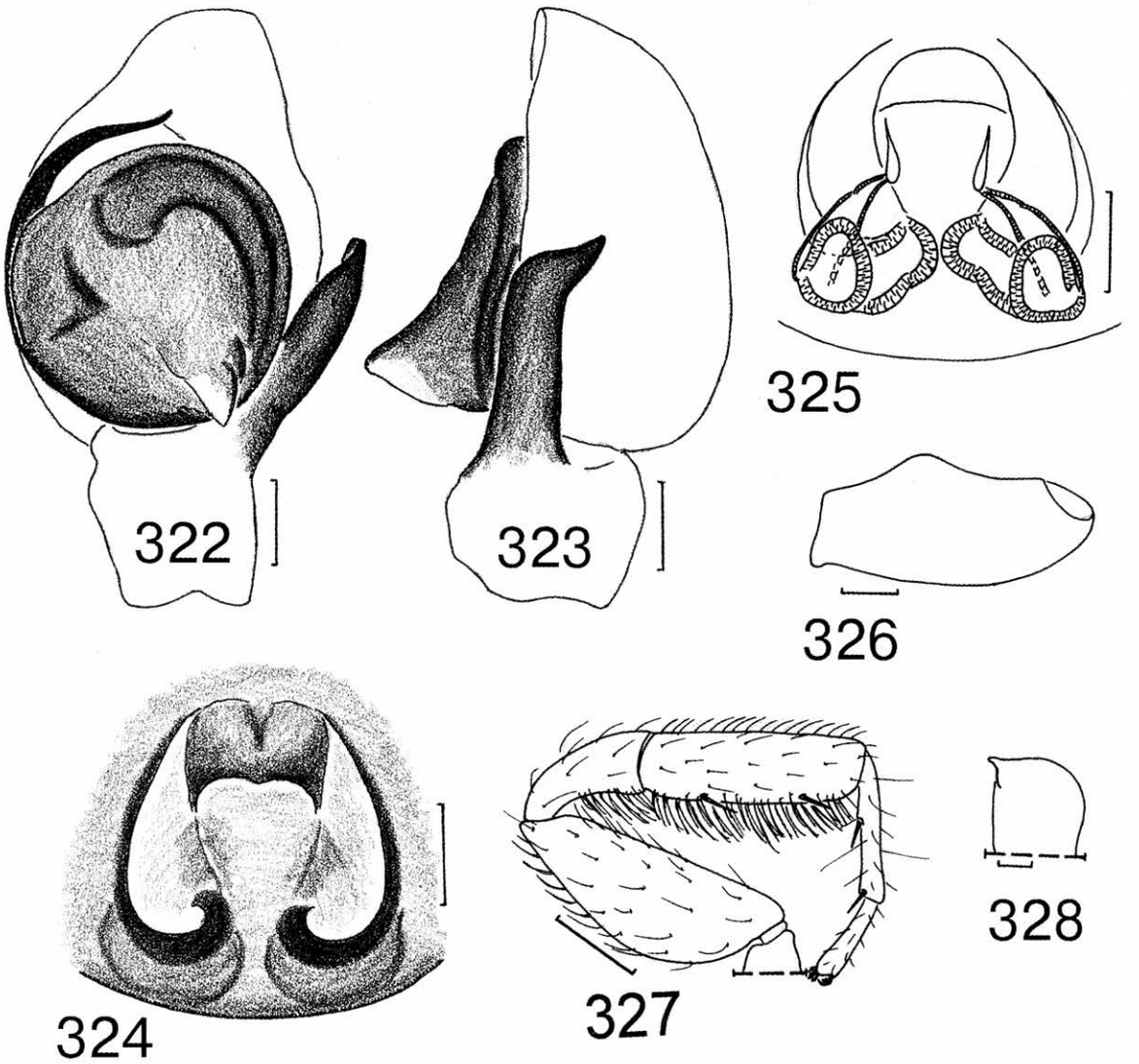
Harmochirus nigriculus: Logunov *et al.*, 1997: 7–10, f. 11–17 (♂♀).

For a complete set of sources see Logunov & Koponen [2000: sub *Harmochirus n.*] and Logunov & Marusik [2000: sub *Harmochirus n.*].

Material. RUSSIA: 1 ♂ (ISEA), Maritime Prov., near Ussuriisk, 3.07.1974, D. Verzhutskii.

For other material examined see Logunov & Wesołowska [1992: sub *Harmochirus n.*] and Logunov *et al.* [1997; sub *Harmochirus n.*].

DIAGNOSIS. *S. nigriculus* is most closely related to *S. aurocinctus* and *S. turkestanicus* sp.n. and can be reliably separated from males only, *viz.* by the shape of the tegulum (cf. Figs 270, 272 and 274) and the position of the tegular knob (cf. Figs 271, 273 and 275). Females of these species are poorly distinguishable (especially between *S. nigriculus* and *S. aurocinctus*). Females of *S. turkestanicus* sp.n. differ from both in having relatively larger receptacles and longer insemination ducts (cf. Figs 286–289 and 276–285). The spermathecae of *S. aurocinctus* and *S. nigriculus* are slightly different in arrangement of the receptacles (cf. Figs 276 and 281), but for a reliable separation males are required. See also comment under "Diagnosis" of *S. tantulus*.



Figs 322–328. Copulatory organs and somatic characters of *Sibianor pullus* (♂ from Japan, Hikosan; ♀ from Japan, Shimokasnya): 322–323 — palp of ♂, ventral and retrolateral views; 324 — epigyne, ventral view; 325 — spermathecae, dorsal view; 326 — ♂, palpal femur; 327 — leg I of ♂, lateral view; 328 — maxilla of ♂. Scale: 0.1 mm (322–326, 328) and 0.5 mm (327).

Рис. 322–328. Копулятивные органы и соматические признаки *Sibianor pullus* (♂ из Японии, Хикосан; ♀ из Японии, Симокасниа): 322–323 — пальпа самца, вентрально и ретролатерально; 324 — эпигина, вентрально; 325 — сперматека, дорзально; 326 — бедро пальпы самца; 327 — нога I самца, латерально; 328 — максилла самца. Масштаб: 0,1 мм (322–326, 328) и 0,5 мм (327).

DESCRIPTION. See Logunov & Wesołowska [1992: sub *Harmochirus n.*].

DISTRIBUTION. This species has a Manchurian-Japanese subboreal range; from Amur Area, east to Japan, south to N. Korea [Logunov & Marusik, 2000: sub *Harmochirus n.*].

Sibianor pullus (Bösenberg & Strand, 1906) **comb.n.**

Figs 322–328.

Bianor pullus Bösenberg & Strand, 1906: 354, pl. 14, f. 378a–c (♀ holotype, not examined).

Bianor pullus: Yaginuma, 1977: 397.

Bianor aenescens: Yin & Wang, 1979 (misidentified): 2, f, 2 (♂).

Bianor pullus: Wesołowska, 1981: 70, f. 2A–F (♂♀).

Harmochirus pullus: Prószyński, 1984: 55–56 (♀, T from *Bianor*).

Harmochirus pullus: Yaginuma, 1986: 236, f. 131.4 (♀).

Harmochirus pullus: Paik, 1987: 9, f. 17–30 (♂♀).

Harmochirus pullus: Bohdanowicz & Prószyński, 1987: 57–59, f. 38–44 (♀ only).

Siler cupreus (misidentified): Šternbergs, 1988: 93.

Harmochirus pullus: Chikuni, 1989: 147, f. 4 (♂♀).

Bianor aenescens (misidentified): Zhong-qi, 1990: 197, f. 1–4 (♂♀).

Harmochirus pullus: Logunov & Wesołowska, 1992: 119–120, f. 6–7 (♂♀).

Harmochirus pullus: Ikeda, 1993: f. 8–10, 13–14 (♂♀).

Bianor aurocinctus (misidentified): Peng *et al.*, 1993: 25–26, f. 27–28 (♂ only).

Harmochirus pullus: Peng *et al*, 1993; 81, f. 242–253 (♂♀).
Harmochirus niger Kishida, 1910: 5 (♂ holotype, not examined).
Harmochirus niger: Logunov *et al*., 1997: 2 (S with *H. pullus*).
Harmochirus pullus: Logunov *et al*., 1997: 7.
Bianor aurocinctus (misidentified): Song *et al*., 1999: 506, f. 289F–I (♂).

For other sources see Prószyński [1990: sub *Harmochirus p.*], Logunov & Koponen [2000: sub *Harmochirus p.*] and Logunov & Marusik [2000: sub *Harmochirus p.*].

Material. JAPAN: 1 ♂ (MCZ), Shizuoka Pref., Shimoda Marine Biol. Lab., 06.1962, K. Sekiguchi & A. Ogura; 2 ♂♂, 1 ♀ (NSMT), Hikosan, Fukuoka, 27-31.05.1959, C. Okuma; 2 ♀♀ (NSMT), Shimokasuya, Isehara-shi, Kanagawa Pref., 28.06.1992, K. Kumada. — NORTH KOREA: 1 ♂ (IZW), Kangwon Prov., Kumgang Mts., Onjong-ri, near Kumgans an Hotel, 23–25.06.1990, (Polish expedition). — CHINA: 1 ♂ (CFAS), "Shzughai" (=Shanghai), 06.1906, S. C. Thompson; 1 ♂ (ZMTU), Taiwan, Nanton Co., Alishan Mt W, 9.11.1987, P. T. Lehtinen; 1 ♂ (ZMTU), same distr. and co., Wushe W Wanda River, 1700 m a.s.l., 5.11.1987, P. T. Lehtinen; 1 ♂ (MCZ), Guangdong (=E. Kwantung), Yim Na San, 14.06.1936, L. Gressitt; 1 ♀ (MCZ), Jiangxi (=SE Kiangsi), Hong San, 26.06.1936, L. Gressitt.

DIAGNOSIS. This species is most closely related to *S. kochiensis*, but differs in having a weaker, slightly bent tibial apophysis (cf. Figs 323 and 297) and the central blind-ending pocket of the epigyne of different shape (cf. Figs 324 and 303). See also comments under "Diagnosis" of *S. japonicus* and *S. latens*.

DESCRIPTION. See Ikeda [1993: sub *Harmochirus p.*].

DISTRIBUTION. This species has a Manchurian-Japanese subboreal range; from S. regions of Khabarovsk Prov., south to S. Korea, east to Japan [Logunov & Marusik, 2000: sub *Harmochirus p.*].

HABITAT. In Taiwan, *Araucaria* forests (in litter) and wet moss [present data].

Sibianor tantulus (Simon, 1868) **comb.n.**
Figs 329–337.

Attus tantulus Simon, 1868: 629 (♂♀, syntypes, not examined).
Attus decipiens: Simon, 1868: 630 (♀). Synonymized with *B. tantulus* by Simon [1937].
Ballus tantulus: Simon, 1876: 207 (T. from *Attus*).
Ballus decipiens: Simon, 1876: 208 (T. from *Attus*).
Bianor tantulus: Simon, 1901b: 485, 634, 638 (T from *Ballus*).
Bianor decipiens: Simon, 1901b: 485 (T from *Ballus*).
Bianor aenescens tantulus: Simon, 1937: 1219, 1265 (♂♀).
Bianor aemulus (misidentified): Logunov & Marusik, 1991: 41–46, f. 1, 2, 4 (♂♀).
Bianor aemulus (misidentified): Logunov, 1992: 51.
"Bianor" aemulus (misidentified): Logunov & Koponen, 2000: 71.
Bianor albobimaculatus (misidentified): Metzner, 1999: 119–120, 274, f. 83A–I (♂♀).
Bianor aurocinctus (misidentified): Fuhn & Gherasim, 1995: 169-181, f. 82-4, 83 (♂♀).

For other sources see Logunov & Koponen [2000: sub *Bianor aemulus*] and Logunov & Marusik [2000: sub *Bianor aemulus*].

Material. FRANCE: 2 ♀♀ (MNHN, n935), "Gallia"; 1 ♀ (JLPC), Pyrénées Orientales, Nohèdes, chemin du roc de Torrelles, "rec des canals, moullère, sol", 23.06.1994, J. Ledoux; 2 ♂♂ (JLPC), Pyrénées Orientales, Nohèdes, Montillá, 1240 m a.s.l., "prairie, dans et sous les touffes d'herbe", 15.09.1993, J. Ledoux; 1 ♂ (AMNH), Ariège, Vallée Auzat, 1000 m a.s.l., mostly stones, 29.05.1991, J. & F. Murphy. — YUGOSLAVIA: 1 ♂ (SMNK), oak forest near Cer, 08–09.1981, H. Metzner. — POLAND: 1 ♂ (IZW, 45/51), "Prelipsze" W. Kulczyński coll.; 1 ♂ (SMNK), Beskid Mts., Focusz Mt, 5.09.1993, H. Metzner. — GERMANY: 1 ♂ (ZSM), Bavaria, Wassenlung Gunzenhausen (?), 30.05–5.07.1985, B. & M. Baehr. — RUSSIA: 1 ♂ (ZMUM), North Osetiya, Kabardino-Sunzhenskiy Mt Ridge, between Kardzhin and El'khotovo, 450–680 m a.s.l., 2–16.04.1985, S. K. Alekseev; 1 ♂ (PSUN), Perm Area, Kishertskii Distr., Preduralie Reserve, 18.06.1973, N. M. Pakhorukov; 1 ♂ (PSUN), near Perm, pit-fall traps in reedgrass meadow, 10.05.1987, S. L. Esyunin; 1 ♀ (PSUN), same locality and habitat, 04.1986, S. L. Esyunin; 1 ♀ (MMUM), Buryatia, Barguzin Mt. Range, Olso River (50°52′N, 110°55′E), 950 m a.s.l., cliff, 6.07.1996, S. Koponen. — MONGOLIA: 6 ♀♀ (ISE), Tov Aimak, Baga-Mukhar, 48°22′N 106°18′E, 1100 m a.s.l., 18–23.06.1997, Y.M.; 1 ♀ (PSU), W. Khentei Mt. Range, Sutszunte stand, 1.04–15.07.1925, P. K. Kozlov

DIAGNOSIS. *S. tantulus* is most closely related to *S. japonicus*, from which males can easily be separated by the thinner embolus (cf. Figs 336 and 290) and different profile of the palpal tibia (cf. Figs 337 and 291). From *S. aurocinctus* and other related species (e.g. *S. nigriculus*, *S. turkestanicus* sp.n., *etc*.), *S. tantulus* differs in the position of the tegular knob in males (cf. Figs 337 and 271, 273, 275) and in the absence of the first loop of the insemination duct in females (cf. Figs 330 and 276–289). See also remarks under "Comments" of *S. aemulus*.

DESCRIPTION. See Logunov & Marusik [1992: sub *Bianor aemulus*].

COMMENTS. A series of *Attus tantulus* specimens from France, originally determined by E. Simon, has been re-examined and turned out to contain two species: 9 ♂♂ and 3 ♀♀ of true *S. aurocinctus* and 2 ♀♀ of another species belonging, to my mind, to *Attus tantulus* (Figs 329–334). All the re-examined specimens are not the syntypes of *Attus tantulus*, as the species was originally described from Spain [Simon, 1868]. The specimens of *S. aurocinctus* are clearly conspecific to those collected from Germany and Russia (for studied material see above).

Besides, I re-examiend the tube n934 containing 1 ♂ and 1 juvenile of *Attus decipines* identified by E. Simon and found it to actually belong to *B. albobimaculatus*. *Attus decipiens* was originally described from the ♀ holotype only, with its type locality being "Espagne (Escorial)" (Spain; apparently, San Lorenzo de El Escorial, near Madrid). The taxonomic status of *Attus decipiens* was evaluated by Simon [1937], who synonymized it with *S. tantulus*.

DISRIBUTION. This species has a Trans-Palaearctic temperate range; from France, through C. Europe, the middle Urals and C. Siberia, east to Magadan Area, south to Tuva and C. Mongolia [present data].

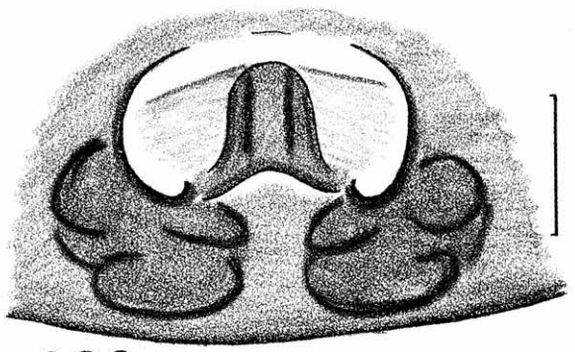
HABITAT. In N. Osetiya, steppe & young oak forests and steppe meadows [present data].

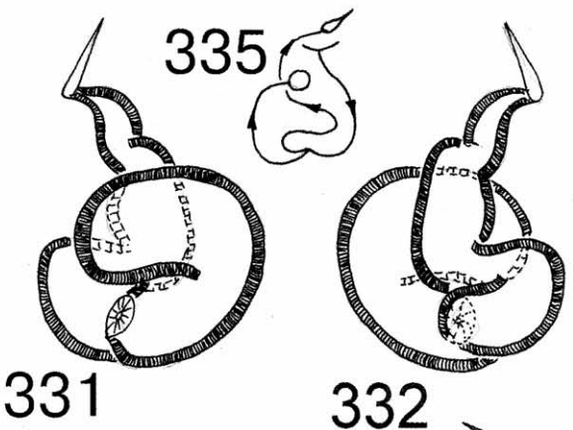
Sibianor turkestanicus **sp.n.**
Figs 274–275, 286–289.

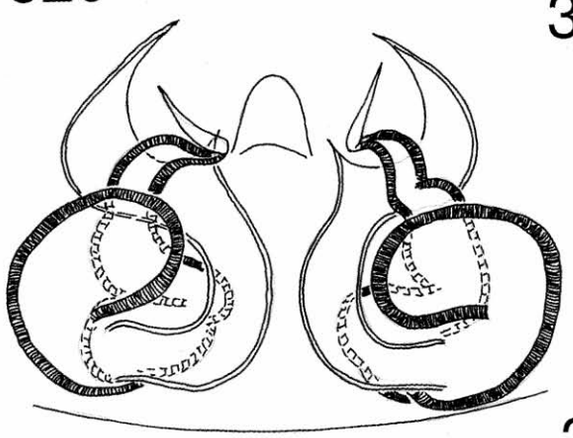
Bianor inexploratus (misidentified): Logunov, 1991 (*e.p.*; specimens from the Caucasus): 56, f. 3.1–3 (♂♀).

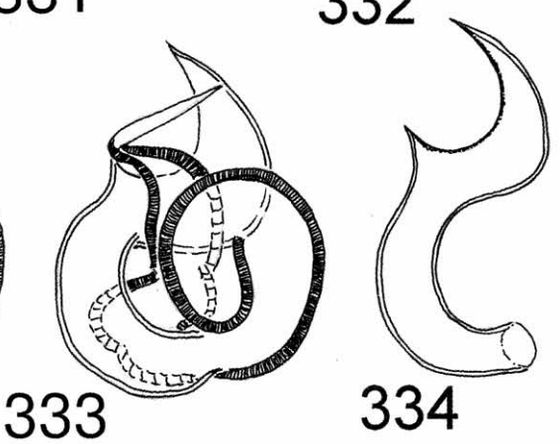
Figs 329–337. Copulatory organs of *Sibianor tantulus* (both ♂ and ♀ from France): 329 — epigyne, ventral view; 330, 333 — spermathecae, dorsal and ventral views; 331–332 — receptacles, dorsal and ventral views; 334 — insemination duct, dorsal view; 335 — diagrammatic course of spermathecae; 336–337 — palp of ♂, ventral and retrolateral views. Scale: 0.1 mm.

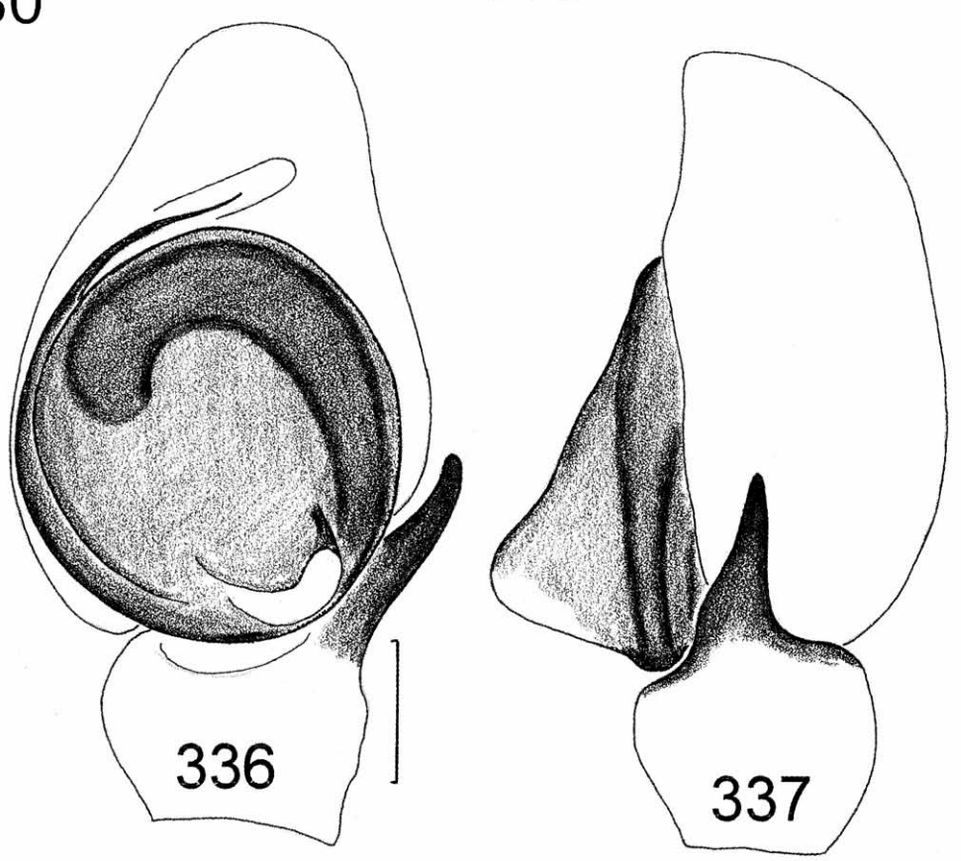
Рис. 329–337. Копулятивные органы *Sibianor tantulus* (♂ и ♀ из Франции): 329 — эпигина, вентрально; 330, 333 — сперматека, дорзально и вентрально; 331–332 — рецептакулы, дорзально и вентрально; 334 — оплодотворительный канал, дорзально; 335 — схематический ход сперматеки; 336–337 — пальпа самца, вентрально и ретролатерально. Масштаб: 0,1 мм.


329


335
331
332


330


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334


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337

Bianor aenescens (misidentified): Spassky & Shnitnikov, 1937: 295 (♂).

Bianor aurocinctus (misidentified): Zonstein, 1996: 142.

Material. Holotype: 1 ♂ (ZMUM), Kyrghyzstan, Dzhanghi-Pakhta, 10.06.1981, S. V. Ovtchinnikov.

Paratypes: KYRGHYZSTAN: 2 ♀♀ (ZMUM), together with the holotype; 1 ♂, 1 ♀ (ISEA), Issyk-Kul' Area, ca. 2 km SW of Rybachie (=Balykly), (42°27'N, 76°08'E), 24.06.1999, A. V. Gromov; 1 ♂ (ISEA), near Bishkek, Chu River valley, summer 1977, S. L. Zonshtein. — AZERBAIJAN: 1 ♂ (ZMUM), Lenkoran, near Gaftoni, 3.05.1985, P. M. Dunin; 1 ♀ (ISEA), Lenkoran Distr., Hyrcan Reserve, sweeping on glades, 06.1983, D. V. Logunov; 1 ♀ (ZMUM), Saatly Distr., near Dzhafarkhan, 27.07.1982, P. M. Dunin; 1 ♀ (ISEA), near Kuba, 15.07.1989, P. M. Dunin.

DIAGNOSIS. *S. turkestanicus* sp.n. is most closely related to *S. aurocinctus* and *S. nigriculus* and can be reliably separated by males only, *viz.* by the shape of the tegulum (cf. Figs 270, 272 and 274) and the position of the tegular knob (cf. Figs 271, 273 and 275). Females of these species are poorly distinguishable (especially between *S. aurocinctus* and *S. nigriculus*), but the females of *S. turkestanicus* differ from both in having the relatively larger receptacles and longer insemination ducts (cf. Figs 286–289 and 276–285). See also comment under "Diagnosis" of *S. tantulus*.

DESCRIPTION. Male (paratype from Kyrghyzstan, Bishkek). Measurements. Carapace 1.73 long, 1.35 wide, 0.88 high at PLE. Ocular area 1.06 long, 1.03 wide anteriorly and 1.33 wide posteriorly. Diameter of AME 0.30. Abdomen 2.15 long, 1.33 wide. Cheliceral length 0.58. Clypeal height 0.05. Length of leg segments: leg I — 1.38 + 0.85 + 1.18 + 0.80 + 0.53; leg II — 0.75 + 0.46 + 0.50 + 0.45 + 0.38; leg III — 0.93 + 0.48 + 0.46 + 0.53 + 0.38; leg IV — 0.95 + 0.46 + 0.58 + 0.63 + 0.40. Leg spination. Leg I: Fm d 1ap; Tb v 0-2-2; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1, v 1-0; Mt pr 2-2ap. Leg III: Fm d 2ap; Tb pr and rt 0-1, v 2ap; Mt pr 1 ap, rt and v 1-1ap. Leg IV: Fm d 1ap; Tb rt 0-1; Mt v 3ap. Coloration. Carapace russet, shagreened (=punctured-reticulate), sparsely covered with white scales. Black around eyes. Clypeus reddish, hairless. Sternum, maxillae and chelicerae yellowish brown. Labium dark brown. Abdomen gray-brown, without colour markings, but with both large dorsal and small ventral (near spinnerets) scuta. Book-lung covers yellow. Spinnerets gray-brown. Legs I strongest, its femora and tibiae swollen; russet (but femora and distal parts of tibiae dark brown); patella and tibiae with rows of scale-like black bristles. Remaining legs orange-yellow. Palps yellow-brown. Palpal structure as in Figs 274–275.

Female (paratype from Azerbaijan, Hyrcan Reserve). Measurements. Carapace 1.85 long, 1.43 wide, 0.83 high at PLE. Ocular area 1.05 long, 1.10 wide anteriorly and 1.43 wide posteriorly. Diameter of AME 0.38. Abdomen 2.38 long, 1.68 wide. Cheliceral length 0.55. Clypeal height 0.08. Length of leg segments: leg I — 0.95 + 0.53 + 0.65 + 0.53 + 0.40; leg II — 0.65 + 0.40 + 0.45 + 0.40 + 0.31; leg III — 0.90 + 0.50 + 0.45 + 0.51 + 0.33; leg IV — 0.98 + 0.41 + 0.58 + 0.65 + 0.50. Leg spination. Leg I: Tb v 1-2-2; Mt v 2-2ap. Leg II: Fm d 2ap; Tb pr 0-1, v 1-1; Mt v 2-2ap. Leg III: Fm d 1ap; Tb rt 0-1, v 1ap; Mt rt 1-2ap, pr and v 1ap. Leg IV: Mt 2ap. Coloration as described for male, but legs II–IV yellow-brown. Spermathecae as in Figs 286–289.

DISTRIBUTION. This is a Turanian(?) species; distributed from Azerbaijan [Logunov, 1991: sub. *Bianor inexploratus*; present data], east to Kyrghyzstan [Spassky & Shnitnikov, 1937: sub *Bianor aenescens*; Zonstein, 1996: sub *Bianor aurocinctus*; present data].

ETYMOLOGY. The species is named after the terra typica; Turkestan is the old name for a number of present-day Central Asian republics (Kyrghyzstan, Kazakhstan, *etc.*)

Sibianor victoriae **sp.n.**

Figs 292–293.

Material. Holotype: 1 ♂ (AMNH), Kenya, Rift Val., Naivasha, shrubs, 1900 m a.s.l., 3.08.1974, J. Murphy.

DIAGNOSIS. By its small size, this species is closest to *S. kenyaensis* sp.n., but differs in having a shorter, straight tibial apophysis (cf. Figs 293 and 295) and the tegular knob in a different position (cf. Figs 292 and 294). This species is only tentatively assigned to *Sibianor* gen.n., as females are required to specify its actual taxonomic position (at least, its relationships with *Microbianor* [*vide* Logunov, 2000] are to be considered, when females are found).

DESCRIPTION. Male. Measurements. Carapace 1.33 long, 1.09 wide, 0.55 high at PLE. Ocular area 0.90 long, 0.88 wide anteriorly and 1.14 wide posteriorly. Diameter of AME 0.26. Abdomen 1.50 long, 1.13 wide. Cheliceral length 0.38. Clypeal height 0.10. Length of leg segments: leg I — 0.85 + 0.50 + 0.65 + 0.40 + 0.28; leg II — 0.53 + 0.20 + 0.29 + 0.29 + 0.26; leg III — 0.68 + 0.35 + 0.30 + 0.35 + 0.29; leg IV — 0.70 + 0.35 + 0.38 + 0.40 + 0.33. Leg spination. Leg I: Fm d 1ap; Tb v 1-1; Mt v 2-2ap. Leg II: Fm d 1ap; Tb v 1-0; Mt v 2-2ap. Leg III: Fm d 1ap; Mt v 2-2ap. Leg IV: Fm d 1ap. Coloration. Carapace shagreened (=punctured-reticulate), light brown, with black around eyes. Clypeus and "cheeks" densely covered with white hairs. Sternum, maxillae, labium and chelicerae yellow-brown. Abdomen entirely gray-brown, without colour markings; dorsum completely covered by scutum. Book-lung covers and spinnerets brown. All legs yellow, with pale brown rings (legs I slightly darker and bearing dorsal and ventral rows of scale-like black bristles on femora and tibiae). Palps yellow, tinged with brown. Palpal structure as in Figs 292–293.

Female unknown.

DISTRIBUTION. Known from the type locality only.

ETYMOLOGY. The species is dedicated to my sister, Victoria V. Logunova (Stavropol, Russia).

MODUNDA Simon, 1901

Type species: *Modunda fragmitis* Simon, 1901 by original designation [Simon, 1901a]; placed in synonymy of *Salticus staintoni* O.P.-Cambridge, 1872 by Prószyński [1990].

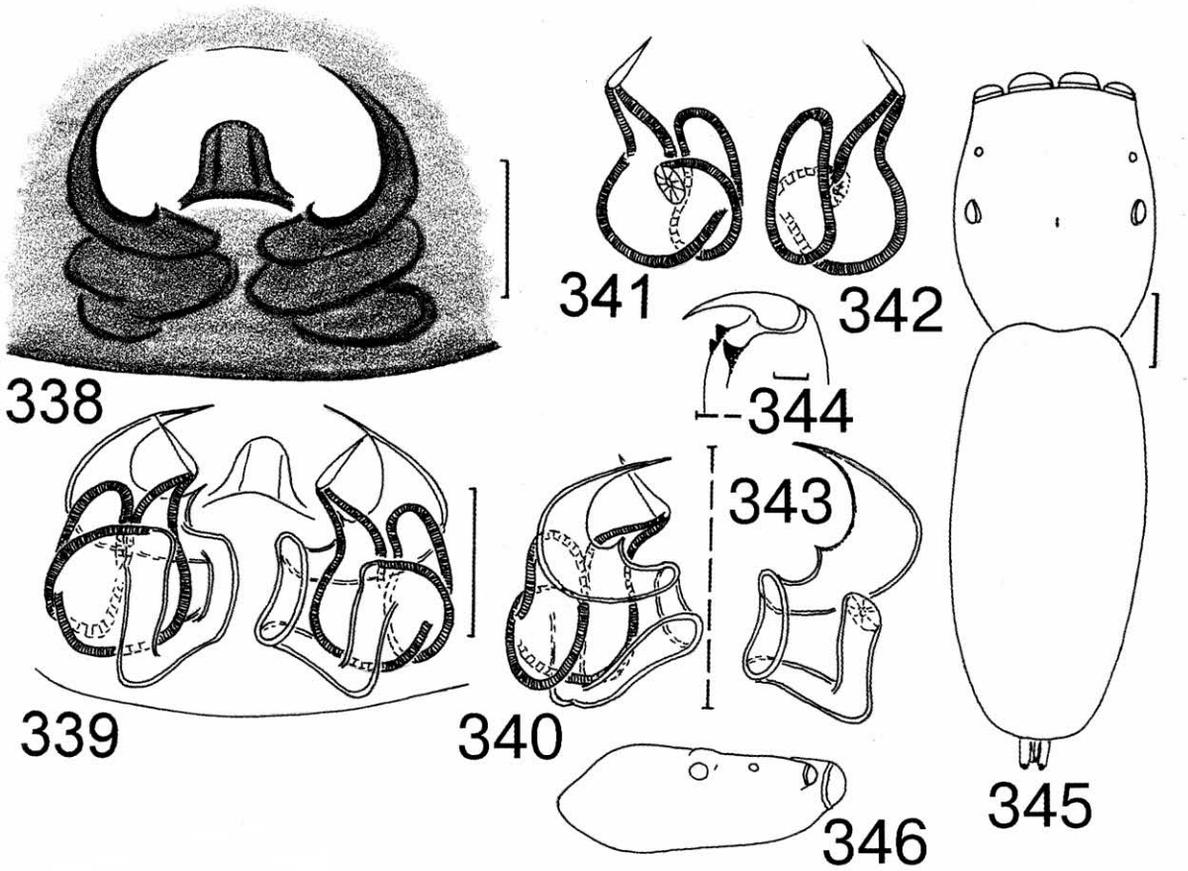
COMMENTS. The genus *Modunda* has been considered a junior synonym of *Bianor* by Prószyński [1990], but recently the same author [Prószyński, CD version of his catalogue] decided that *Modunda* is to be removed from the synonymy of *Bianor*. I am clealy of the same opinion. To the moment, four species have been included in *Modunda*. Two of them, *viz. M. ghigii* Caporiacco, 1949 from Kenya and *M. orientalis* (Dönitz & Strand in Bösenberg & Strand, 1906) from Japan, are known from the original descriptions only and, to my mind, need confirmation of their taxonomic status. In the present work, I do not provide a complete redescription of *Modunda*, but only an up-to-date diagnosis thereof.

Among the closely related genera (Table 1), *Modunda* is most closely related to *Bianor*, but can easily be separated from it by the low and flat carapace (high in *Bianor*; Fig. 351), the presence of a ventral scutum (absent in *Bianor*; Fig. 354), the thickened tibia I (normal in *Bianor*) (cf. Figs 349 and 3) and the absence of spines on leg IV (present in *Bianor*). See also comments under "Diagnosis" of *Sibianor* gen.n.

Modunda aeneiceps Simon, 1901

Figs 338–346.

Modunda aeneiceps Simon, 1901a: 161 (♀ lectotype and ♀ paralectotypes in the MNHN, examined).



Figs 338–346. Female copulatory organs and somatic characters of *Modunda aeneiceps* (♀ paralectotype from Sri-Lanka): 338 — epigyne, ventral view; 339–340 — spermathecae, dorsal and ventral views; 341–342 — receptacles, dorsal and ventral views; 343 — insemination duct, dorsal view; 344 — chelicera of ♀; 345 — ♀, general appearance; 346 — carapace of ♀, lateral view. Scale: 0.1 mm (338–344) and 0.25 mm (345–346).

Рис. 338–346. Копулятивные органы и соматические признаки самки *Modunda aeneiceps* (♀, паралектотип из Шри-Ланки): 338 — эпигина, вентрально; 339–340 — сперматека, дорзально и вентрально; 341–342 — рецептакулы, дорзально и вентрально; 343 — оплодотворительный канал, дорзально; 344 — хелицера самки; 345 — общий вид самки; 346 — карапакс самки, латерально. Масштаб: 0,1 мм (338–344) и 0,25 мм (345–346).

Modunda aeneiceps: Simon, 1901b: 614, 615, 624.

Bianor aeneiceps: Prószyński, 1987: 9 (♀, T from *Modunda*).

Bianor aeneiceps: Peng *et al.*, 1993: 24–25, f. 22–25 (♀).

Bianor aeneiceps: Song *et al.*, 1999: 506, f. 289E (♀).

Material. SRI LANKA: 1 ♀ (MNHN, n. 20484, designated here as the lectotype of *M. aeneiceps*), 2♀♀ (MNHN, n. 20484, designated here as the paralectotypes of *M. aeneiceps*), "Kandy, Colombo".

DIAGNOSIS. This species is close to *M. staintoni*, but differs in the shorter central blind-ending pocket of the epygine (cf. Figs 338 and 357–360), as well as in small details of the spermathecae (proportions of the receptacles, position of the first loop, *etc.*) (cf. Figs 339–343 and 358–359, 361–366). However, these differences may reflect an intraspecific variation only, which is known to be rather high in *Bianor*, *Harmochirus* and *Sibianor* gen.n. (see Introduction). So, males are required to provide a precise diagnosis for this species.

COMMENTS. *Modunda aeneiceps* is difficult to distinguish from *M. staintoni* and may prove to be its junior synonym (see below). Therefore, to stabilize its taxonomic status, I designate the best preserved ♀ specimen as the lectotype (kept in the MNHN).

DISTRIBUTION. Known from the type locality only. It is very likely that most of the records of *M. aeneiceps* from China [Peng *et al.*, 1993; Song *et al.*, 1999; both sub *Bianor a.*] in reality belong to *Bianor angulosus*. The problem is in need of special attention in the future.

Modunda staintoni (O.P.-Cambridge, 1872) **comb.n.**
Figs 347–366.

Salticus staintoni O.P.-Cambridge, 1872: 331–332 (♂ holotype in the OXF, examined).

Salticus congener O.P.-Cambridge, 1872: 332 (♀ syntypes in the OXF, examined). Synonymized with *S. staintoni* by O.P.-Cambridge [1876].

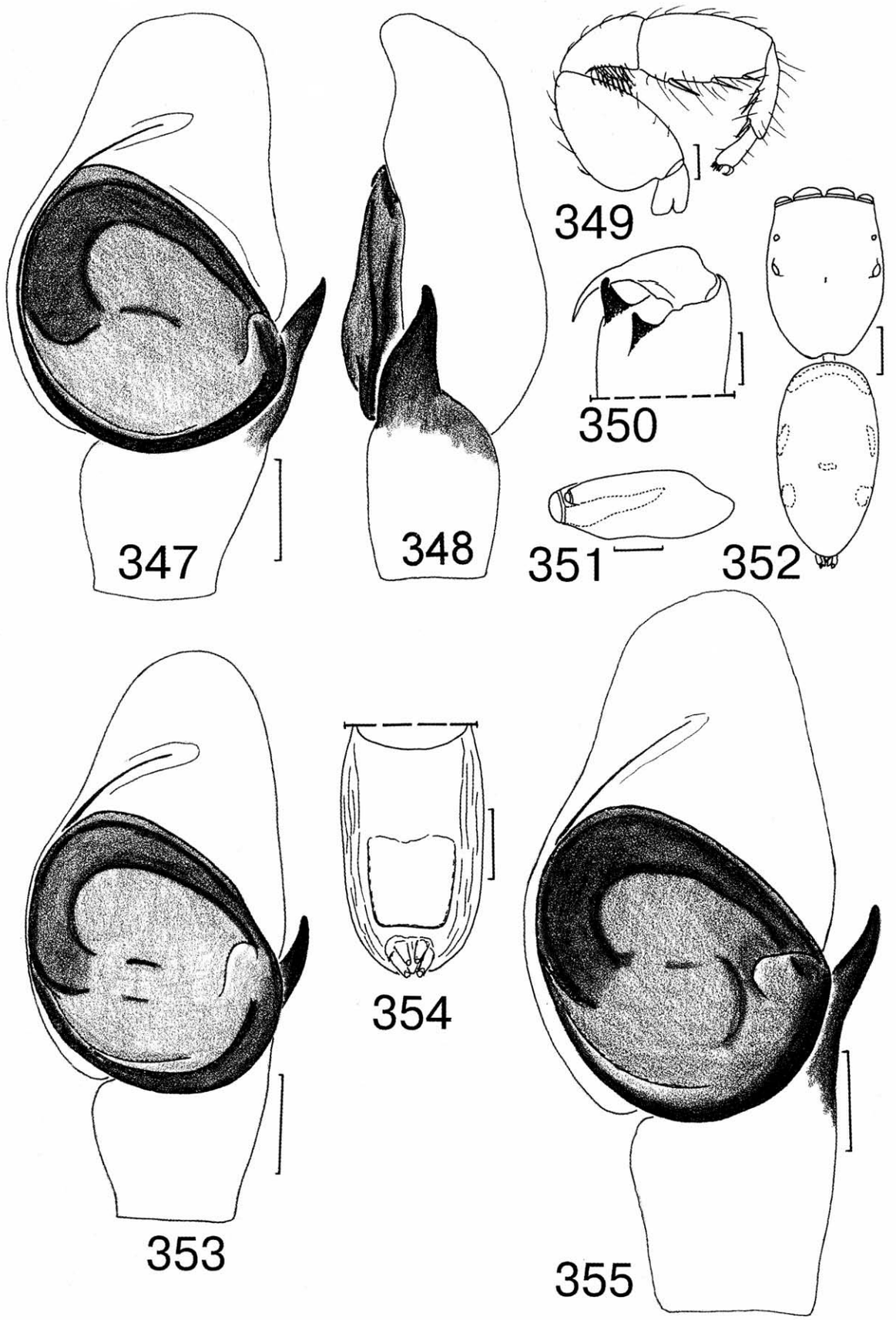
Salticus staintoni: O.P.-Cambridge, 1876: 610.

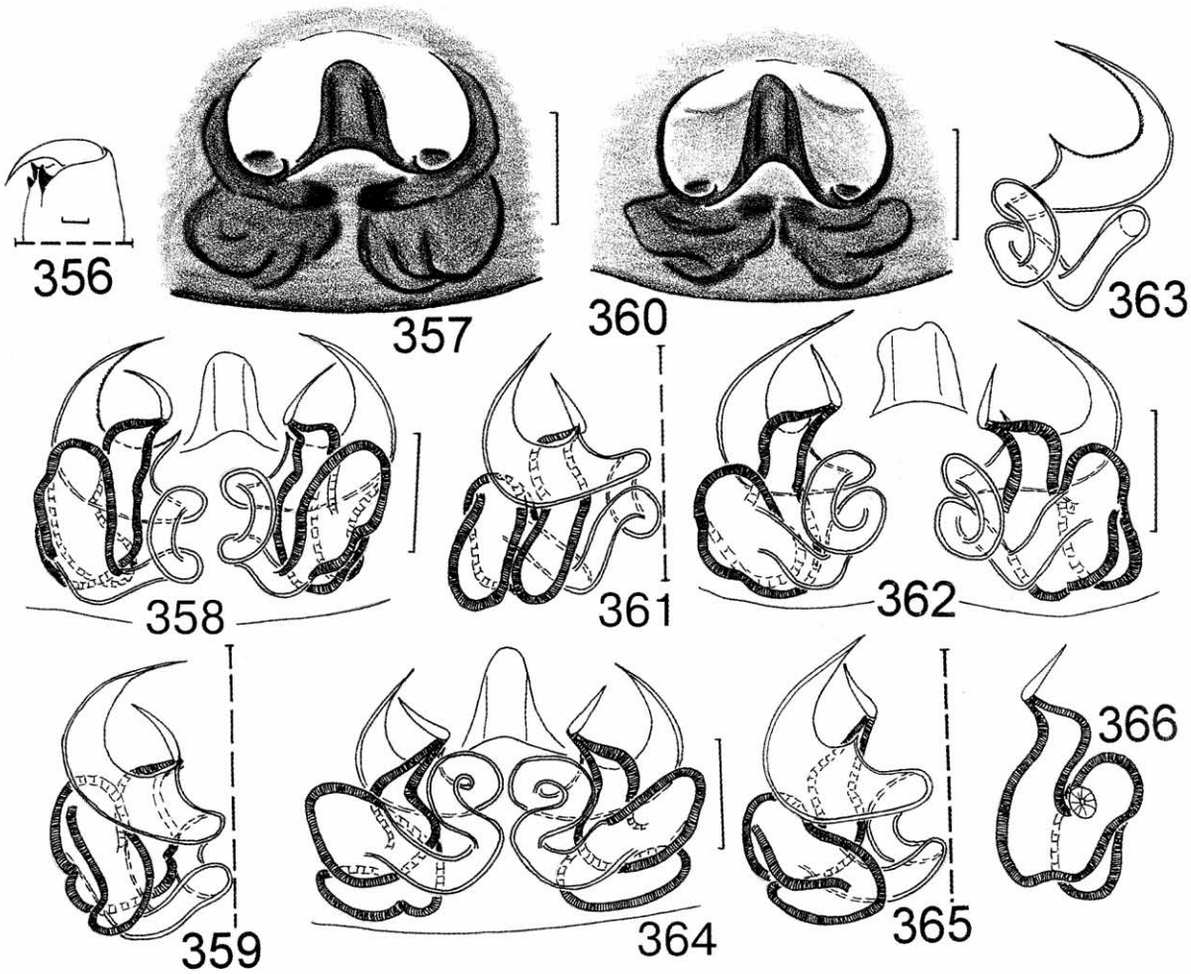
Modunda phragmitis Simon, 1901a: 160 (♀ lectotype and ♂♀ paralectotypes in the MNHN, examined). Synonymized with *Salticus staintoni* and transferred to *Bianor* by Prószyński [1990].

Modunda phragmitis: Simon, 1901b: 614, 615, 624, 629.

Modunda phragmitis: Reimoser, 1919: 109.

Modunda phragmitis: Prószyński, 1987: 63–64 (♂♀).


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Figs 356–366. Female copulatory organs and somatic characters of *Modunda staintoni*: 356 — chelicera of♀; 357, 360 — epigyne, ventral view; 358–359, 361–362, 364–365 — spermathecae, dorsal and ventral views; 363 — insemination duct, dorsal view; 366 — receptacles, dorsal view. Specimens: 356–359 —♀ holotype of*Salticus staintoni*; 360–366 —♀ paralectotypes of*Modunda phragmitis* (in synonymy) from Egypt (Suez). Scale: 0.1 mm.

Рис. 356–366. Копулятивные органы и соматические признаки самок *Modunda staintoni*: 356 — хелицера самки; 357, 360 — эпигина, вентрально; 358–359, 361–362, 364–365 — сперматеки, дорзально и вентрально; 363 — оплодотворительный канал, дорзально; 366 — рецептакулы, дорзально. Экземпляры: 356–359 — ♀, голотип *Salticus staintoni*; 360–366 — ♀, паралектотип *Modunda phragmitis* из Египта (Суэц). Масштаб: 0,1 мм.

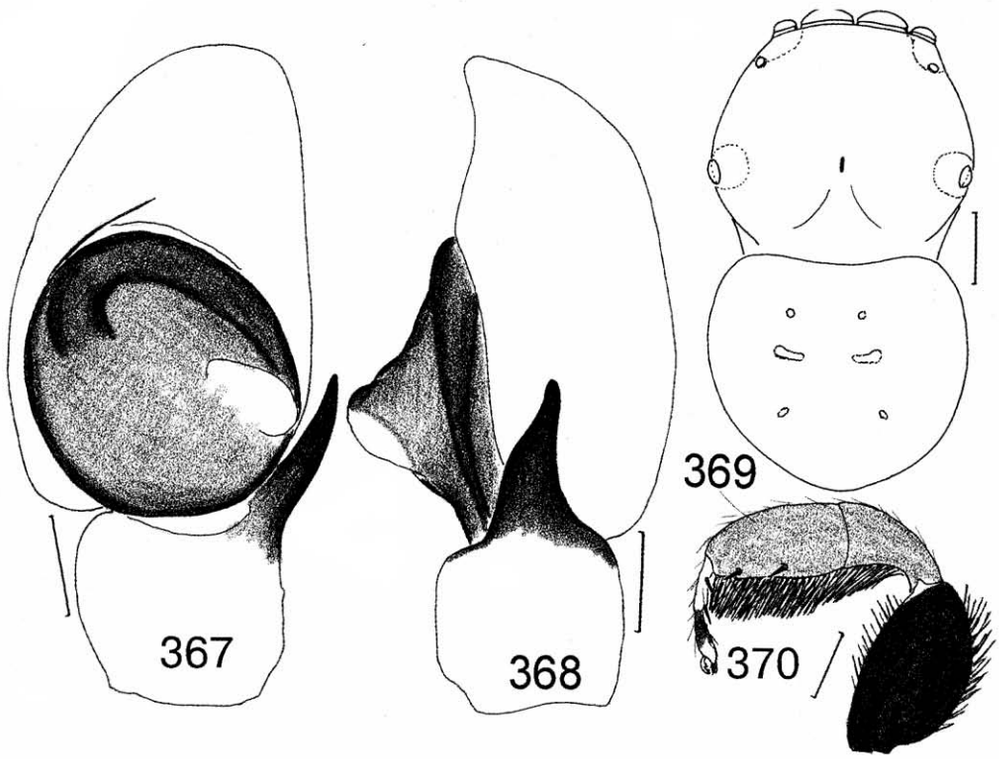
Bianor staintoni: Prószyński, 1990: 72.

Material. EGYPT: 1♀ (MNHN, n.12135, the lectotype of *M. phragmitis*), 2♂♂, 2♀♀ (MNHN, n. 12 135, the paralectotypes of *M. phragmitis*), "Suetz 89"; 1♂ (OXF, bottle 1852, tube 83), "Egypt"; 2 juv. (OXF, bottle 1732, tube 22), "Upper Egypt"; 1♀ (MCZ), "Egypt" (no exact locality), G. W. & E. G. Peckhams' coll.; 1♀ (IZW, F. 1822), "Egipt" (=Egypt; no exact locality), W. Kulczyński's coll. — ISRAEL: 1♀ (OXF, bottle 1731, tube 20; the holotype of *Salticus staintoni*), "Palestine"; 3♀♀ (OXF, bottle 1731, tube 42; the syntypes of *Salticus congener*), "Palestine". — AFGHANISTAN: 1♂ (NMP), Nengrahar Prov., ca. 10 km NE of Jalabad, 620 m a.s.l., 29.03.1966, Povolný & Tenora. — INDIA: 2♂♂, 2♀♀ (MMUM), Punjab, Patiala City, University campus (30°21′N, 76°27′E), 3.05–25.06.1999, Yu. M. Marusik.

DIAGNOSIS. See comments under "Diagnosis" of *M. aeneiceps*.

Figs 347–355. Male copulatory organs and somatic characters of *Modunda staintoni*: 347, 353, 355 — palp of♂, ventral view; 348 — ditto, retrolateral view; 349 — leg I of♂, lateral view; 350 — chelicera of♂; 351 — carapace of♂, lateral view; 352 — ♂, general appearance; 354 — ♂, ventral scutum on abdomen. Specimens: 347-352 — ♂ from Afghanistan (Jalalabad); 353 — ♂ paralectotype of *Modunda phragmitis* (in synonymy) from Egypt (Suez); 354–355 — ♂ from Egypt (from the OXF). Scale: 0.1 mm (347–348, 350, 353, 355), 0.25 mm (349) and 0.5 mm (351–352, 354).

Рис. 347–355. Копулятивные органы и соматические признаки самцов *Modunda staintoni*: 347, 353, 355 — пальпа самца, вентрально; 348 — тоже, ретролатерально; 349 — нога I самца, латерально; 350 — хелицера самца; 351 — карапакс самца, латерально; 352 — общий вид самца; 354 — вентральный скутум на брюшке самца. Экземпляры: 347–352 —♂ из Афганистана (Джалалабад); 353 — ♂, паралектотип *Modunda phragmitis* из Египта (Суэц); 354–355 — ♂ из Египта (из OXF). Масштаб: 0,1 мм (347–348, 350, 353, 355), 0,25 мм (349) и 0,5 мм (351–352, 354).



Figs 367–370. Male copulatory organs and somatic characters of *Napoca insignis* (♂ holotype): 357–368 — palp of ♂, ventral and retrolateral views; 369 — ♂, general appearance; 370 — leg I of ♂, lateral view. Scale: 0.1 mm (367–368), 0.5 mm (370) and 1 mm (369).

Рис. 367–370. Копулятивные органы и соматические признаки самца *Napoca insignis* (♂, голотип): 357–368 — пальпа самца, вентрально и ретролатерально; 369 — внешний вид самца; 370 — нога I самца, латерально. Масштаб: 0,1 мм (367–368), 0,5 мм (370) и 1 мм (369).

COMMENTS. The ♂ holotype of *Salticus staintoni* and the ♀ syntypes of *S. congener* were collected simultaneously at the same locality (Israel, the plains of the Jordan) and both species were described in the same work [*vide* O. P.-Cambridge, 1872]. As the description of *Salticus staintoni* precedes that of *S. congener*, the former name is to be considered valid for this species [see also O. P.-Cambridge, 1876].

The ♂ holotype of *Salticus staintoni* is identical to the ♂ paralectotypes of *Modunda phragmitis* (Fig. 353) and hence the latter species name was synonymised [see Prószyński, 1990]. A new combination for the senior synonym is given here.

DISTRIBUTION. Egypt, through the Near East, eastward to NE Afghanistan and NW India (Punjab).

NAPOCA Simon, 1901

Type species: *Salticus insignis* O. P.-Cambridge, 1872; subsequent designation by Simon [1901b].

COMMENTS. A complete definition and diagnosis of *Napoca* is impossible now, as it includes a single species known so far from a single ♂ only. However, in contrast to Prószyński [1990: 72], I consider *Napoca* to be a genus separate from *Bianor* and other closely related genera (Table 1). *Napoca* is an unidentate genus, which can easily be distinguished from *Bianor*, *Harmochirus*, *Modunda* and *Sibianor* gen.n. by the following characters (Table 1): the position of PME (near ALE; Fig. 369; midway between ALE and PLE in the related genera), a sclerotized, bean-shaped abdomen markedly overhanging the carapace (Fig. 369) (never sclerotized and overhanging in related genera) and the absence of a dorsal row of feathery bristles on tibia I (Fig. 370) (both dorsal and ventral rows in *Harmochirus* and *Sibianor* gen.n., but none in *Bianor*).

Napoca insignis (O.P.-Cambridge, 1872)
Figs 361–370.

Salticus insignis O. P.-Cambridge, 1872: 324 (♂ holotype in the OXF, examined).

Napoca insignis: Simon, 1901b: 639–640 (T from *Salticus*).

Napoca insignis: Prószyński, 1984: 57 (♂).

Bianor insignis: Prószyński, 1990: 72 (T from *Napoca*).

Material. ISRAEL: 1 ♂ (OXF, ex B.1739+81, the holotype of *Salticus insignis*), "Palestine"; Coll. O.P.-Cambridge (but Simon [1901b] mentioned the locality as Syria).

DIAGNOSIS. By presence of a tegular knob, this species is very similar to *S. aurocinctus* and related species (cf. Figs 367–368 and 270–275), but can be separated by the shorter embolus and the absence of a dorsal row of feathery bristles on tibia I. Besides, the position of PME (close to ALE) is a clear evidence that this species belongs to another genus.

DESCRIPTION. Male (the holotype). Measurements. Carapace 2.14 long, 1.84 wide, 0.89 high at PLE. Ocular area 1.17 long, 1.21 wide anteriorly and 1.87 wide posteriorly. Diameter of AME 0.37. Abdomen 2.01 long, 1.86 wide. Cheliceral length 0.64. Clypeal height 0.19. Length of leg

segments: leg I — 1.37 + 0.81 + 0.97 + 0.50 + 0.43; leg II — 0.87 + 0.57 + 0.44 + 0.43 + 0.34; leg III — 0.93 + 0.50 + 0.43 + 0.49 + 0.36; leg IV — 1.00 + 0.50 + 0.46 + 0.57 + 0.39. Leg spination. Leg I: Fm d 0-1-2ap; Tb v 0-1-2; Mt v 2-2. Leg II: Fm d 0-1-2ap; Tb pr 0-1, v 1-1; Mt v 2-2. Leg III: Fm d 2 ap; Tb rt 0-1-0, v 1ap; Mt pr and rt 1 ap, v 2ap. Leg IV: Tb 1ap. (other segments of the leg IV damaged, no spines discernible). Coloration. Carapace shagreened (=punctured-reticulate), reddish. Brown around AME and PLE. Sternum, labium, maxillae and chelicerae gray-orange. Abdomen rounded, bean-shaped (Fig. 369), dorsally completely covered by scutum. Venter a little lighter than dorsum. Spinnerets grayish yellow. Leg I: femur brownish; patella and tibia yellow; metatarsus yellow-gray; tarsus brown with yellow tip. Femur and tibia of the first leg swollen and equipped with a row of ventral bristles (Fig. 370). Legs II–IV: femora brownish; patellae yellowish; tibiae, metatarsi and tarsi gray-yellow. Distal parts of tibiae II–IV and proximal parts of tarsi II–IV dark brown. Palpal structure as in Figs 367–368.

DISTRIBUTION. Known to the type locality only.

DOUBTFUL AND INVALID SPECIES

Bianor fasciatus Mello-Leitão, 1923

Bianor fasciatus Mello-Leitão, 1923: 226 (the ♀ holotype, not examined).

Bianor fasciatus: Galiano, 1980: 35.

COMMENTS. The ♀ holotype of *B. fasciatus* should be deposited in the Museo Nacional de Rio de Janeiro (Brazil), but actually it is missing [Galiano, 1980; pers. comm.]. Even if the holotype is found, it most probably belongs to another genus, as has been shown in other S. American species of *Bianor*. For instance, *Bianor fulvipes* Mello-Leitão, 1943 and *B. aeneus* Mello-Leitão, 1945 were shown to belong to the genera *Dendryphantes* and *Dryphias*, respectively [Galiano, 1980, 1992].

Bianor fimbriatus Mello-Leitão, 1917

Bianor fimbriatus Mello-Leitão, 1917: 146 (the ♀ holotype, not examined).

Bianor fimbriatus: Galiano, 1980: 35.

COMMENTS. The ♀ holotype, deposited in the Museo Nacional de Rio de Janeiro (Brasil), was revised by Galiano [1980], who found out that it is an immature specimen. So, the specific name is considered to be a *nomen dubium*.

Bianor monster Żabka, 1985

Bianor monster Żabka, 1985: 203–204, f. 26–29 (♀ holotype in the IZW, examined).

Material. VIETNAM: 1 ♀ (IZW, the holotype of *B. monster*), Phu Que, ca. 80 km NW of Vink, 16.06.1959, B. Pisarski & J. Prószyński.

COMMENTS. I re-examined the ♀ holotype of *B. monster* and found it to lack the epigyne (probably lost during the original study). With the absence of the copuatory organs, it is impossible to make a conclusion about a correct assignment of this species. However, the abdominal colour markings of the holotype correspond to those of either *B. incitatus* (♀♀ from Java; but slighlty lighter), or *B. angulosus*. Therefore, I am convinced that *B. monster* is conspecific with one of these species. However, I do not formally place it in synonymy until more ♀♀ and ♂♂ have been collected at the type locality of *B. monster*.

Bianor simplex (Blackwall, 1865)

Salticus simplex Blackwall, 1865: 82 (♂ holotype, not examined).

COMMENTS. To borrow the ♂ holotype of *B. simplex*, I contacted the Senckenberg Museum (Frankfurt a. M., Germany) and the Hope Entomological Collection (Oxford, UK), where the bulk of Blackwall's types is known to be deposited. However, the holotype cannot be found in both collections [Grasshoff and Lansbury, *in litt.*]. The species *B. simplex* is very poorly known and cannot be identified from the original decription [Blackwall, 1865]. Its name has not been mentioned in the literature for more than 50 years (since 1899). So, now the specific name can be considered as a *nomin oblitum*.

Recently, Schmidt & Krause [1998] reported on *Bianor simplex* from the Cabo Verde Islands on the base of a single ♀. This record turned out to actually belong to a *Pellenes* sp., closely related to either *P. epularis* (O. P.-Cambridge, 1872) or *P. arcigerus* Walckenaer, 1837 [Schmidt's specimen re-examined: 1 ♀ (SMFM), The Cape Verde Is., S.Nicolau, nahe Miradol, 19.01.1993, G. Schmidt; see Figs 374–375].

Harmochirus duboscqi (Berland & Millot, 1941)

Partona duboscqi Berland & Millot, 1941: 365, f. 65 (♀ holotype, not examined).

COMMENTS. The redescripion and figures of *Partona duboscqi* given by Wesołowska [1994] are insufficient to decide on the taxonomic status of this species. She did not re-examine the holotype (♀), which seemed to be lost, but the specimens determined by Roewer as *Tacuna duboscqi* instead. However, as can be seen from Wesołowska's figures [1994: Figs 16–21], this record is doubtlessly belong to *H. luculentus*. Thus, the validity of *H. duboscqi* remains uncertain until its holotype (♀) has been re-examined.

Harmochirus rufescens Caporiacco, 1940

Harmochirus rufescens Caporiacco, 1940b: 304, f. 4 (♀ holotype, not examined).

COMMENTS. The holotype of *H. rufescens* was reported by Wesołowska [1994] to be lost and the original description [Caporiacco, 1940b] does not allow to identify this species. Therefore, its name should now be considered *nomen dubium*.

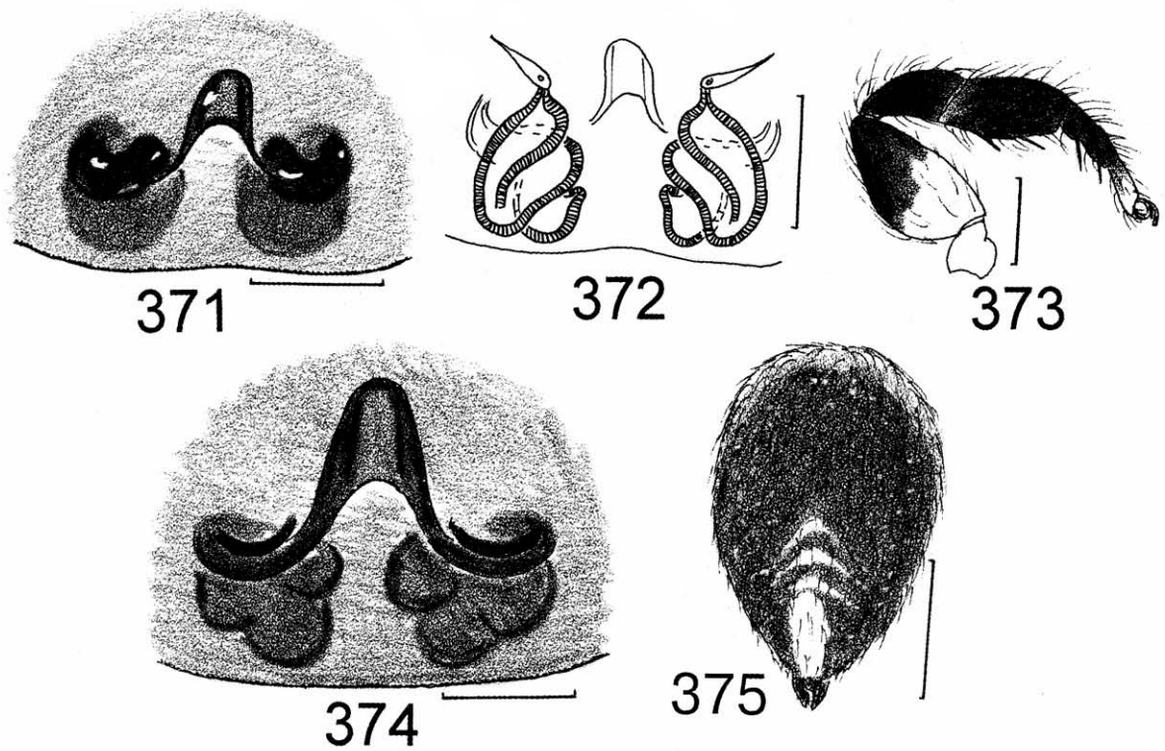
Stichius albomaculatus (Thorell, 1890)

Stichius albomaculatus Thorell, 1890a: 70 (juvenile ♀ holotype in the Museo Civico di Storia Naturale, Genova, Italy, not examined).

Stichius albomaculatus: Roewer, 1954: 1662.

COMMENTS. *Stichius albomaculatus* is the type species of the monotypic genus *Stichius* Thorell, 1890 and seems to be a junior synonym of *B. incitatus* (and therefore *Stichius* should be a junior synonym of *Bianor*). I came to this opinion after a re-examination of the adult ♂ identified by Thorell as *Stichius albomaculatus* (deposited in the STO; certainly not a type specimen !). Prószyński [1984] also reported on the same ♂ in the STO.

In the original description of *S. albomaculatus* [Thorell, 1890a: 70], it is said "*Singulum exemplum femineum nondum adultum pulchrae hujus araneolae in Sumatra (Sibolga) cepit Modigliani*", *viz.* the description is based on an immature female. It is ver unlikely that Thorell has mistaken a male for a juvenile female. In the original description [Thorell, 1890a], it is repeatedly said that it was a juvenile female: "*.../female sign/ jun. Long. saltem 3 1/4 millim.*" "*Femina jun. ...*"



Figs 371–375. Female copulatory organs and somatic characters of *Pellens marionis* (♀ holotype; from the Cape Verde Island) and *Pellenes* sp. (♀ identified by Schmidt & Krause [1998] as *Bianor simplex* from the Cape Verde Island): 371, 374 — epigyne, ventral view; 372 — spermathecae, dorsal view; 373 — leg I of ♀; lateral; 375 — dorsum of ♀. Scale: 0.1 mm (371–372, 374), 0.5 mm (373) and 1 mm (375).

Рис. 371–375. Копулятивные органы и соматические признаки самок *Pellens marionis* (♀, голотип; с о-вов Кабо Верде) и *Pellenes* sp. (♀ определенная Schmidt & Krause [1998] как *Bianor simplex* с о-вов Кабо Верде): 371, 374 — эпигина, вентрально; 372 — сперматеки, дорзально; 373 — нога I самки; латерально; 375 — дорзум самки. Масштаб: 0,1 мм (371–372, 374), 0,5 мм (373) и 1 мм (375).

"*Singulum exemplum femineum nondum adultum* ...". Therefore, the specific name *S. albomaculatus* is considered to be a *nomen dubium*.

The taxonomic status of the genus *Stichius* itself remains unclear [Roewer, 1954: "nicht zu deuten"] until the holotype of *S. albomaculatus* has been re-examined.

Velloa modesta Peckham & Peckham, 1903

Velloa modesta Peckham & Peckham, 1903: 217, pl. 24, f. 9a–c (the subadult ♂ holotype, examined).

Velloa modesta: Wesołowska, 1994: 206.

Material. SOUTH AFRICAN REPUBLIC: 1 subadult ♂ (MCZ, 589 [on label Nr. 3106], the holotype), "Kalk Bay, Cape Peninsular, [rest of the label illegible]".

COMMENTS. The holotype of *Velloa modesta* (the type species of *Velloa*) was recognized by Wesołowska [1994] to be an immature specimen belonging to the genus *Harmochirus*. So, the species should be considered a *nomen dubium*, and the genus is to be treated as a junior synonym of *Harmochirus* (for other detailes see Wesołowska [1994]).

Species wrongly placed to *Bianor*

"Bianor" hongkong Song, Xie, Zhu & Wu, 1997

Bianor honkong Song *et al.*, 1997: 149, f. 1 (♀ holotype, not examined).

Bianor honkong: Song *et al.*, 1999: 506, f. 289G–H (♀).

COMMENTS. I have been unable to re-examine the ♀ holotype of *B. hongkong* recently described and known from Hong Kong (China) only [Song *et al.*, 1997, 1999]. However, as evident from the original figures [Song *et al.*, 1997: fig. 1], this species lacks an atrium in the epigyne and possesses spermathecae of the compact type (no loops and separated primary and secondary receptacles). Therefore, this species is not a member of *Bianor*, but belongs elsewhere.

Pellenes (Pelmultus) marionis (Schmidt & Krause, 1994), **comb.n.**

Figs 371–373.

Bianor marionis Schmidt & Krause, 1994: 13-15, f. 5 (♀ holotype in the SMFM, examined).

Bianor marionis: Schmidt & Krause, 1998: 424, f. 7 (♀).

Material. REPUBLIC CABO VERDE: 1 ♀ (SMFM; the holotype of *Bianor marionis*), The Cape Verde Is., Sal/St. Maria, 24.03.1988, G. Schmidt.

COMMENTS. On the basis of the genitalic conformation (Figs 371–373), it is evident that this species has to be assigned to *Pellenes*, the subgenus *Pelmultus* [*sensu* Logunov *et al.*, 1999]. It is very likely that this species is a junior synonym of *Pellenes brevis* (Simon, 1868) [*vide* Logunov *et al.*, 1999: figs 77–79, 87–88, 160–162, 192–196, 206, 207, 209]. However, the holotype differs in having bi-coloured (brown+yellow) first

legs (Fig. 373) (yellow in *P. brevis*) and a bigger central blind-ending pocket in the epigyne (Fig. 371). The problem remains unsolved until additional specimens, including males, have been collected from the type locality of *P. marionis*.

Pellenes (Pelmultus) stepposus (Logunov, 1991) **comb.n.**

Fig. 264.

Bianor stepposus Logunov, 1991: 51, f. 2.1–7 (♂♀, ♂ holotype in the ZMUM, examined).

Bianor stepposus: Logunov, 1992: 51–52.

Bianor stepposus: Danilov & Logunov, 1994: 28.

For a complete set of sources see Logunov & Marusik [2000: sub *Bianor s.*].

Material. RUSSIA: 1 ♂ (MMUM), Chita Area, Dahuria, right riverside of Onon River, Nizhnii Tsasuchei Vil., 30.06.1996, V. V. Dubatolov.

For other material examined see Logunov [1992] and Danilov & Logunov [1994].

COMMENTS. This species was only provisionally placed in *Bianor* by Logunov [1991]. The current analysis indicates that it is better assigned to *Pellenes (Pelmultus)*, as this species posseses a number of diagnostic characters of the latter genus [*sensu* Logunov *et al.*, 1999], *viz.* the presence of sclerotized epyginal flaps and spermathecae of the one-chambered configuration (both characters always absent in *Bianor*, *Sibianor* gen.n. and related genera; see Table 1); the embolus is stout rather than thin, thread-like as in *Bianor* and related genera [cf. Logunov, 1991: fig. 2]; and the trichobotrial base is smooth as in other *Pellenes* [Logunov *et al.*, 1999: fig. 4], lacking transverse wrinkles as, for instance, present in *Sibianor* gen.n. (cf. Figs 262 and 264). Besides, this species lacks both dorsal and ventral scuta (always present in *Bianor* and related genera; see Table 1).

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References

Andreeva E. M. 1976. [Spiders of Tajikistan]. Donish, Dushanbe, 195 pp. [in Russian].

Barrion A. T. & Litsinger J. A. 1995. Riceland spiders of South and Southeast Asia. Wallingford (UK): CAB International. 700 pp.

Berland L. & Millot J. 1941. Les Araignées de l'Afrique occidentale française. I. Les Salticidae // Mém. Mus. Hist. Nat. Vol.12. P.297–424.

Berry J. W., Beatty J. A. & Prószyński J. 1996. Salticidae of the Pacific Islands. I. Distribution of twelve genera, with descriptions of eighteen new species // J. Arachnology. Vol.24. No.3. P.214–253.

Blackwall J. 1865. Descriptions of recently discovered spiders collected in the Cape de Verde Islands by John Gray, Esq. // // Ann. Mag. Nat. Hist. Vol.16. No.3. P.80–101.

Bohdanowicz A. & Hęciak S. 1980. Redescription of two species of Salticidae (Aranei) from China // Annales Zoologici, PAN. T.35. No.18. P.247–256.

Bohdanowicz A. & Prószyński J. 1987. Systematic studies on East Palaearctic Salticidae (Araneae). IV Salticidae of Japan // Annales Zoologici, PAN. T.41. No.2. P.43–151.

Bonnet P. 1955–1959: Bibliographia Araneorum [1955, Vol. 2(1), 1–918 (A–B); 1956, Vol. 2(2), 919–1926 (C–E); 1957, Vol. 2(3), 1927–3027 (G–M); 1958, Vol. 2(4), 3027–4230 (N–S); 1959, Vol. 2(5), 4231–5058 (T–Z)]. Toulouse. P.1–5058.

Bösenberg W. & Strand E. 1906. Japanische Spinnen // Abh. Senck. naturf. Ges., Frankfurt a. M. Bd.30. S.93–422.

Bosmans R. & de Keer R. 1985. Catalogue des araignées des Pyrénées. Espèces citées, nouvelles récoltes, bibliographie. Documents de Travail, Bruxelles. 68 pp.

Bryant E. B. 1935. Notes on some of Urguhart's species of spiders // Rec. Cant. Mus. Vol.4. No.2. P.54–70.

Cantarella T. 1982. Contributo alla conoscenza dei salticidi (Arachnida, Araneae) di Sicilia // Animalia. Vol.7. P.55–68.

Caporiacco L. Di. 1940a. Aracnidi raccolti nella regione dei Laghi Etiopici della Fossa Galla // Atti Acad Ital. Memor. Vol.11. No.18. P.767–873.

Caporiacco L. Di. 1940b. Alcuni Arachnidi di Somalia // Boll. Lab. zool. gen. agr. Fac. Agr. Port Vol.31. P.295–305.

Chen X. E. & Gao J. C. 1990. The Sichuan farmland spiders in China. Chengdu: Sichuan Sci. Tech. Publ. House. 226 pp.

Chen Z. F. & Zhang Z. H. 1991. Fauna of Zhejiang: Araneida. Zhejiang Sc. Tech. Publ. House. 356 pp.

Chikuni Y. 1989. [Pictorial encyclopedia of spiders in Japan]. Tokyo: Kaisei-sha Publ. Co. 310 pp. [in Japanese].

Clarck D. L. 1974. Notes on Simon's types of African Salticidae // Bull. Brit. Arach. Soc. Vol.3. No.1. P.11–27.

Cutler B. 1988. Jumping spiders // (eds B. Coffin & P. Lee): Minnesota's Endangered Flora and Fauna, Univ Minnesota Press. P.423–431.

Dahl F. 1912. Über die Fauna des Plagefenngebietes // (ed. H. Conwentz): 3, Das Plagefenn bei Chorin Berlin, 1912. S.339–638.

Dalmas R. de 1917. Araignées de Nouvelle Zélande // Ann. Soc. ent. Fr. T.86. P.317–430.

Danilov S. N. 1997. New data on the jumping spiders from South Siberia // Arthropoda Selecta. Vol.6. No.1/2. P.113–116.

Danilov S. N. & Logunov D. V. 1994. Faunistic review of the jumping spiders of Transbaikalia (Aranei Salticidae) // Arthropoda Selecta. Vol.2 (for 1993). No.4. P.25–39.

Davies V. T. & Żabka M. 1989. Illustrated keys to the genera of jumping spiders (Araneae, Salticidae) in Australia // Mem. Queensland Mus., Brisbane. Vol.27. No.2. P.189–266.

Dunin P. M. 1984. [Material for a study of the spider fauna of the Far East (Arachnida, Aranei). I. Family Salticidae] // (ed. P.

Lehr): Fauna i ekologia nasekomykh yuga Dal'nego Vostoka. Vladivistok. P.128–140 [in Russian].
Feng Z. Q. 1990. Spiders of China in colour. Hunan Sc. Tech. Publ. House. 256 pp. [in Chinese].
Fuhn I. E. & Gherasim V. F. 1995. Familia Salticidae // Fauna Românei, Arachnida. T.5. Fasc.5. Editura Academiei Române. 301 pp. [in Romanien].
Galiano M. E. 1963. Las especies americanas de arañas de la familia Salticidae descriptas por Eugene Simon. Redescriptiones basadas en los ejemplares típicos // Physis. Vol.23. No.66. P.273–470.
Galiano M. E., 1972. Revision del genero *Chirothecia* Taczanowski, 1878 (Araneae, Salticidae) // Revista Mus. Argentino Cien. Nat. "Bernardino Rivadavia", Entomologia. Vol.4. No.1. P.1–42.
Galiano M. E. 1980. Catalogo de los especimenes tipicos de Salticidae (Araneae) descriptos por Cândido F. de Mello-Leitão. Primera parte // Physis, Secc. C. Vol.39. No.96. P.31–40.
Galiano M. E. 1992. Nota sobre dos especies de *Dryphias* Simon (Araneae, Salticidae) // Revista Soc. ent. argent. Vol.50. No.1–4. P.29–41.
Gertsch W. J. 1934. Futher notes on American spiders // American Museum Novitates. No.726. P.1–26.
Griswold C. E. 1987. A revision of the jumping spider genus *Habronattus* F. O. P.-Cambridge (Araneae: Salticidae), with phenetic and cladistic analyses // University of California Publications in Entomology. Vol.107. P.1–344.
Hansen H. 1986. Die Salticidae der coll. Canestrini (Arachnida: Araneae) // Soc. Ven. Sc. Nat., Lavori, Venezia. Vol.11. P.97–120.
Hansen H. 1991. Ricerche faunistiche del Museo Civico di Storia Naturale di Venezia nell'Isola di Pantelleria. XI — Arachnida: Scorpiones, Pseudoscorpiones, Araneae // Bol. Mus. Civ Stor. nat. Venezia. Vol.40. P.7–19.
Heimer S. & Nentwig W. 1991. Spinnen Mitteleuropas: Ein Bestimmungsbuch. Berlin: Verlag Paul Parey. 543 S.
Ikeda H. 1993. Redescriptions of the Japanese salticids spiders, *Harmochirus kochiensis* and *Marpissa ibarakiensis* (Araneae: Salticidae) // Acta arachnologica. Vol.42. No.2. P.135–144.
Izmailova M. V. 1989. [The spider fauna of southern East Siberia]. Irkutsk: Univ Publ. House. 180 pp. [in Russian].
Karsch F. 1879. Arachnologische Beiträge // Zeits. gesam. Naturw. Bd.52. S.534–562.
Kishida K. 1910. [Suplementary notes on Japanese spiders] // Hakubutsugaku Zasshi. Vol.118. P.1–9 [in Japanese].
Keyserling E. 1882. Die Arachniden Australiens, ... Nürnberg. S.1325–1420.
Keyserling E. 1883. Die Arachniden Australiens, ... Nürnberg. S.1421–1489.
Kulczyński W. 1901. Arachnoidea in Colonia Erythraea a Dre K.M. Levander collecta // Rozpr spraw. wydz. mat. przyrod Akad umiej. Vol.41. P.1–63.
Lawrence R. F. 1928. Contributions to a knowledge of the fauna of South-West Africa // Ann. South African Mus. Vol.25 P.1–75.
Lessert R. De. 1936. Araignées de l'Afrique orientale portugaise recueillies par MM. P. Lesne et H.-B. // Rev. Suisse Zool. T.43. No.9. P.207–306.
Locket G. H. & Millidge A. F. 1951. British spiders. London: Ray Society. Vol.1. X + 310 p.
Logunov D. V. 1991. [The spider family Salticidae (Aranei) from Touva I. Six new species of the genera *Sitticus*, *Bianor*, and *Dendryphantes*] // Zoologicheskii Zhurnal. Vol.70. No.6. P.50–60 [in Russian, with English summary].
Logunov D. V. 1992. The spider family Salticidae (Araneae) from Tuva. II. An annotated check list of species // Arthropoda Selecta. Vol.1. No.2. P.47–71.
Logunov D. V. 1996. Taxonomic remarks on the genera *Neaetha* Simon, 1884 and *Cembalea* Wesołowska, 1993 (Araneae, Salticidae) // Genus. Vol.7. No.3. P.515–532.
Logunov D. V. 2000. A new endemic genus and three species of the jumping spiders (Araneae: Salticidae) from the Seychelles Islands // Cimbebasia. Vol.16. P.261–267.
Logunov D. V., Ikeda H. & Ono H. 1997. Jumping spiders of the genera *Harmochirus*, *Bianor* and *Stertinius* (Araneae, Salticidae) from Japan // Bulletin of the National Science Museum, Series A (Zoology). Vol.23. No.1. P.1–16.
Logunov D. V. & Koponen S. 2000. A synopsis of the jumping spider fauna in the Russian Far East (Araneae, Salticidae) // // Entomologica Fennica. Vol.11. P.67–87.
Logunov D. V. & Marusik Yu. M. 1991. [Redescriptions and morphological differences of *Bianor aurocinctus* (Ohlert) and *B. aemulus* (Gertsch) (Aranei, Salticidae) // Sibirskii biologicheskii Zhurnal. Vol.2. P.39–47 [in Russian, with English summary].
Logunov D. V., Marusik Yu. M. & Rakov S. Yu. 1999. A review of the genus *Pellenes* in the fauna of Central Asia and the Caucasus (Araneae, Salticidae) // Journal of Natural History. Vol.33. No.1. P.89–148.
Logunov D. V. & Marusik Yu. M. 2000. Catalogue of the jumping spiders of northern Asia (Arachnida, Araneae, Salticidae). Moscow: KMK Scientific Press. 299 pp.
Logunov D. V. & Wesołowska W. 1992. The jumping spiders (Araneae, Salticidae) of Khabarovsk Province (Russian Far East) // Ann. Zool. Fennici. Vol.29. P.113–146.
Lucas H. 1846. Histoire naturelle des Animaux articules // Exploration scientifique de l'Algerie pendant les années 1840, 1841, 1842, publiée par ordre du Gouvernement et avec le concours d'une commission académique, Sciences physiques, Zoologie, Tome I. P.89–271.
Maddison W. 1978. *Bianor aemulus* (Gertsch, 1934), new combination (Araneae: Salticidae) // Peckhamia. Vol.1. No.5. P.76–77.
Mello-Leitão C. F. 1917. Aranhas novas ou pouco conhesidas de Thomisidas e Salticidas brasileiras // Arch. Esc. Super. Agr. Med Vet. Vol.1. No.2. P.117–153.
Mello-Leitão C. F. 1923. Quelques araignées nouvelles ou peu connues du Brasil // Ann. Soc. entomol. Fr. T.91. P.209–228.
Metzner H. 1999. Die Springspinnen (Araneae, Salticidae) Griechenlands // Andrias. Vol.14. P.1–279.
Miller F. 1971. Rad pavouci — Araneida // (eds. M. Daniel & V Cerny): Klič zvireny ČSSR. T.4. Praha: ČS. Akad. Ved. P.51–306.
Narayan K. 1915. Notes on ant-like spiders of the family Attidae in the collection of the Indian Museum // Rec. Ind Mus. Calcutta. Vol.11. P.353–406.
Nenilin A. B. 1984a. [Materials on the fauna of the spider family Salticidae of the USSR. I. Cataloque of Salticidae of the Middle Asia]. // (eds. A. S. Utotchkin *et al.*): Fauna i ekologiya paukoobraznykh. Perm. P.6–37 [in Russian].
Nenilin A. B. 1984b. [Materials on the fauna of the spider family Salticidae of the USSR. III. Salticidae of Kirgizia] // (ed. A. I. Protsenko): Entomol. issledovaniya v Kirgizii. No.17. Frunze: Ilym Publ. House. P.132–143 [in Russian].
Nenilin A. B. 1985. [Materials on the fauna of the spiders family Salticidae of the USSR. II. Results of the study in the USSR]. // (ed. V. I. Ovtsharenko): Fauna i ekologia paukov SSSR. Trudy Zool. Inst. Vol.139. P.129–134 [in Russian, with English summary].
Ono H. 1988. A revisional study of the spider family Thomisidae (Arachnida, Araneae) of Japan. Tokyo: National Science Museum. 252 pp.
Ohlert E. 1865. Arachnologische Studien // Zur öffentlichen Prüfung der Schüler der höheren Burgschule, Programm, Königsberg, 1865. S.1–12.
Ovtsharenko V. I. 1978. [Spiders of the family Salticidae (Aranei) from the Caucasus Major] // Entomologicheskoe Obozrenie. Vol.57. No.3. P.682–686 [in Russian, with English summary].
Paik K. Y. 1987. Studies on the Korean Salticidae (Araneae). III. Some new recorded species from Korea or South Korea and supplementary descriptions for two species // Korean Arachnology. Vol.3. No.1. P.3–21.
Paik K. Y. 1995. Spiders from the Island Ullleung-do, Korea II. — with descriptions of one new species and one unrecorded species from Korea // Korean Arachnology. Vol.11. No.1.

P.43–54.
Palmgren P. 1943. Die Spinnenfauna Finnlands. II. Pisauridae, Oxyopidae, Salticidae, Clubionidae, Anyphaenidae, Sparassidae, Ctenidae, Drassidae // Acta Zool. Fenn. Vol.36. P.1–112.
Patoleta B. & Żabka M. 1999. Salticidae (Arachnida, Araneae) of Islands off Australia // J. Arachnology. Vol.27. P.229–235.
Peckham G. W. & Peckham E. G. 1895. Spiders of the *Homalattus* group of the family Attidae // Occ. pap. Nat. Hist. Soc. Wisc. Vol.2. No.3. P.159–178.
Peckham G. W & Peckham E. G., 1903. New species of the family Attidae from South Africa // Trans. Wisc. Acad Sci. Arts Lett. Vol.14. No.1. P.173–278.
Peng X. J. 1989. New records of Salticidae from China (Arachnida, Araneae) // Nat. Sci. J. Hunan norm. Univ Vol.12. P.158–165.
Peng X. J., Xie L., Xiao X. & Yin C. 1993. Salticids in China. Hunan Norm. Univ Press. 270 pp. [in Chinese].
Pickard-Cambridge O., 1872. General list of the spiders of Palestine and Syria, with descriptions of numerous new species, and characters of new genera // Proc. Zool. Soc. Lond. P.212–354.
Pickard-Cambridge O., 1876. Catalogue of a collection of spiders made in Egypt, with decriptions of new species and characters of a new genus // Proc. Zool. Soc. Lond. P.541–630.
Prószyński J. 1976. Studium systematyczno-zoogeograficzne nad rodziną Salticidae (Aranei) Regionów Palearktycznego i Nearktycznego. Siedlce: Rozprawa Naukowa, WSRP. 260 pp. [in Polish]
Prószyński J. 1979. Systematic studies on East Palaearctic Salticidae. III. Remarks on Salticidae of the USSR // Annales Zoologici, Polska Akademia Nauk. T.34. No.11. P.299–369.
Prószyński J. 1984. Atlas rysunkyw diagnosticznych mniej znanych Salticidae. Siedlce: Zeszyty Naukowe WSRP. 177 pp. [in Polish].
Prószyński J. 1987. Atlas rysunkyw diagnosticznych mniej znanych Salticidae. 2. Siedlce: Zeszyty Naukowe WSRP. 172 pp. [in Polish].
Prószyński J. 1989. Salticidae (Araneae) of Saudi Arabia // Fauna of Saudi Arabia. Vol.10. P.31–64.
Prószyński J. 1990. Catalogue of Salticidae (Araneae). Synthesis of quotations in the world literature since 1940, with basik taxonomic data since 1758. Siedlce: Rozprawa Naukowa, WSRP. 336 pp. (INTERNET version <http://spiders.arizona.edu/salticid/main.htm>).
Rainbow W. J. 1911. A Census of Australian Araneidae // Rec. Austral. Mus. Vol.9. P.107–319.
Reimoser E. 1919. Katalog der echten Spinnen (Araneae) des Paläarktischen Gebietes // Abh. Zool. bot. Ges. Wien. Bd.10. Hft.2. S.1–280.
Reimoser E. 1934. Araneae aus Süd-Indien // Rev suisse zool. T.41. P.465–511.
Richman D. & Cutler B. 1978. A list of the jumping spiders (Araneae: Salticidae) of the United States and Canada // Peckhamia. Vol.1. No.5. P.82–110.
Roberts M. J. 1985. The spiders of Great Britain and Ireland 1: Atypidae to Theridiosomatidae. England: Harleu books, Colchester. 229 pp.
Roewer C. F. 1954. Katalog der Araneae von 1758 bis 1940. Bd. 2a. Bruxelles. S.927–1751.
Schenkel E. 1963. Ostasiatische Spinnen aus dem Muséum d'Histoire Naturelle de Paris. // Mém. Mus. Hist. nat. Paris. N.S. Zool. T.25. P.289–481.
Schmidt G. & Krause R. H. 1994. Zur Spinnenfauna der Inseln Sal (Kapverdische Inseln) // Arachnol. Mag. Bd.2. Hft.4. S.1–16.
Schmidt G. & Krause R. H. 1998. Spinnen von Santo Antro und Maio sowie zwei Salticidae von Fogo und São Nicolau (Cabo Verde) (Arachnida: Arneae) // Entomol. Z. Bd.108. Hft.10. S.416–428.
Simon E. 1868. Monographie des espèces européennes de la familie des Attides // Ann. Soc. ent. Fr. Sér.4. T.8. P.11–72, 529–726.
Simon E. 1871. Révision des Attidae européens. Supplément a la monographie des Attides (Attidae Sund.) // Ann. Soc. ent. Fr. Sér.5. T.1. P.125–230, 329–360.
Simon E. 1876. Les Arachnides de France. Tome 3. Paris. 360 pp.
Simon E. 1883. Etudes arachnologiques. 14e Mémoire. XXI. Matériaux pour servir à la faune arachnologique des Îles de l'Océan Atlantique: Açores, Madère, Salvaques, Canaries, Cap Vert, Saint Hélène et Bermudes // Ann. Soc. ent. Fr. Sér.6. T.3. P.259–314.
Simon E. 1885a. Études arachnologiques. 18e Mémoire. XXVI. Matériaux pour servir à la faune des Arachnides du Sénégal. (Suivi d'un appendice intitulé: Descriptions de plusiers espèce South Africaines nouvelles) // Ann. Soc. ent. Fr. Sér.6. T.5. P.354–396.
Simon E. 1885b. Matériaux pour servir à la faune arachnologique de l'Asie méridionale. III. Arachnides recueillis en 1884 dans la presqu'ole de Malacca, par M.J. Morgan. IV Arachnides recueillis a Collegal, district de Coimbatoore, par M.A. Théobald G.R. // Bull. Soc. zool. Fr. T.10. P.436–455, 456–462.
Simon E. 1885c. Matériaux pour servir à la faune arachnologique de la Nouvelle Calédonie // Ann. Soc. ent. Belg. T.29, C.R. P.LXXXVII–XCII.
Simon E. 1901a. Descriptions d'espèces nouvelles de la famille des Attidae (suite) // Ann. Soc. ent. Belg. T.45. P.141–161.
Simon E. 1901b. Histoire Naturelle des Araignées. Paris. T.2. No.3. P.385–792.
Simon E. 1901c. On the Arachnida collected during the Skeat Expedition to the Malay Peninsula // Proc. Zool. Soc. Lond 1901, Vol.2. P.45–84.
Simon E. 1902. Description d'Arachnides nouveaux de la famille des Salticidae (Attidae) (suites) // Ann. Soc. ent. Belg. T.46. P.24–54, 363–406.
Simon E. 1903a. Histoire Naturelle des Araignées. Paris. T.2. No.4. P.669–1080.
Simon E. 1903b. Études arachnologiques. 33e Mémoire. LIII. Arachnides recueillis à Phuc-Son (Annam) par M. H. Fruhstorfer (nov-déc. 1899) // Ann. Soc. ent. Fr. T.71. P. 725–736.
Simon E. 1906. Ergebnisse der mit Subvention aus der Erbschaft Treitl unternommen zoologischen Forschungsreise Dr F. Werner's nach dem ägyptischen Sudan und Nord-Uganda. VII. Araneida // Sitz.-ber. Akad. Wiss. Wien. Bd.115. S.1159–1176.
Simon E. 1907. Archnides recueillis en Egypte et le long du Nil Blanc par la Mission zoologique suédoise, 1901 // Results of of the Swedish Zoological Expedition to Egypt and the White Nile 1901 under the direction of L. A. Jägerskiöld, Uppsala. Vol.21. P.1–10.
Simon E. 1937. Les Arachnides de France. Tome 6. Synopsis général et Catalogue des espèces françaises de l'ordre des Araneae. Pt.5. Paris. P.979–1298.
Šternbergs M. T. 1974. [Materials on the spider fauna (Aranei) of Latvian SSR. I. Fam. Salticidae] // Latvian entomologist. Riga. Vol.16. P.65–70 [in Russian].
Šternbergs M. T. 1988. [Materials on the spider fauna of Primorie] // (ed. Utochkin A.): Fauna i ekologiya paukoobraznykh. Perm. P.92–97 [in Russian].
Song D. X. 1987. [Spiders from agricultural regions of China (Arachnida: Araneae)]. Beijing: Agr. Publ. House. 376 pp. [in Chinese].
Song D. X., Xie L. P., Zhu M. S. & Wu K. Y. 1997. Notes on some jumping spiders (Araneae: Salticidae) of Hong Kong // Sichuan J. Zool. Vol.16. No.4. P.149–152.
Song D. X., Zhu M. & Chen J. 1999. The spiders of China. Hebei Science and Technology Publishing House. 640 pp.
Spassky S. A. & Shnitnikov V. N., 1937. [Materials on the spider fauna of Kazakhstan] // Trudy Kazakhskogo filiala AN SSSR. No.2. P.265–300 [in Russian, with German summary].
Strand E. 1907. Diagnosen neuer Spinnen aus Madagascar und Sansibar // Zool. Anz. Bd.31. Hft.23. S.725–748.
Strand E. 1908. Beiträge zur Spinnenfauna Madagaskars // Nyt. mag. Naturw. Bd.46. Hft.2. S.97–227.
Strand E. 1909. Nordafrikanische, hauptsächlich von Carlo Freiherr von Erlanger gesammelte Oxyopiden und Salticiden

(Forts. u. Schluss) // Soc. ent. Bd.23. S.155–156, 173–175, 180–181, 187–188; 24: 4–6, 12–14, 21–22, 36–38, 44–46, 53–54, 62, 68–69, 74–76, 83–85, 90–91. + Mitt. Nat.-Kab. Stuttgart, 51: 18–33.

Strand E. 1918. Zur Kenntnis japanischer Spinnen, I und II // Arch. Naturg. Bd.82A. Hft.11. S.73–90, 90–113.

Thorell T. 1873. Remarks on Synonyms of European Spiders. Part 4. Uppsala. P.375–645.

Thorell T. 1877. Studi sui Ragni Malesi e Papuani. I. Ragni di Selebes raccolti nel 1874 dal Dott. O. Beccari // Ann. Mus. civ stor. nat. Geneva. T.10. P.341–634.

Thorell T. 1890a. Arachnidi di Nias e di Sumatra raccolti nel 1886 dal Sig. E. Modigliani // Ann. Mus. civ stor. nat. Genova. Ser.2. T.10 [=30]. P.5–106.

Thorell T. 1890b. Diagnoses Aranearum aliquot novarum in Indo-Malesia inventarum. // Ann. Mus. civ stor. nat. Genova. Ser.2. T.10 [=30]. P.132–172.

Thorell T. 1892. Studi sui Ragni Malesi e Papuani. Part IV, 2 / / Ann. Mus. civ stor. nat. Genova. T.31. P.1–490.

Thorell T. 1895. Descriptive catalogue of the spiders of Burma. British Museum, London. P.1–406.

Tikader B. K. 1975. Redescription of a jumping spider *Harmochirus brachiatus* (Thorell) with a new record from India // J. Bombay Nat. Hist. Soc. Vol.73. P.410–411.

Tullgren A. 1944. Egentliga spindlar. Araneae. Fam. 1–4. Salticidae, Thomisidae, Philodromidae och Eusparassidae // Svensk Spindelfauna. Stockholm. Vol.3. 1–136.

Urguhart A.T. 1884. On the spiders of New Zealand // Trans. N. Zeal. Inst. Vol.17. P.31–53.

Urguhart A.T. 1892. Catalogue of the described species of New Zealand Araneidae // Trans. N. Zeal. Inst. Vol.24. P.220–230.

Vilbaste A. K. 1969. [Spiders of Estonia. I. Families Xysticidae, Philodromidae and Salticidae]. Tallinn: Valgus. 224 pp. [in Estonian, with German summary].

Wesołowska W. 1981. Salticidae (Aranei) from North Korea, China and Mongolia // Annales Zoologici, PAN. T.36. No.3. P.45–83.

Wesołowska W. 1989. Notes on the Salticidae (Aranei) of the Cape Verde Islands // Ann. Mus. Civ Stor. Nat. Genova. Vol.87. P.263–273.

Wesołowska W. 1994. Notes on the African species of the genus *Harmochirus* Simon, 1885 (Aranei: Salticidae) // Genus. Vol.5. No.3. P.197–207.

Wesołowska W. & van Harten A. 1994. The jumping spiders of Yemen. Yemen: Horizons Printing and Publishing. 86 pp.

Westring N. 1851. Förteckning öfver de till närvarande tid kände, i Sverige förekommande spindelarter, utgörande ett antal af 253, deraf 132 äro nya för svenska faunan // Göteborgs Kungliga vetenskaps- och vitterhetssamhälles handlingar. Bd.2. P.25–62.

Wunderlich J. 1987. Die Spinnen der Kanarischen Inseln und Madeiras // Taxonomy & Ecology. Vol.1. P.1–435.

Wunderlich J. 1991. The spider fauna of the Macaronesian islands. Taxonomy, ecology, biogeography and evolution // Beiträge zur Araneologie. Bd.1. S.1–-619.

Yaginuma T. 1977. A list of Japanese spiders (revised in 1977) // Acta arachnologica. Vol.27. P.367–406.

Yaginuma T. 1986. [Spiders of Japan in colour. New edition]. Osaka: Hoikusha Publ. Co. 305 pp. [in Japanese].

Yin C. M. & Wang J. F. 1979. A classification of the jumping spiders (Araneae, Salticidae) collected from the agricultural field and other habitats // Bull. Hunan Teachers' Coll. (Nat. Sc.). Vol.1. P.27–69.

Yin C. M & Wang J. F. 1981. On the females of three jumping spiders from China // Acta Zootaxonomica Sinica. Vol.6. No.3. P.268–272.

Żabka M. 1985. Systematic and zoogeographic study on the family Salticidae (Araneae) from Viet-Nam // Annales Zoologici, PAN. T.39. No.11. P.1–485.

Żabka M. 1988. Salticidae (Araneae) of Oriental, Australian and Pacific Regions, III // Annales Zoologici, PAN. T.41. No.14. P.421–479.

Żabka M. 1991. Studium taksonomiczno-zoogeograficzne nad Salticidae (Arachnida: Araneae) Australii [A taxonomical-zoogeographical study on the Salticidae (Arachnida: Araneae) of Australia]. Siedlce: WSRP. 110 pp. [in Polish, with English summary].

Żabka M. 1997. Salticidae. Pająki skaczace (Arachnida: Araneae). Fauna Poloniae, Tom 19. Warszawa: Polska Akademia nauk. 189 pp.

Zhang W. S. (Ed.). 1987. [Farm spiders from Hubei Province]. Hubei Sci. Tech. Press. 299 pp. [in Chinese].

Zhong-qi F. 1990. [Spiders of China in colour]. Hunan Sci. and Techn. Publ. House. 350 pp [in Chinese].

Zonstein S. L. 1996. Order Araneae // Shukurov *et al.* (eds.): Genetical fund cadaster of Kyrghyzstan. Vol. II. VIRA, BACTERIA, ANIMALIA (Protozoa, Porifera, Coelenterata, Plathelmintes, Nemathelmines, Acanthocephales, Annelida, Bryozoa, Mollusca, Tardigrada, Arthropoda). Bishkek. P.132–153 [in Russian].