

The spider genera *Heterognatha*, *Testudinaria* and *Ursa* in South America (Araneae: Araneoidea)

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Summary

Heterognatha, *Testudinaria* and *Ursa* are known mostly from catalogue listings. The genitalia of all species are illustrated here, most for the first time. Previously undescribed males of *Heterognatha* and *Testudinaria* are described and illustrated. The only known species of *Heterognatha* is from Chile. There are nine *Testudinaria* species, three of them new: *T. bonaldoi* from southeastern Brazil, *T. debsmithae* from Peru to Surinam, and *T. gravatai* widespread in Brazil. *Testudinaria* species are distributed from Panama to Misiones Province, Argentina. It is uncertain whether *Heterognatha* and *Testudinaria* are araneids as the species lack both the specialised araneid eye tapetum and the radix of the male palpus, always present in araneids. They do have the modified, short, cup-shaped tibia of the male palpus characteristic of orb-weavers. Examination of their silk glands and knowledge of their behaviour may determine family placement. The genus *Ursa* contains four species; the type species, the Amazonian *U. pulchra*, is the only one from America. *Ursa pulchra* is based on a single female. A male will be needed for placement of the species and diagnosis of the genus.

Introduction

Little is known about the three genera included here. Most *Heterognatha* and *Testudinaria* species have not previously had their genitalia illustrated; they were known only from the original descriptions of females and their listings in catalogues (Roewer, 1942; Bonnet, 1955, 1957, 1959; Brignoli, 1983; Platnick, 2004), although Platnick (1993) examined some, and indicated that they are not mimetids. The species of *Testudinaria* have been included in two genera placed in two families, Mimetidae and Araneidae. The only male described was placed in a third genus and another was misplaced. Their familial placement is still uncertain, but both genera are close to the orb weavers, Araneidae.

The third genus, *Ursa*, includes four species, of which only the type species is American. The Amazonian *U. pulchra* is based on a single female, never previously illustrated, and without exact locality. A male will be needed for its generic placement.

The standards of description in the 19th and early 20th centuries were different from those of today. Simon and Thorell in the last part of the 19th century described hundreds of species without illustrating the critical view of the spiders or their genitalia. Most of these spiders are carefully preserved in various museums. Before the 1950s they were generally kept in a safe place, available only to experienced taxonomists visiting museums. In the last 40 years they have at last been freely available to spider taxonomists. A few have been lost when sent by mail, a hazard outweighed by the great need to correctly unite established names with specimens.

Heterognatha, *Testudinaria* and *Ursa* are uncommon spiders that have not been identified in collections, making them difficult to borrow. (It is also the reason for lack of knowledge about their habits.) The specimens that have become available were those previously misidentified in borrowed collections of other araneid genera.

It is hoped that once described and illustrated, these small spiders will prove more common and their habits and ecology will become known.

A determination key to the American genera of Araneidae (Levi, 2002) includes only *Testudinaria*, but not *Heterognatha* and *Ursa*.

Material and methods

The procedures used are those of the previous revision (Levi, 1993). Hoyer's Medium was used for clearing epigyna (Levi, 2003). All measurements are in mm. Specimens were made available from the following institutions: AMNH=American Museum of Natural History, New York, USA (W. J. Gertsch, J. A. L. Cooke, N. I. Platnick, L. Sorkin); CAS=California Academy of Sciences, San Francisco, California, USA (C. Griswold, D. Ubick); MACN=Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina (C. L. Scioscia); MCN=Museu de Ciências Naturais, Fundação Zoobotânica do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil (E. H. Buckup); MCP=Museu de Ciências, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, RS, Brazil (A. A. Lise); MCZ=Museum of Comparative Zoology, Cambridge, Massachusetts, USA; MLP=Museo de Universidad Nacional, La Plata, Argentina (C. Ituarte, L. A. Pereira); MNHN=Muséum National d'Histoire Naturelle, Paris, France (C. Rollard); PAN=Polska Akademia Nauk, Warszawa, Poland (T. Huflejt, J. Prószyński); SMNK=Staatliches Museum für Naturkunde Karlsruhe, Germany (H. Höfer); USNM=National Museum of Natural History, Smithsonian Institution, Washington, D.C., USA (J. Coddington, S. F. Larcher, D. G. Furth).

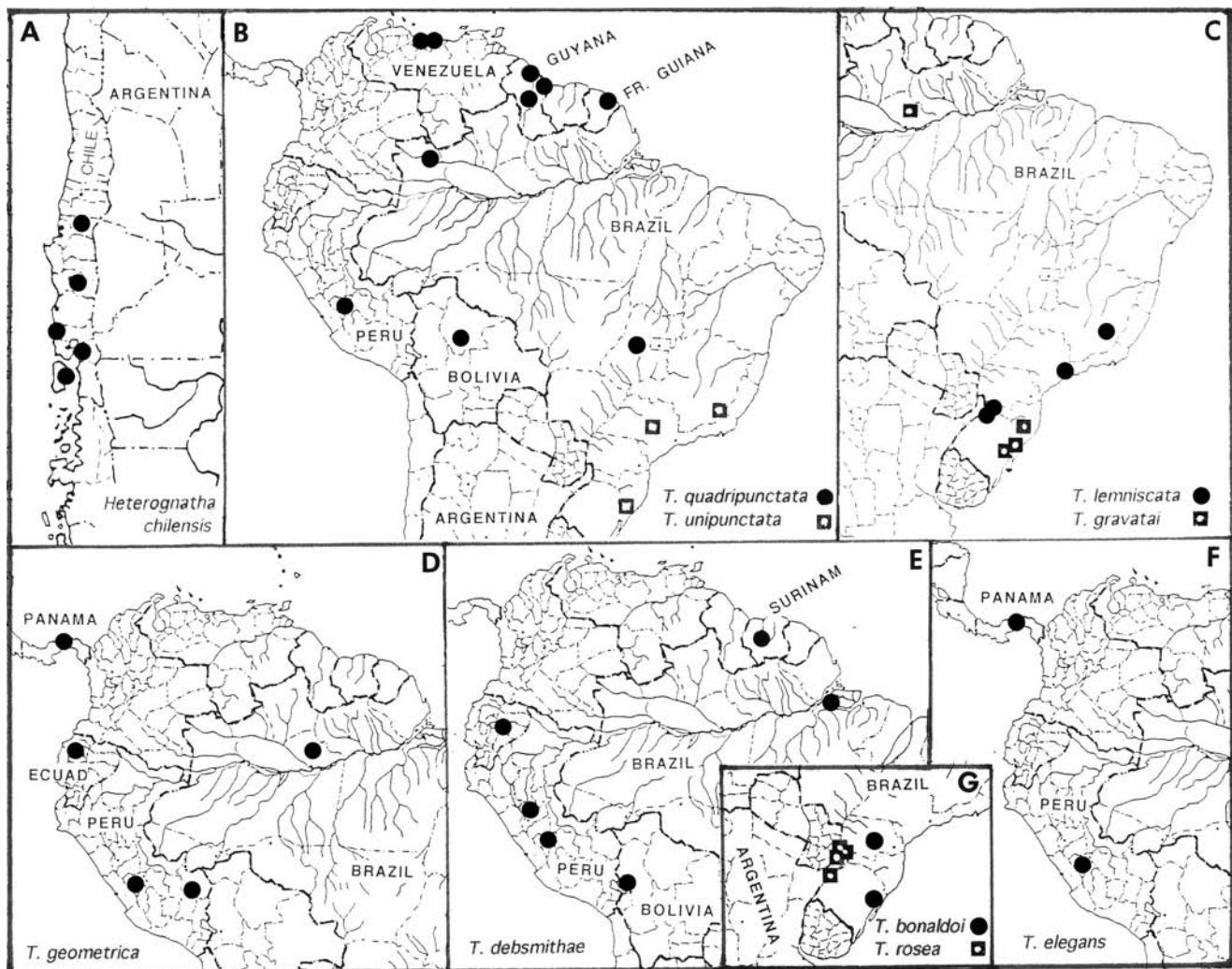
I am grateful to the curators of the collections for loaning specimens. I also wish to thank Erica Buckup, W. Eberhard, H. Höfer and N. I. Platnick for supplying locality and/or ecological data and other observations, L. Levi and the editor for carefully reading and correcting the manuscript, and L. Leibensperger for help in the laboratory and reading the manuscript.

Heterognatha Nicolet

Heterognatha Nicolet, 1849: 469; Neave, 1939b: 637; Bonnet, 1957: 2183 (designation of type species, *H. chilensis* Nicolet, 1849); Platnick, 2004. The generic name is feminine (Bonnet, 1957).

Note: The generic name was erroneously synonymised with *Araneus* by Simon, 1895: 829.

Diagnosis: The genus is distinguished from all other araneoid genera by the lanceolate outline of the abdomen (Figs. 6, 7, 9). Unlike araneid spiders, but as in *Testudinaria*, the male palpus lacks a radix (Fig. 10).



Map 1: Distribution of *Heterognatha* and *Testudinaria* species.

The two species described in *Heterognatha* by Nicolet from Chile, are here treated as synonyms.

***Heterognatha chilensis* Nicolet (Figs. 1–12, Map 1A)**

Heterognatha chilensis Nicolet, 1849: 470, pl. 5, fig. 3 (♀). Specimens from Chile, in MNHN, examined. Archer, 1963: 22.

H. margaritacea Nicolet, 1849: 471. Syntypes from Chile in MNHN, lost. Platnick, 2004.

Araneus collusor Petrunkevitch, 1911: 285. Replacement name for *H. chilensis*. If *chilensis* is in *Araneus*, it becomes a secondary homonym of *Epeira chilensis* Nicolet [= *Molinaranea magellanica* (Walckenaer)]. Bonnet, 1955: 462.

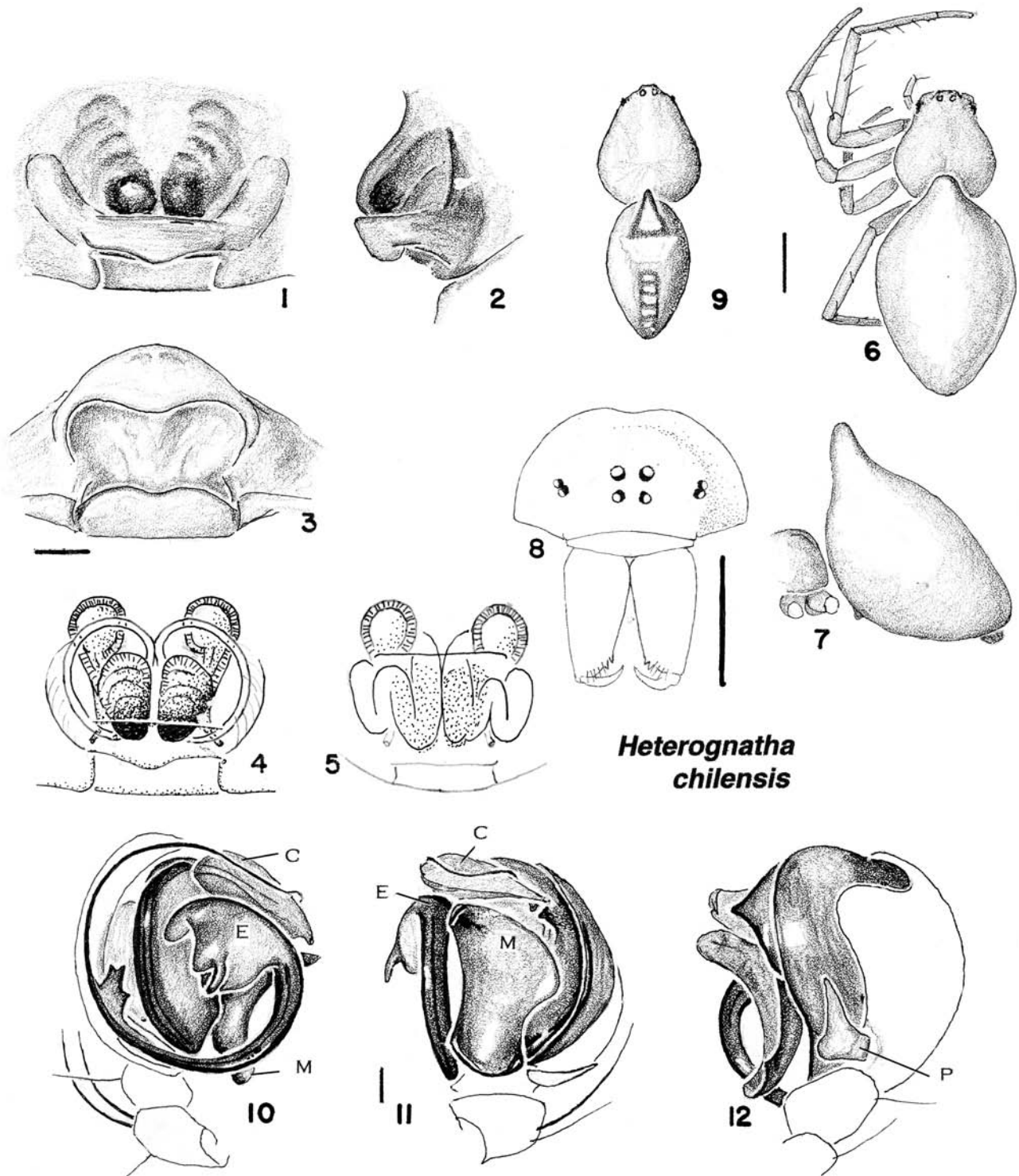
Aranea collusor: Roewer, 1942: 839.

Note: The specimens in the MNHN are probably not syntypes. Simon (1895: 829) synonymised *Heterognatha* with *Epeira*. The International Code of Zoological Nomenclature Art. 59.3 (ICZN, 1999) permits continued use of the original name if the name is removed from the genus within which it becomes a secondary homonym. The name *collusor* has been used only in catalogues. On labels in vials Simon determined specimens as *Epeira nicoleti*, but that name has not been published.

No differences are known between *H. chilensis* and *H. margaritacea*.

Description: Female (Chiloe Prov., Chile): Carapace, sternum and legs yellowish white with black pigment on eyes (Fig. 6). Abdomen white, venter with white pigment spots anteriorly and at sides of pedicel. PME 1.2 diam. of AME, laterals subequal. AME 1.5 diam. apart, 4 diam. from ALE; PME 1.2 diam. apart, 4 diam. from PLE. Median eye trapezoid wider than long, slightly wider behind. Height of clypeus 2 diam. of AME (Fig. 8). Legs with macrosetae. Abdomen lanceolate (Figs. 6, 7). Total length 5.2. Carapace 1.8 long, 1.7 wide in thoracic region, 1.2 wide behind PLE. Leg I femur 2.0, patella+tibia 2.2, metatarsus 1.4, tarsus 1.1. Leg II patella+tibia 1.8, III 1.3, IV 1.7.

Male (Chiloe Prov., Chile): Colour as in female except abdomen with pigment patches and grey markings dorsally. Distal ends of femora, patellae and distal ends of tibiae brown. PME 1.2 diam., PLE 1.1 diam. of AME. AME 1.5 diam. apart, 4 diam. from ALE; PME 1.2 diam. apart, 3 diam. from PLE. Median eye trapezoid wider than long, slightly wider behind. Height of clypeus 3 diam. of AME. Legs with macrosetae. Abdomen lanceolate (Fig. 9). Total length 4.0. Carapace 1.8 long, 1.7 wide in thoracic region, 1.0 wide behind PLE. Leg I femur 2.2, patella+tibia 2.4, metatarsus 1.7, tarsus 0.5. Leg II patella+tibia 1.9, III 1.3, IV 1.7.



Figs. 1-12: *Heterognatha chilensis* Nicolet. 1-8 Female. 1-5 Epigynum: 1 Ventral; 2 Lateral; 3 Posterior; 4, 5 Cleared. 6 Dorsal; 7 Abdomen, lateral; 8 Cephalic region and chelicerae. 9-12 Male. 9 Dorsal; 10-12 Left palpus: 10 Mesal; 11 Ventral; 12 Ectal. Abbreviations: C=conductor, E=embolus, M=median apophysis, P=paracymbium. Scale lines=0.1 mm (1-5, 10-12), 1.0 mm (6-9).

Variation: Total length of females 3.3-5.8, males 4.0-4.7. Coloration variable. Illustrations made from specimens from Dalcahue.

Diagnosis: The lanceolate outline of the abdomen (Figs. 6, 7, 9) distinguishes the species from all other araneid species. The lightly sclerotised epigynum has a transverse bar and a posterior depression (Figs. 1-3). The internal ducts could not be followed (Figs. 4, 5). The palpus (Figs. 10-12) is similar to that of *Testudinaria* species, but differs in the shapes of the sclerites. The

paracymbium (Fig. 12: P) appears to be a separate sclerite, not part of the cymbium.

Material examined: CHILE: *Ñuble:* Los Lleuques, 6-20 December 1985, 1♀ 1♂ (L. Umana). *Cautin:* 30 km NE Villarrica, January 1965, 1♂ 10 imm. (L. Peña, MCZ). *Osorno:* Pucatrihue, coast of Osorno, 26-28 March 1968, 1♀ (L. Peña, MCZ). *Llanquihue:* 2-3 km W Ensenada, 18 March 1965, 1♀ (H. Levi, MCZ). *Chiloe:* Dalcahue, 1-4 April 1968, 1♀ 1♂ (L. Peña, MCZ).

Testudinaria Taczanowski

Testudinaria Taczanowski, 1879: 131. Simon, 1895: 907 (designation of type species, *T. geometrica* Taczanowski, 1879); Neave, 1940: 433; Roewer, 1942: 911; Bonnet, 1959: 4312; Platnick, 2004. The generic name is feminine (Bonnet, 1959).

Arcidius Simon, 1893: 327. Bonnet, 1955: 639 (designation of type species, *A. unipunctatus* Simon, 1893); Neave, 1939a: 282. Synonymised with *Gnolus* by Simon, 1895: 913. **New synonymy.**

Nanduti Mello-Leitão, 1945. Type species by monotypy: *N. roseus* Mello-Leitão, 1945. Neave, 1950: 166; Brignoli, 1983: 276. Synonymised with *Testudinaria* by Levi, 2002: 562.

Note: *Arcidius* was described in the family Mimetidae because of the large macrosetae on the legs of *A. unipunctatus*. It was described from a male and was not recognised as belonging in *Testudinaria*.

Diagnosis: Small spiders, less than 4 mm in total length. *Testudinaria* differs from all araneid genera by lacking a radix in the male palpus. It differs from *Heterognatha*, which also lacks a radix, by having the abdomen shield-shaped, flattened, rounded anteriorly, and extended posteriorly (Figs. 13, 21). The clypeus may be higher than two diam. of AME. Some species have tortoise-like sclerites on the abdomen (Figs. 43, 51). The sternum may be posteriorly truncate (Fig. 42). Legs unusually thin (Figs. 13, 17), with (Fig. 21) or without macrosetae (Figs. 13, 17). *Testudinaria* differs from *Hypognatha* (Levi, 1996) by having a narrower abdomen and the sclerites less sclerotised.

Description: Whitish to orange-coloured species, orange with sclerites on abdomen, some with black marks on dorsum of abdomen. Carapace without thoracic depression, but sometimes shallow groove posteriorly dividing thoracic region. Eyes subequal, sometimes AME slightly smaller than others. Median ocular trapezoid (measured outside eyes) square to slightly wider than long; usually slightly wider posteriorly (except *T. gravatai* and some *T. debsmithae* which are slightly narrower behind). Clypeus height 1.8–4 diam. of AME. Chelicerae with small teeth (Fig. 16). Legs lacking macrosetae (Fig. 17) or with paired macrosetae (Fig. 21). Femur I same length as patella+tibia. (In araneids femora are usually shorter than patellae+tibiae.) Sternum posteriorly rounded to truncate (Fig. 42). Abdomen shield-shaped to sub-triangular, slightly flattened, dorsum and venter sometimes with sclerites, which may be indistinct.

Epigynum a lightly sclerotised depression (Figs. 14, 22, 72). Internal ducts often with spiral coil (Figs. 15, 23) and thin sac behind outside opening (Figs. 38, 55).

Male: Lacking endite tooth, coxal hook, palpal patellar seta and palpal radix.

Natural history: Virtually nothing is known. They are believed to live in or above forest litter (collections were made by A. M. Chickering, a litter spider collector) and may make an orb web at night (observation of *T. debsmithae* by W. Eberhard in Panama).

Distribution: All known species are American.

Relationships: The similar genitalia indicate that species with and without paired leg setae belong in the same genus, although the setose ones have been considered as mimetids, and those without as araneids.

The family to which *Testudinaria* belongs is uncertain. The epigynum, lacking a scape, lobe or sclerotised structures (Figs. 14, 22) resembles that of theridiids. The palpus is as in araneids, but lacks a radix (Fig. 19). (In *T. geometrica* and *T. rosea* the base of the embolus is divided (Figs. 49, 58), suggesting the origin of a radix.) The palpal tibia is short like that of araneids. The eye structure does not have an araneoid tapetum. It is also not known whether they all make an orb-web or have flagelliform and aggregate silk glands.

Diagnostic characters: The soft openings of the epigyna are quite variable, but the internal genitalia are a more reliable distinguishing character. The soft epigyna make it easy to discern the internal ducts even without clearing. The placement of the sclerites of the abdomen and its black markings are also diagnostic. Except for the shape of the abdomen, all species are of about the same size and proportion.

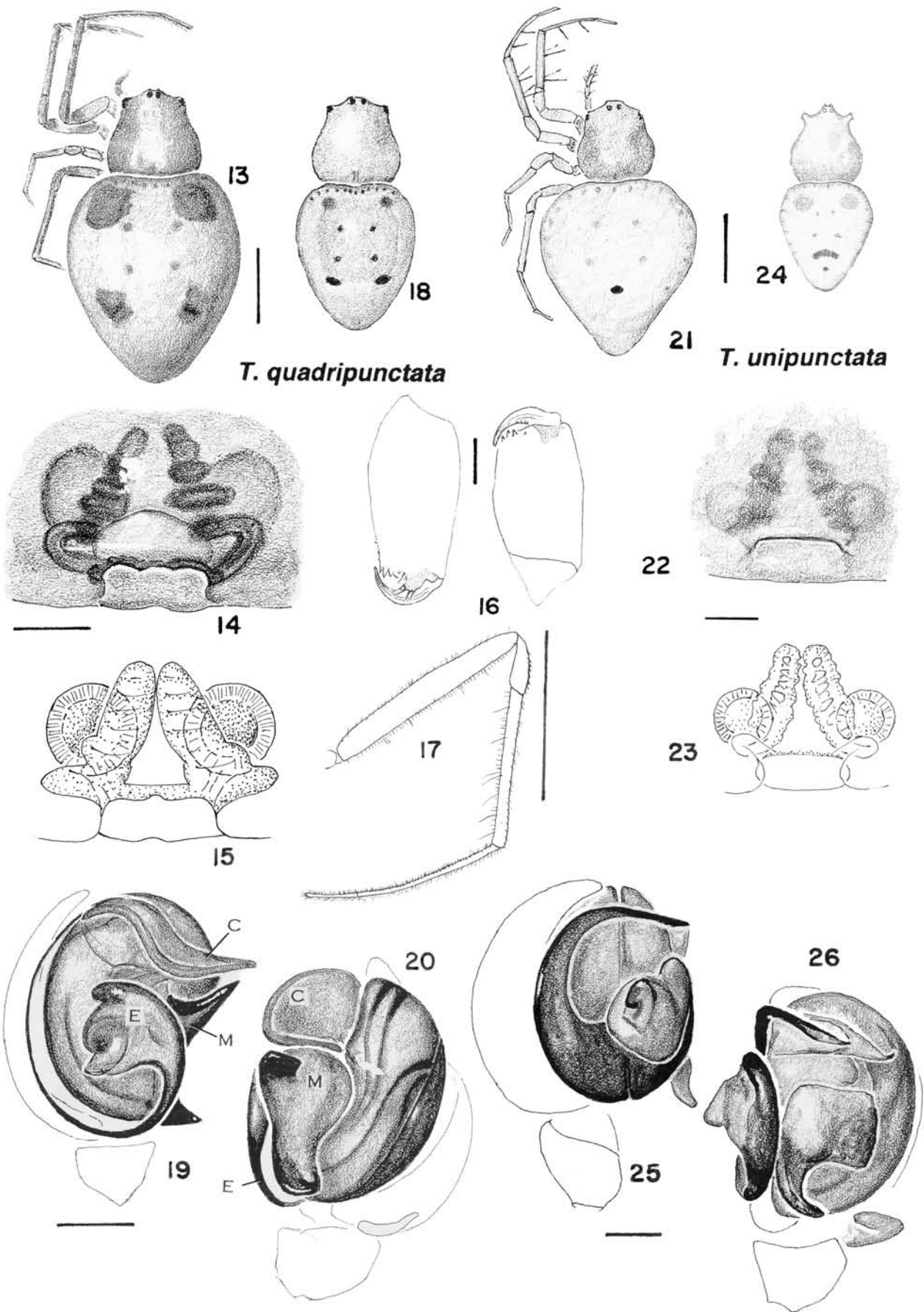
Males are easily distinguished by the structure of their median apophysis (Fig. 20: M) in the palpus.

Key to females

1. Abdomen with sclerites (Figs. 43, 51, 60, 70).....2
 - Abdomen without sclerites (Figs. 13, 21, 27, 33).....5
2. Single fused median anterior peripheral plate on abdomen (Fig. 70)*elegans*
 - Two separate median anterior peripheral plates (Figs. 43, 51, 60)3
3. Two transverse median plates (Figs. 60, 64, 67)*debsmithae*
 - Median plates otherwise (Figs. 43, 51)4
4. Four large median plates (Fig. 43).....*geometrica*
 - Two longitudinal median plates (Fig. 51).....*rosea*
5. Abdomen with one median posterior black spot (Fig. 21)*unipunctata*
 - Abdomen marked otherwise (Figs. 13, 27, 33).....6
6. Abdomen with 4 or 2 black spots (Fig. 13).....*quadripunctata*
 - Abdomen marked otherwise (Figs. 27, 33).....7
7. Abdomen anteriorly marked with series of small squares (Fig. 39)*gravatai*
 - Abdomen marked otherwise (Figs. 27, 33).....8
8. Legs with pairs of long silvery setae (Fig. 33); abdomen with anterior transverse silvery mark (Fig. 33).....*lemniscata*
 - Legs without macrosetae; abdomen with dusky ring-shaped mark (Fig. 27).....*bonaldoi*

Key to males

1. Median apophysis with one or two distal spurs (Figs. 26, 41) ...2
 - Median apophysis without distal spurs (Figs. 20, 32, 50, 59).....3
2. Median apophysis with one spur (Fig. 26).....*unipunctata*
 - Median apophysis with two spurs (Fig. 41)*gravatai*
3. Median apophysis transverse, wider than long (Fig. 59).....*rosea*
 - Median apophysis longitudinal, longer than wide (Figs. 20, 32, 50).....4
4. Median apophysis with proximal tooth or keel next to embolus (Figs. 20, 32).....5
 - Median apophysis without teeth or keel (Fig. 50)*geometrica*
5. Median apophysis with proximal tooth (Fig. 32)*bonaldoi*
 - Median apophysis with proximal keel (Fig. 20).....*quadripunctata*



Figs. 13-26: 13-20 *Testudinaria quadripunctata* Taczanowski. 13-17 Female. 13 Dorsal; 14, 15 Epigynum: 14 Ventral; 15 Cleared. 16 Chelicerae, anterior and posterior; 17 Leg I. 18-20 Male. 18 Dorsal; 19-20 Left palpus: 19 Mesal; 20 Ventral. 21-26 *T. unipunctata* (Simon). 21-23 Female. 21 Dorsal; 22, 23 Epigynum: 22 Ventral; 23 Cleared. 24-26 Male. 24 Dorsal; 25, 26 Palpus: 25 Mesal; 26 Ventral. Scale lines=1.0 mm (13, 17-18, 21, 24), 0.1 mm (14-16, 19-20, 22-23, 25-26).

***Testudinaria quadripunctata* Taczanowski (Figs. 13–20, Map 1B)**

Testudinaria quadripunctata Taczanowski, 1879: 135, pl. 2, fig. 44 (♀). Two female and one male syntypes from Amable María [Junín, Prov. Tarma], Peru, in PAS, examined.

Gnolus quadripunctatus: Simon, 1895: 912; Roewer, 1942: 912; Bonnet, 1957: 2029; Platnick, 2004, in Mimetidae.

Scoloderus soaresi Mello-Leitão, 1945b: 172, fig. 2 (♂). Male from Pirapetinga, Pirenópolis, Goiás, Brazil. Male holotype lost; not in MNRJ, MZSP (R. P. da Rocha, pers. comm.). Brignoli, 1983: 279; Platnick, 2004. **New synonymy.**

Note: Simon (1895) transferred the species to *Gnolus* because of the lack of abdominal plates.

Scoloderus soaresi is most likely *T. quadripunctata*. The palpus illustrated resembles that of *T. quadripunctata*. The palpus is small and the base of the embolus is incorrectly outlined. Also, the tibial extension in Mello-Leitão (1945: fig. 2) is actually the proximal end of the median apophysis. The sizes match approximately and both have four black patches on the abdomen.

Description: Female (syntype): Carapace, legs and sternum yellowish brown (Fig. 13). Legs distally grey except for proximal ends of femora. Abdomen yellowish with two pairs of black patches dorsally, but no sclerites (Fig. 13). PME about 1.2 diam. of AME, ALE 2 diam., PLE 1.5 diam. AME their diam. apart, 3.5 diam. from laterals; PME 0.8 diam. apart, 4 diam. from PLE. Height of clypeus 3.5 diam. of AME. Sternum truncate behind. Legs without macrosetae (Fig. 17). Total length 3.3. Carapace 1.3 long, 1.0 wide in thoracic region, 0.7 wide behind lateral eyes. Leg I femur 1.5, patella+tibia 1.4, metatarsus 1.2, tarsus 0.4. Leg II patella+tibia 1.3, III 0.8, IV 1.2.

Male (syntype): Coloration as in female. Eyes subequal. AME 0.8 diam. apart, 3 diam. from ALE; PME their diam. apart, 4 diam. from PLE. Height of clypeus about 4 diam. of AME. Abdomen (Fig. 18). Total length 2.8. Carapace 1.2 long, 0.9 wide in thoracic region, 1.1 wide behind lateral eyes. Leg I femur 1.3, patella+tibia 1.3, metatarsus 1.1, tarsus 0.4. Leg II patella+tibia 1.2, III 0.6, IV 1.1.

Note: Males and females were matched because they have been collected together both in Peru and Venezuela and have similar markings.

Variation: Total length of females 3.3–3.8, males 2.5–2.8. The black spots have diffuse borders in the holotype, discrete in the Colombian specimens, and one female has the black spots bordered by a white ring, forming eyes. Female from Venezuela has eyes subequal, male from Venezuela has PME 1 diam. of AME, ALE 1.2 diam., PLE 1.1 diam. Most illustrations were made from female and male syntypes, except Figs. 19, 20 from a male from Venezuela.

Diagnosis: The four dorsal black abdominal patches (Figs. 13, 18) are diagnostic; rarely there are only two posterior patches. The opening of the epigynum, unlike that of *T. unipunctata*, has lateral lips. The area of the opening is folded backward, so that the opening faces almost posteriorly (Figs. 14, 15). The connecting duct is coiled (Figs. 14, 15). The male is distinguished by the proximal keel of the median apophysis (Fig. 20: M).

Natural history: Specimens were found by sweeping forest floor near Altagracia, Venezuela; in cloud forest in Rancho Grande, Venezuela; in web in wet, mature stand of banana trees in forest on steep side of Mt. Montabo, French Guiana, facing ocean; forest savanna in Guyana; canopy fog sample of Mora tree in Kurupukari, Guyana; and on trail from forest camp in Bolivia.

Material examined: VENEZUELA: *Aragua*: Maracay, Rancho Grande, 1200 m, 1–10 August 1987, 1♂ (Bordan & S. Peck, AMNH). *Miranda*: 35 km N Altagracia, Guatobo Natl. Park, 400 m, Agua Blanca, 3–10 June 1987, 2♀ 2♂ 2 imm. (S. & J. Peck, AMNH, MCZ). GUYANA: Canje Ikuruwa River, 05°70'N, 57°50'W, August–December 1961, 1♀ (G. Bentley, AMNH); Inokrama Forest Research Station, 1 km N Kurupukari, 14–19 January 1996, 1♀ 1♂ 1 imm. (W. Tschinkel, CAS); Upper Takutu, Upper Essequibo Region, 4.4 km S Gunn's Strip, 1°36'N, 58°38'W, 240 m, 6–15 July 1999, 1♀ 1♂ (J. A. Coddington *et al.*, USNM). FRENCH GUIANA: Mt. Montabo, Cayenne, 1 January 1982, 1♀ (S. Marshall, AMNH). BRAZIL: *Amazonas*: São Gabriel da Cachoeira, Maturacá, 12 October 1990, 1♀ 1♂ (A. A. Lise, MCP 1348). BOLIVIA: *Bení*: Estacion Biológica Bení, 14°47'S, 66°15'W, 225 m, 7 September 1987, 1♀ (S. Larcher, USNM).

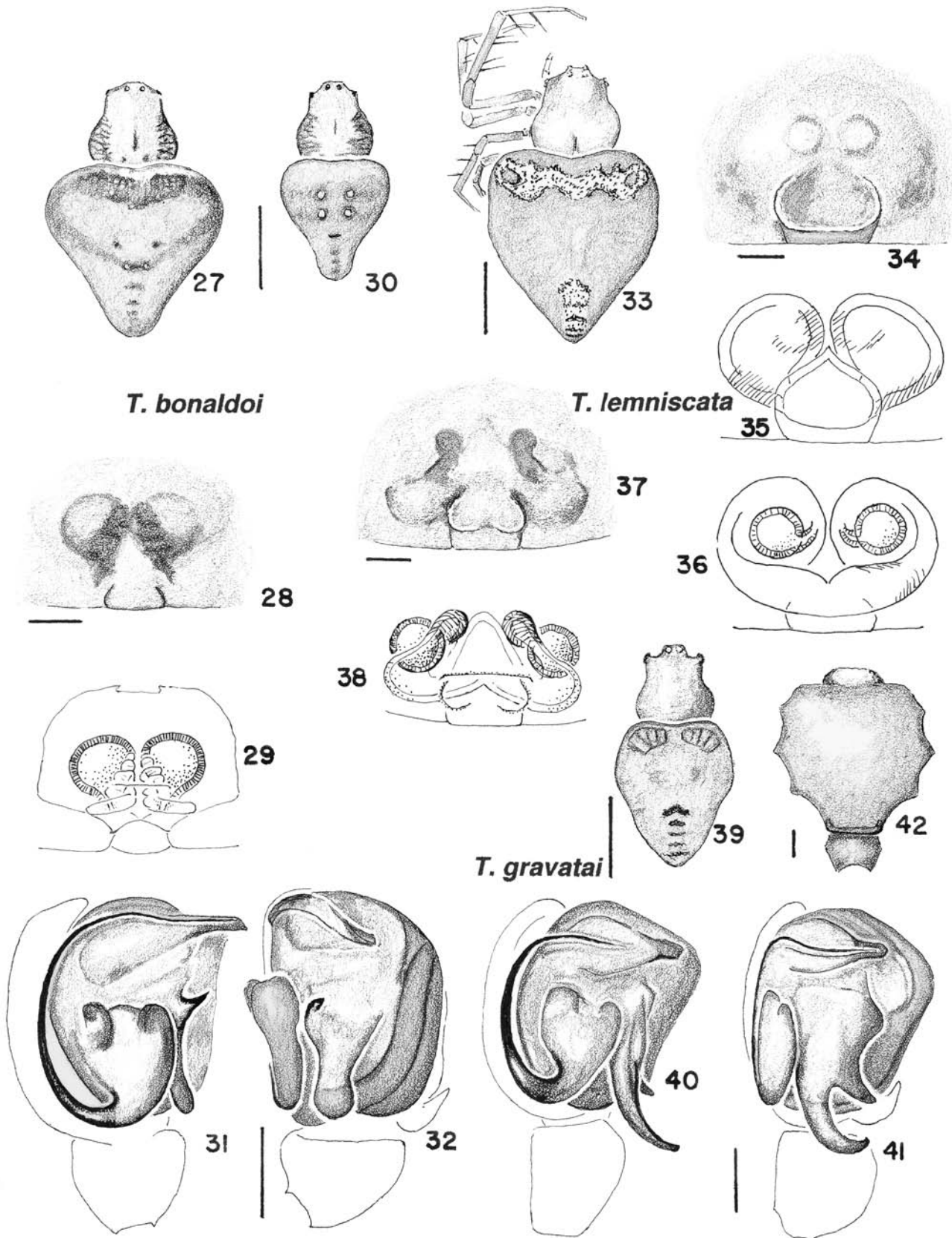
***Testudinaria unipunctata* (Simon), new combination (Figs. 21–26, Map 1B)**

Arcidius unipunctatus Simon, 1893: 327, pl. 7, fig. 6 (♀). Seven female syntypes from Serra do Caraça, Catas Altas, Minas Gerais, Brazil (E. Gounelle), in MNHN no. 9179, examined.

Gnolus unipunctatus: Simon, 1895: 913; Roewer, 1942: 912; Bonnet, 1957: 2029; Platnick, 2004.

Description: Female (holotype): Carapace, sternum and legs light orange, eyes with little black pigment (Fig. 21). Abdomen dorsally colourless with posterior, discrete, median black spot (Fig. 21). Eyes small. Posterior and lateral eyes 2 diam. of AME. AME 1 diam. apart, 7 diam. from ALE; PME 1 diam. apart, 6 diam. from PLE. Height of clypeus more than 4 diam. of AME. Sternum pointed posteriorly. Tibiae I and II with two pairs of long macrosetae, tarsi with two single macrosetae (Fig. 21). Abdomen dorsally with indistinct round sclerites along anterior and lateral margins (Fig. 21). Total length 3.7. Carapace 1.4 long, 1.3 wide in thoracic region, 1.0 wide behind PLE. Leg I femur 1.7, patella+tibia 1.7, metatarsus 1.2, tarsus 0.4. Leg II patella+tibia 1.4, III 1.0, IV 1.3.

Male (São Paulo State): Coloration as in female. Eyes on projections (Fig. 24). PME 1.1 diam. of AME, laterals 1.2 diam. AME 1 diam. apart, 3.3 diam. from ALE; PME 1 diam. apart, 4.5 diam. from PLE. Height of clypeus more than 3 diam. of AME. Sternum pointed posteriorly. Tibiae I and II with two pairs of long macrosetae, tarsi with two single macrosetae. Abdomen dorsally with indistinct round sclerites along anterior and lateral margins (Fig. 24). Total length 2.7. Carapace 1.2 long, 1.1 wide in thoracic region, 0.7 wide behind PLE. Leg I femur 1.3, patella+tibia 1.3, metatarsus 1.0, tarsus 0.4. Leg II patella+tibia 1.2, III 0.7, IV 1.1.



Figs. 27-42: 27-32 *Testudinaria bonaldoi* new species. 27-29 Female. 27 Dorsal; 28, 29 Epigynum: 28 Ventral; 29 Cleared. 30-32 Male. 30 Dorsal; 31, 32 Left palpus: 31 Mesal; 32 Ventral. 33-38 *T. lemniscata* (Simon), female. 33 Dorsal; 34-38 Epigynum: 34, 37 Ventral; 35, 38 Cleared; 36 Cleared, dorsal. 34-36 (holotype, Minas Gerais); 37, 38 (Santa Catarina). 39-41 *T. gravatai* new species, male. 39 Dorsal; 40, 41 Palpus: 40 Mesal; 41 Ventral. 42 *T. geometrica* Taczanowski, female sternum and pedicel. Scale lines=1.0 mm (27, 30, 33, 39), 0.2 mm (42), 0.1 mm (28-29, 31-32, 34-38, 40-41).

Note: Males and females were matched because of similar markings.

Variation: Total length of females 3.3–3.7. Illustrations made from a female syntype and male from São Paulo.

Diagnosis: The female can be distinguished from the other species by the single dorsal black spot posteriorly on the abdomen (Figs. 21, 24), and from *T. quadripunctata* by the longer coil of connecting ducts between the seminal receptacles (Figs. 22, 23). The male can be distinguished from the other species by the distal spur of the median apophysis of the palpus (Fig. 26), and by lacking the second shorter spur present in *T. gravatai* (Fig. 41), and also by having a wider embolus (Fig. 25) than that of other species of *Testudinaria*. Unlike *T. quadripunctata*, *T. unipunctata* has legs with macrosetae (Fig. 21).

Material examined: BRAZIL: São Paulo: Piracicaba, 3 July 1944, 1♂ (A. Zamith, A. Correa, MCN 27376). Rio Grande do Sul: Vacaria, 21–25 May 1982, 1♀ (A. A. Lise, MCN 10347); Vacaria, Fazenda dos Pinheiros, 23 May 1981, 1♀ (A. A. Lise, MCN 9731).

***Testudinaria bonaldoi* new species** (Figs. 27–32, Map 1G)

Types: Female holotype and male paratype from Arroio Pesqueiro, Viamão, Rio Grande do Sul, 30°09'S, 50°57'W, Brazil, 30 May 2000 (A. B. Bonaldo), in MCN 32869.

Etymology: The species is named after the collector, the arachnologist Alexandre B. Bonaldo.

Diagnosis: Females are distinguished from most species by lacking sclerites on the abdomen and from others, including *T. quadripunctata*, by their markings (Fig. 27), the shape of the depression of the epigynum and the shorter coil of the connecting ducts (Figs. 28, 29). Males differ from most species by lacking sclerites and from others, including *T. quadripunctata*, by their markings (Fig. 30) and by having a proximal tooth on the median apophysis (Fig. 32).

Description: *Female* (holotype): Carapace yellow-white, with sides of thorax streaked black. Legs yellow-white, with tibiae I–II brown and all femora dusky brown. Dorsum of abdomen grey anteriorly with white spots, including transverse light patch in centre, with white pigment spots at ends of light patch (Fig. 27). PME and laterals 1.5 diam. of AME. AME 1.5 diam. apart, 2.1 diam. from ALE; PME 1.1 diam. apart, 2.5 diam. from PLE. Median eye trapezoid wider than long, slightly wider behind. Height of clypeus 2 diam. of AME. Sternum rounded posteriorly, but not sclerotised. Legs with only thin white setae on tarsi. Total length 3.0. Carapace 1.1 long, 1.0 wide in thoracic region, 0.7 wide behind PLE. Leg I femur 1.4, patella+tibia 1.5, metatarsus 1.0, tarsus 0.4. Leg II patella+tibia 1.2, III 0.8, IV 1.1.

Male (paratype): Carapace as in female. Legs dusky. Dorsum of abdomen dusky with four light spots and posterior median row of transverse marks (Fig. 30). Eyes subequal. AME 1.2 diam. apart, 1.5 diam. from ALE; PME 1.2 diam. apart, 2.2 diam. from PLE. Median eye trapezoid rectangular, wider than long. Height of

clypeus 3 diam. of AME. Total length 2.6. Carapace 1.0 long, 0.9 wide in thoracic region, 0.6 wide behind PLE. Leg I femur 1.2, patella+tibia 1.1, metatarsus 0.8, tarsus 0.2. Leg II patella+tibia 0.9, III 0.6, IV 0.8.

Note: Males and females were matched because both have been collected in Viamão and have similar markings.

Variation: Total length of males 2.3–2.6. Illustrations made from female holotype and male allotype.

Other material examined: *Paratypes:* BRAZIL: Paraná: Guarapuava, Estância Santa Clara, 22 November 1987, 1♂ (A. Brescovit, MCN 17126). Rio Grande do Sul: Viamão, 1 October 1994, 1 imm. (A. Lise *et al.*, MCP 8180); Guaíba, Fazenda São Maximiano, 9 January 1996, 1♂ (A. A. Lise *et al.*, MCP 8218).

***Testudinaria lemniscata* (Simon), new combination** (Figs. 33–38, Map 1C)

Arcidius lemniscatus Simon, 1893: 328, pl. 7, fig. 7 (♀). Female holotype from Caraça, Minas Gerais, Brazil (E. Gounelle), in MNHN no. 9178, examined and labelled.

Gnolus lemniscatus: Simon, 1895: 913; Roewer, 1942: 912; Bonnet, 1957: 2028; Platnick, 2004.

Description: *Female* (holotype): Carapace yellow, lateral eyes on dark pigment. Chelicerae, sternum and legs yellowish white. Dorsum of abdomen with transverse white band anteriorly and median longitudinal white band posteriorly (Fig. 33); anterior band includes some white sclerotised spots and marbled lines. Venter of abdomen yellowish. Median eyes subequal, laterals 1.2 diam. of medians. AME 1.5 diam. apart, 3.8 diam. from ALE; PME 2 diam. apart, 4.2 diam. from PLE. Height of clypeus 3 diam. of AME. Legs with macrosetae (Fig. 33). Total length 3.7. Carapace 1.3 long, 1.2 wide in thoracic region, 0.8 wide behind PLE. Leg I femur 1.4, patella+tibia 1.5, metatarsus 1.0, tarsus 0.4. Leg II patella+tibia 1.3, III 1.0, IV 1.3.

Male: Unknown.

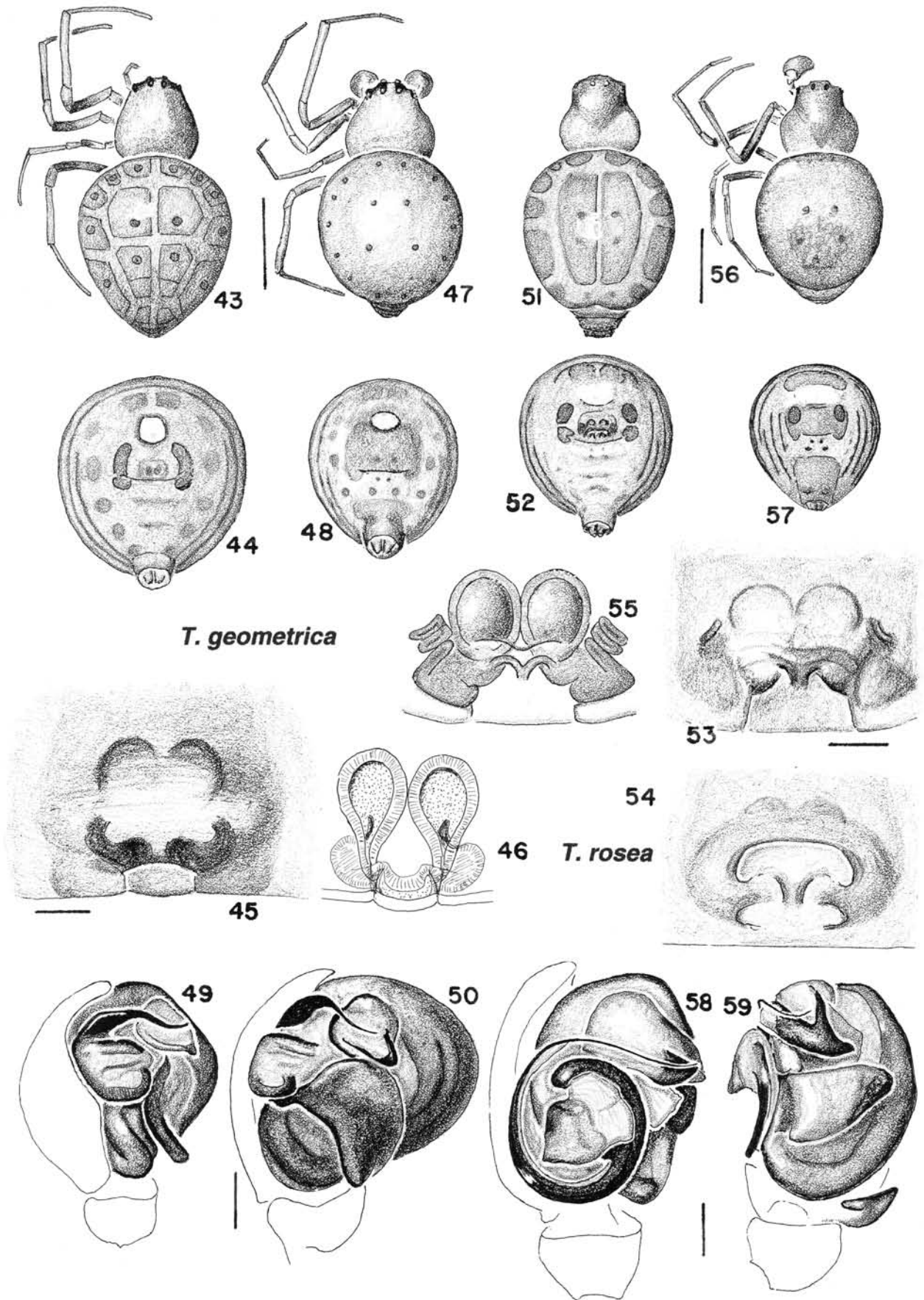
Variation: Total length of females 3.3–3.4. Genitalia and eye positions variable. Figures 33–36 were made from female holotype, Figs. 37, 38 from a female from Nova Teutônia.

Diagnosis: *Testudinaria lemniscata* is distinct from *T. gravatai* and *T. quadrimaculata* because it has macrosetae on the legs and the dorsal abdomen pattern has an anterior transverse white or silvery band (Fig. 33). Unlike the other species with no sclerites on the abdomen, the connecting ducts of the epigynum are very wide and thin, and there is no coil (Figs. 34–38).

Material examined: BRAZIL: São Paulo: São Paulo, Forest Reserve, 16 January 1959, 1♀ (A. M. Nadler, AMNH). Santa Catarina: Estrada Nova Teutônia, 27°11'S, 52°29'W, 1 February 1996, 1♀ (A. Bonaldo *et al.*, MCN 27121). Rio Grande do Sul: Tenente Portela, 29 November 1978, 1♀ (H. Bischoff, MCN 8440).

***Testudinaria gravatai* new species** (Figs. 39–41, Map 1C)

Type: Male holotype from Morungava, Gravataí, Rio Grande do Sul, Brazil, 11 January 1959 (Ditadi) in MCN no. 11460.



Figs. 43-59: **43-50** *Testudinaria geometrica* Taczanowski. **43-46** Female. **43** Dorsal; **44** Abdomen, ventral; **45, 46** Epigynum: **45** Ventral; **46** Cleared. **47-50** Male. **47** Dorsal; **48** Abdomen, ventral; **49-50** Left palpus: **49** Mesal; **50** Ventral. **51-59** *T. rosea* (Mello-Leitão). **51-55** Female. **51** Dorsal; **52** Abdomen, ventral; **53-55** Epigynum: **53** Ventral; **54** Ventral, slightly posterior; **55** Cleared, dorsal. **56-59** Male. **56** Dorsal; **57** Abdomen, ventral; **58, 59** Left palpus: **58** Mesal; **59** Ventral. Scale lines=1.0 mm (43-44, 47-48, 51-52, 56-57), 0.1 mm (45-46, 49-50, 53-55, 58-59).

Etymology: The specific name is a noun in apposition named after the type locality.

Diagnosis: The coloration pattern (Fig. 39) and two spurs at the distal end of the median apophysis (Figs. 40, 41) distinguish the male from *T. quadripunctata*, and the presence of the second short spur also distinguishes it from *T. unipunctata* (Fig. 26). Unlike the female of *T. lemniscata*, the male lacks macrosetae on the legs. The female of *T. gravatai* is unknown.

Description: *Male* (holotype): Carapace, sternum, legs and abdomen yellow-white (Fig. 39). Eyes on black pigment. Legs with black retrolateral line along femora I and II, a black patch on patellae and distally on tibiae. Abdomen anteriorly with series of lateral adjacent black rectangles containing white pigment, and posteriorly with five median transverse black marks (Fig. 39); venter without marks. Eyes subequal. AME 1.0 diam. apart, 2 diam. from ALE; PME 0.9 diam. apart, 3 diam. from PLE. Median eye trapezoid slightly wider than long, slightly narrower behind. Height of clypeus 2 diam. of AME. Sternum broadly rounded posteriorly. Metatarsi with only thin white setae. Total length 2.7. Carapace 1.3 long, 1.1 wide in thoracic region, 0.7 wide behind PLE. Leg I femur 1.5, patella+tibia 1.5, metatarsus 1.1, tarsus 0.7. Leg II patella+tibia 1.3, III 0.8, IV 1.2.

Variation: Total length of males 2.5–3.2. Pattern of rectangles may be much longer in some males than in male illustrated. Patellae may have ventral marks, and sometimes with longitudinal ventral black lines on femora or tibiae. Illustrations made from male holotype.

Female: Unknown.

Material examined: BRAZIL: Amazonas: Manaus, Reserva Florestal Adolpho Ducke, 26 July 1973, 1♂ (L. P. Albuquerque, MCN 33535). Santa Catarina: Rancho Queimado, 12 October 1994, 1♂ (A. B. Bonaldo, MCN 25833). Rio Grande do Sul: Viamão, 8 December 1992, 1♂ (A. P. Petersen, MCP 2810); 1 November 1994, 1 imm. (A. A. Lise, MCP 5817); Estação Fitotécnica, Viamão, 23 September 1994, 1♂ (A. A. Lise *et al.*, MCP 5546).

Testudinaria geometrica Taczanowski (Figs. 42–50, Map 1D)

Testudinaria geometrica Taczanowski, 1879: 133, pl. 2, fig. 24 (♀). Female holotype from Amable María [Junín, Prov. Tarma], Peru, in PAN, examined. Simon, 1895a: 907, fig. 971 (♀); Roewer, 1942: 911; Bonnet, 1959: 4312; Platnick, 2004.

Description: *Female* (holotype): Carapace and sternum orange-brown. Legs brown, distal articles lighter, coxae lighter than sternum and femora. Abdomen orange-brown (Fig. 43). Carapace fairly high in thoracic region with no thoracic depression. PME 0.8 diam. of AME, laterals 1.2 diam. AME 1.5 diam. apart, slightly more than 1 diam. from ALE; PME 1.8 diam. apart, about 1.8 diam. from PLE. Height of clypeus more than 2 diam. of AME. Abdomen with dorsal and ventral scutes (Figs. 43, 44). Total length 3.0. Carapace 1.2 long, 0.9 wide in thoracic region. Leg I femur 1.1, patella+tibia 1.1, metatarsus 0.7, tarsus 0.3. Leg II patella+tibia 0.8, III 0.7, IV 1.0.

Male (Panama): Carapace and sternum orange; eyes black, area between median and lateral eyes dusky. Femora orange, distal articles dusky brown. Abdomen (Fig. 47) orange. Eyes subequal. AME 1.1 diam. apart, 1.3 diam. from ALE; PME 1.5 diam. apart, 2.5 diam. from PLE. Height of clypeus more than 2.2 diam. of AME. Abdomen with large scutum (Fig. 47); venter with scuta (Fig. 48). Total length 2.8. Carapace 1.1 long, 1.0 wide in thoracic region, 0.6 at lateral eyes. Leg I femur 1.3, patella+tibia 1.3, metatarsus 0.7, tarsus 0.4. Leg II patella+tibia 1.1, III 0.7, IV 1.0.

Note: Males and females were matched because they have been collected in the same location, and have the same eye arrangement and duskiness between median and lateral eyes.

Variation: Total length of females 2.8–3.0. Figures 45 and 46 made from female holotype, others from Panamanian specimens.

Diagnosis: The female differs from other *Testudinaria* species by having the abdomen with four large median plates and the anterior median peripheral plates are separate (Fig. 43). The greater distance of the PME from each other (Fig. 43) also separates this species from *T. elegans*. The epigynum has a transverse swelling (Fig. 45). The male has a short embolus (Figs. 49, 50) and the median apophysis lacks spurs or teeth.

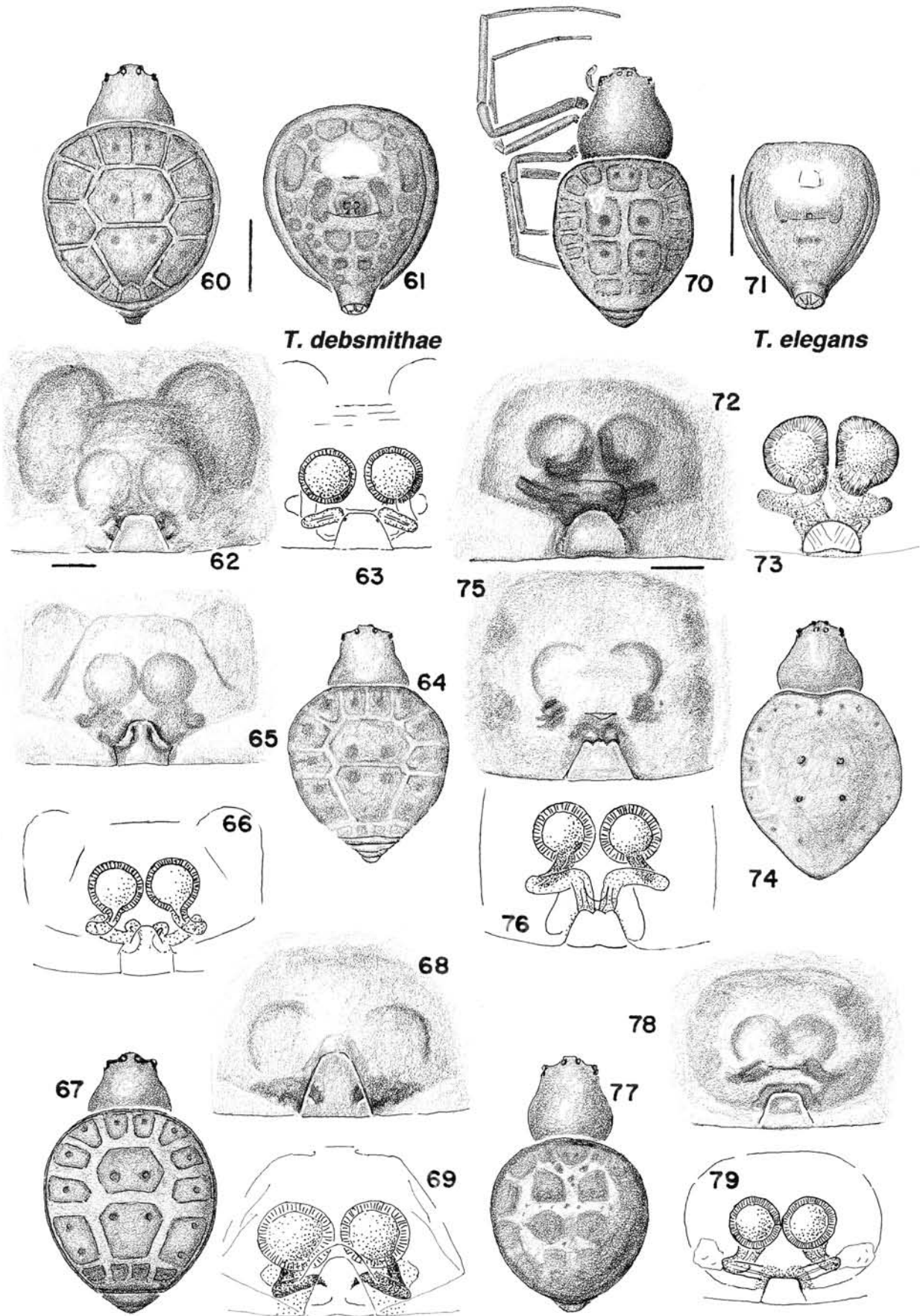
Natural history: The species was most likely found in ground litter in forest on Barro Colorado Island, Lago Gatún, Panama, the favourite collecting habitat of A. M. Chickering.

Material examined: PANAMA: Forest Reserve, Canal Zone, August 1939, 1♀ (A. M. Chickering, AMNH); Barro Colorado Island, Gatún Lake, July 1939, 1♀ (A. M. Chickering, MCZ); 4 February 1958, 1♂ (A. M. Chickering, MCZ), 11 January 1977, 1♀ (H. Levi, MCZ). ECUADOR: Pichincha: 47 km S Santo Domingo, Río Palenque Sta., 18–30 May 1975, 1♀ (S. & J. Peck, MCZ). PERU: Madre de Dios: Zona Reservada de Manu, Puesto de Control Pakitza, 25 September 1987, 1♀ (D. Silva, J. Coddington, USNM). BRAZIL: Amazonas: Manaus, Reserva Florestal Adolpho Ducke (terra firme), 7 August 1992, 1♀ (M. E. Oliveira, SMNK 1048).

Testudinaria rosea (Mello-Leitão) (Figs. 51–59, Map 1G)

Nanduti roseus Mello-Leitão, 1945a: 241, fig. 18 (♂). Male holotype from Puerto Victoria [near Eldorado], Misiones Prov., Argentina, in MLP no. 16405, examined. Brignoli, 1983: 276. *Testudinaria rosea*: Levi, 2002: 562; Platnick, 2004.

Description: *Female* (Eldorado): Carapace, legs and sternum orange; cephalic region of carapace black (Fig. 51), chelicerae dusky, distal ends of femora black, articles with indistinct, black longitudinal marks. Abdomen orange (Fig. 51). Eyes subequal. AME slightly more than 1.8 diam. apart, 2 diam. from ALE; PME 2 diam. apart, 4 diam. from PLE. Laterals separated by 1 diam. Height of clypeus more than 3 diam. of AME. Legs with weak setae, no macrosetae. Abdomen with dorsal sclerites (Fig. 51); venter with sclerotised folds laterally, sclerotised lung covers, and ends of genital groove in sclerites (Fig. 52). Total length 3.5.



Figs. 60-79: **60-69** *Testudinaria debsmithae* new species, female. **60, 64, 67** Dorsal; **61** Abdomen, ventral; **62, 65, 68** Epigynum, ventral; **63, 66, 69** Epigynum, cleared. **60-63** (holotype, Surinam); **64-66** (Belém, Brazil); **67-69** (Dept. Junín, Peru). **70-79** *T. elegans* Taczanowski, female. **70, 74, 77** Dorsal; **71** Abdomen, ventral; **72, 75, 78** Epigynum, ventral; **73, 76, 79** Epigynum, cleared. **70-73** (holotype, Junín, Peru); **74-79** (Panama). Scale lines=1.0 mm (60-61, 64, 67, 70-71, 74, 77), 0.1 mm (62-63, 65-66, 68-69, 72-73, 75-76, 78-79).

Carapace 1.2 long, 1.0 wide in thoracic region, 0.7 wide behind PLE. Leg I femur 1.4, patella+tibia 1.3, metatarsus 0.9, tarsus 0.4. Leg II patella+tibia 1.2, III 0.8, IV 1.2.

Male (holotype): Carapace orange, cephalic region black, narrowing black on thoracic region (Fig. 56). Legs orange, femora distally grey. Sternum and abdomen orange, sclerites darker (Fig. 56). Eyes subequal and small. AME 2 diam. apart, 3 diam. from ALE; PME slightly more than 2 diam. apart, 4 diam. from PLE. Height of clypeus 3–4 diam. of AME. Sternum truncate posteriorly. Dorsum of abdomen with one large round sclerite (Fig. 56). Venter with sclerite anterior to genital groove and posterior sclerite anterior to spinnerets, laterally with sclerotised folds (Fig. 57). Total length 2.8. Carapace 1.2 long, 1.0 wide in thoracic region, 0.7 wide at lateral eyes. Leg I femur 1.2, patella+tibia 1.3. Leg II patella+tibia 1.1, III 0.7, IV 1.2.

Note: Males and females were matched because they have been collected together.

Variation: Total length of females 2.8–3.7, males 2.6–3.0. Some individuals lack black cephalic coloration and have only eye region black, some have large black patch dorsally on posterior of abdomen. Illustrations made from specimens from Eldorado, Misiones Prov., Argentina, Figs. 56, 57 from male holotype.

Diagnosis: Females can be distinguished from other species with sclerotised plates by having the four median plates fused into two longitudinal plates (Fig. 51), and by the coil of the connecting ducts being lateral of the seminal receptacles and having a septum (Fig. 55). In slightly posterior view, the septum is seen in the middle between two depressions (Fig. 54). The male is distinguished from the other species by the sclerotised tip of the conductor and the transverse position of the median apophysis (Figs. 58, 59).

Material examined: ARGENTINA: *Misiones:* Arroyo Urugua-í, February 1951, 1♂ (Partridge, MACN); Eldorado, 26°28'S, 54°43'W, 1 September–15 November 1964, 1♀ 1♂ 2 imm. (A. Kovac, AMNH); General Belgrano, December 1972, 1♀ (M. E. Galiano, MACN); Piñalito, November 1954, 2♀ (R. D. Schiapelli, DeCarlo, MACN); Santa María, October 1943, 2♀ (Excursión M. J. Viana, MACN); December 1948, 1♀ (Excursión M. J. Viana, MACN); November 1955, 1♀ (R. D. Schiapelli, DeCarlo, MACN); September 1956, 1♂ (Excursión M. J. Viana, MACN); November 1958, 1♀ 1♂ (M. J. Viana, MACN).

Testudinaria debsmithae new species (Figs. 60–69, Map 1E)

Type: Female holotype from Voltzberg-Raleighvallen Nature Reserve, Saramacca Province, 04°32'N, 56°32'W, Surinam, 1 February 1982 (Deborah Smith Trail), in MCZ.

Etymology: The species is named after the collector and arachnologist Deborah Smith.

Diagnosis: This species differs from *T. elegans* by having a pair of anterior peripheral sclerites on the

abdomen (Fig. 60) where *T. elegans* has only one (Fig. 70). It also differs from *T. elegans* and *T. geometrica* by having the four median abdominal sclerites fused into two transverse sclerites, one behind the other (Figs. 60, 64, 67). The opening of the epigynum is about as long as wide and the median anterior edge tapers into an indistinct median groove (Figs. 62, 65, 68). The male is unknown.

Description: Female (holotype): Carapace, sternum and abdomen bright orange. Legs black, except coxae and proximal ends of femora light orange. Eyes subequal. AME 1.3 diam. apart, 1.3 diam. from ALE; PME 1.4 diam. apart, 2 diam. from PLE. Height of clypeus 2 diam. of AME. Sternum truncate posteriorly. Legs with only thin white setae. Abdomen dorsum with sclerites (Fig. 60), venter with round sclerites, a ring around spinnerets and sclerotised fold on each side (Fig. 61). Total length 3.7. Carapace 1.4 long, 1.3 wide in thoracic region, 0.8 wide behind PLE. Leg I femur 2.3, patella+tibia 2.3, metatarsus 1.5, tarsus 0.5. Leg II patella+tibia 1.8, III 1.3, IV 1.8.

Male: Unknown.

Variation: Total length of females 3.4–3.8. Holotype has one indistinct median, posterior peripheral sclerite (Fig. 60), other specimens have a pair (Figs. 64, 67). Fertilisation ducts of Bolivian specimen very short and seem to disappear into indistinct round glands before an indistinct opening, and dorsal sclerites have mottled coloration. All available individuals differ in shape of epigynal opening, and position of connecting ducts. Perhaps each collection represents a distinct species, but the lack of second identical individuals suggests one variable species. Figures 60–63 made from female holotype; Figs. 64–66 from a female from Belém, Brazil, and Figs. 67–69 from Dept. Junín, Peru.

Material examined: ECUADOR: *Pastaza:* Santa Clara, 4 July 1976, 1♀ (P. M. Turner, USNM). PERU: *Huanuco:* Tingo María, Monsón Valley, 10 November 1954, 1♀ (E. S. Ross, E. I. Schlinger, CAS). *Junín:* Utcuyacu [near La Merced], 1600–2200 m, March 1948, 1♀ (F. Woytkowski, AMNH). BRAZIL: *Pará:* Belém, in forest, July 1972, 1♀ (D. G. McGrath, MCZ). BOLIVIA: Río Huarinilla, tributary of Río Coroico, near Coroico, Nor Yungas Province, 60 km NE La Paz, 31 July 1993, 1♀ (A. D. Brescovit, H. Höfer, MCN 2417).

Testudinaria elegans Taczanowski (Figs. 70–79, Map 1F)

Testudinaria elegans Taczanowski, 1879: 134, pl. 2, fig. 43 (♀). Female holotype from Amable María [Junín, Province Tarma], Peru, in PAN, examined. Roewer, 1942: 911; Bonnet, 1959: 4312; Platnick, 2004.

Description: Female (holotype): Carapace, legs and abdomen orange; eyes with black pigment (Fig. 70); some black between AME. PME 1.1 diam. of AME, laterals 1.2 diam. AME 1.2 diam. apart, 2 diam. from ALE; PME 1 diam. apart, 3 diam. from PLE. Median eye trapezoid almost square, slightly wider in front. Height of clypeus 2.7 diam. of AME. Sternum truncate posteriorly. Legs with weak setae. Abdomen with weakly sclerotised dorsal plates, often difficult to

delineate (Fig. 74). Total length 3.2. Carapace 1.3 long, 1.1 wide in thoracic region, 0.7 behind lateral eyes. Leg I femur 1.5, patella+tibia 1.5, metatarsus 1.0, tarsus 0.5. Leg II patella+tibia 1.3, III 1.0, IV 1.3.

Male: Unknown.

Variation: Total length of females 2.8–3.4. Different females vary in degree of sclerotisation of dorsal plates. Panama females lack two posterior teeth in cheliceral groove, present in holotype, and internal genitalia differ in different specimens. Figures 70–73 made from female holotype and Figs. 74–79 from specimens from Panama.

Diagnosis: *Testudinaria elegans* is distinguished from *T. geometrica* by the close spacing of the PME (Fig. 70), and by the abdomen having a single, median, anterior peripheral sclerite (Figs. 70, 77). Unlike *T. debsmithae* and *T. rosea*, *T. elegans* has four median sclerites. (All sclerites are indistinct and sometimes difficult to see.) The epigynum has a translucent transverse keel a short distance anterior to the central opening (Figs. 72, 75, 78).

Natural history: “Three egg sacs hang under leaf, with spider nearby, and no prey capture web (observation in daytime). Each sac is teardrop shaped, with very stiff curly yellow silk overlying the central area. Inside the silk is white-gray. The small mass of eggs is suspended in the center, probably 5–10 eggs.” “The lack of orb during the day suggests that the spider makes a web in the evening (like the *Hypognatha* [observed] in Meta, Colombia) or at night. The three egg sacs suggest infrequent movement between the websites and that the egg sacs are near the orb” (W. Eberhard, pers. comm.).

Material examined: PANAMA: Barro Colorado Island, Lago Gatún, July 1936, 1♀ (A. M. Chickering, MCZ); May 1964, 1 imm. (A. M. Chickering, MCZ); August 1974, 1♀ (W. Eberhard E-84, MCZ).

Ursa Simon

Ursa Simon, 1895: 909. Type species *Ursa pulchra* designated by Simon, 1895. Neave 1940: 621; Roewer, 1942: 912; Bonnet, 1959: 4782; Platnick, 2004. The gender of the name is feminine (Bonnet, 1957).

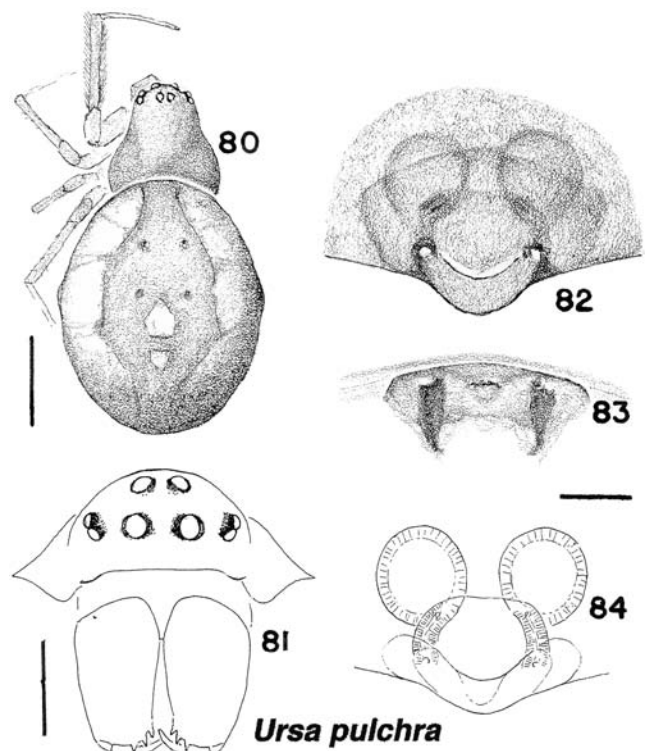
Note: Only a female is known of the type species, although Simon gives a primitive illustration of a male palpus of *Ursa vittigera* Simon from Taprobane [Sri Lanka]. The claws are very short and thick but were not amputated for microscopic examination.

Simon included four species, one each from South Africa, Sri Lanka, Gulf of Tongking (Vietnam) and the Amazon.

Ursa pulchra Simon (Figs. 80–84)

Ursa pulchra Simon 1895: 909. Female holotype from Amazonas (M. de Mathan), in MNHN no. 4867, examined. Roewer, 1942: 912; Bonnet, 1959: 4782; Platnick, 2004.

Note: The holotype came with a male *Acrosoma anomalum* (Taczanowski), which was placed in its own vial. Also with the holotype is an immature male which



Figs. 80–84: *Ursa pulchra* Simon, female. **80** Dorsal; **81** Cephalic region and chelicerae; **82–84** Epigynum: **82** Ventral; **83** Posterior; **84** Cleared. Scale lines=1.0 mm (80), 0.3 mm (81), 0.1 mm (82–84).

has the dorsum of the abdomen with white marks and posteriorly has two black dots.

M. de Mathan, the collector, is known to have collected before 1880 in the Upper Amazon, Pebas, Peru, São Paulo de Olivença, Fonte Bôa and Tefé, and also in Belém, Brazil (Levi, 1964).

Description: *Female* (holotype): Carapace, legs and sternum yellowish white, eyes with black pigment (Fig. 80). Abdomen yellowish white with two dorsal white longitudinal pigment bands and two white spots in area between, venter without pigment. Carapace highest in thoracic region, without thoracic depression (Fig. 80). AME largest, PME 0.8 diam. of AME, ALE 0.7 diam., PLE 0.8 diam. AME slightly more than their diam. apart, slightly more than 1 diam. from ALE; PME 0.8 diam. apart, 2.3 diam. from PLE. Median eye trapezoid as long as wide in front, narrower behind. Height of clypeus 1.2 diam. of AME. Chelicerae with three teeth anteriorly, two small teeth posteriorly. Leg I tibia and metatarsus with weak setae in a row on each side. Abdomen suboval with slight swelling on each side (Fig. 80). Total length 3.6. Carapace 1.3 long, 1.2 wide in thoracic region, 0.7 wide behind PLE. Leg I femur 1.2, patella+tibia 1.5, metatarsus 1.2, tarsus 0.4. Leg II patella+tibia 1.4, III 0.8, IV 1.3.

Diagnosis: The epigynum has a semicircular rim with an opening on each end and a depression anteriorly (Fig. 82); the connecting ducts are short (Fig. 84).

Material examined: No other specimens were available.

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