Salticidae (Arachnida: Araneae) from the Oriental, Australian and Pacific regions, XIV. The genus *Adoxotoma* Simon

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Abstract – The endemic Australian genus *Adoxotoma* is reviewed. Of five species treated, *A. bargo*, *A. hannae* and *A. justyniae* are described as new. Males of the genus are described for the first time. The relationships of *Adoxotoma* are discussed and distribution maps are given.

INTRODUCTION

The genus Adoxotoma was described by Simon in 1909. It was represented by two species, based upon three females, known only from the south-western corner of Western Australia. Because of this, the genus had long been thought of as rare and endemic to that area. However, recent biodiversity surveys conducted by the Australian Museum, Sydney and the Western Australian Museum, Perth, have revealed new species from a number of localities in New South Wales and Western Australia.

Since its original description, *Adoxotoma* has been reviewed by Wanless (1988), and Davies and Żabka (1989). As emphasised by Wanless, the limited morphological and distributional data has made a complete description of *Adoxotoma* impossible. The new data on distribution and morphology provided here – especially on female internal genitalia and male palpal structures – has allowed a taxonomic re-assessment of the genus and its relationships.

MATERIALS AND METHODS

Methods of specimen examination are as described in Żabka (1991b).

The material was collected in New South Wales (NSW) and Western Australia (WA) and is deposited in the following collections: Australian Museum, Sydney (AMS); Museum National d'Histoire Naturelle, Paris (MNHN); Western Australian Museum, Perth (WAM); Museum für Naturkunde der Humboldt Universität, Berlin (ZMB); Zoologisches Institut und Zoologisches Museum, Universität Hamburg (ZMH).

Abbreviations: AEW – anterior eyes width, AL – abdomen length, CL – cephalothorax length, CW – cephalothorax width, EFL – eye field length, PEW – posterior eye row width.

SYSTEMATICS

Family Salticidae Blackwall, 1841

Genus Adoxotoma Simon, 1909

Adoxotoma Simon, 1909: 196; Bonnet, 1955: 160; Roewer, 1954: 154; Wanless, 1988: 162; Davies and Żabka, 1989: 220; Żabka, 1991a: 18; Platnick, 1993: 733.

Type Species

Adoxotoma nigroolivacea Simon, 1909, by subsequent designation of Bonnet (1955).

Diagnosis

Differs from other genera of Astieae by almost uniformly dark colour pattern, male abdominal scutum, enlarged first legs, including coxae and trochanters, first tibiae and metatarsi heavily armed with long spines. Genitalia of both sexes distinctive.

Description

Small to medium spiders, 3.50-5.50 mm in body length. Cephalothorax (Figure 3J) rather low, widest at the third legs, with gentle posterior slope. Thoracic part longer than cephalic part. Fovea sulciform, located in the posterior half of the carapace - well behind the eye field. Anterior eyes in one row, posterior medians prominent, posterior laterals set on tubercles. Abdomen oval, in males with shiny black scutum and 2 distinctive median depressions (apodemes). Clypeus narrow. Chelicerae with 2 prolateral and 2-4 retrolateral teeth, the latter often fused at the base in fissidentati manner. Maxillae elongate, in males with anterolateral extension (Figure 3E). Sternum cordate. First legs (Figure 1C) moderately strong and long, armed with two rows of long ventrolateral spines on tibiae and metatarsi. Leg formula: 1-4-2-3. Palps with retrolateral cymbial

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apophysis, bulbus bag-like, embolus dagger-like (e.g., Figure 3A), sometimes furcate (Figure 5A). Tibial apophyses distinctive: ventral, retrolateral and dorsal – depending on species (Figure 3B). Epigyne with single oval hole, pocket-like depression (Figures 3G, 4C) or with anterior nose-like knob (Figure 5H). Insemination ducts long, forming hook-like loops, and accompanied by accessory glands (Figure 3H). Spermathecae round, their accessory glands – if visible – located at the entrance of insemination ducts. Fertilisation ducts short.

Relationships and biology

Simon (1909) included Adoxotoma within the Astieae (sensu Simon, 1901) - together with nine other genera. Petrunkevitch (1928) placed it within the Magoninae, without giving satisfactory justification. Wanless (1988) suggested the genus be excluded from the Astieae because of its different leg spination and cheliceral dentition. The latter character has been recognised as an important diagnostic and phylogenetic one since Simon (1901) published his monumental salticid classification. He considered the pluridentati state as the most primitive and the unidentati state as the most derived with the fissidentati being intermediate. However, the phylogenetic value of cheliceral teeth patterns in Salticidae has been contested (e.g., Prószynski, 1976) and cheliceral dentition is currently recognised as being of limited phylogenetic value, though still useful for identification in many cases.

The cheliceral dentition of *Adoxotoma*, being of intermediate fissi-pluridentati pattern, and not pluridentati as in other Astieae, seems not sufficient to exclude the genus from the group – as suggested by Wanless. The body form, leg structure and genitalia – especially in females – are definitely of Astieae-type. The epigynal depression/pocket, present in some Astieae, also occurs here, as well as oval spermathecae and long insemination ducts accompanied by accessory glands.

During the last two decades the problem of 'primitive' and 'advanced' Salticidae has also included behavioural studies but it is still far from being solved.

The relationships of *Adoxotoma* have recently become even more intriguing. While studying specimens collected in a forest survey in New South Wales (Żabka, unpublished data), I have found a number of unknown and very diverse genera. Some of them, especially females, have *Adoxotoma*-like genitalic pattern and similar leg structure (length and spination). A study of this material by D. Lugunov (Novosibirsk, Russia), some of which seems to be related to the genus *Neon*, should also help in clarifying *Adoxotoma* relationships.

All known species of Adoxotoma are either rainforest or wet sclerophyll forest dwellers, living

on the ground, in leaf litter, under stones and rocks in cool and humid places. *A. bargo* has been observed to lay aggregations of several egg sacs under stones and rocks.

Distribution

Adoxotoma is known only from Australia. Of the five species studied, two are known from Western Australia and three from New South Wales, all from scattered localities.

For some species of Australian salticids, especially wet sclerophyll and rainforest inhabitants, scattered distributional patterns are quite common due to habitat partition and deforestation. In many cases, especially for leaf litter dwellers, the taxa that were thought to be rare and/or of limited range, appear wide spread and more common when appropriate collecting methods are applied. However, despite extensive pit fall trapping – especially in the eastern part of the continent, still only limited materials of *Adoxotoma* have been found.

Adoxotoma nigroolivacea Simon, 1909 Map 1, Figure 1

Adoxotoma nigroolivacea Simon, 1909: 196; Bonnet, 1955: 160; Roewer, 1954: 967; Wanless, 1988: 165; Davies and Żabka, 1989: 223; Żabka, 1991a: 18; Platnick, 1993: 734.

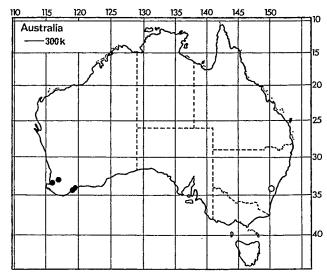
Material Examined

Syntype

19, Collie, Western Australia, Australia, 33°22'S, 116°09'E, 26 August 1905, W. Michaelsen, R. Hartmeyer (ZMB 17805).

Other Material

Australia: Western Australia: 19, Fitzgerald



Map 1 Distribution of A. nigroolivacea (●) and A. bargo (○).

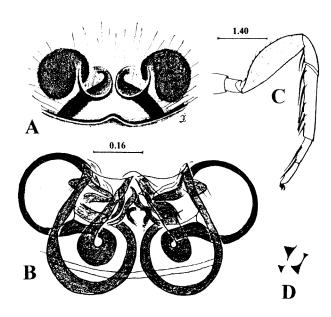


Figure 1 Adoxotoma nigroolivacea Simon, 1909: A, epigyne; B, female internal genitalia; C, leg I; D, cheliceral dentition.

River National Park, Mt Maxwell, 34°12'S, 119°19'E, under rocks, 24 May 1994, M.S. Harvey, J.M. Waldock (WAM T41688); 1°, Fitzgerald River National Park, St Mary River, 5 km inland, 34°10'S, 119°32'E, under rocks, 31 May 1994, M.S. Harvey, J.M. Waldock (WAM T41689); 1°, Stephens Road, site 11 02, 03, 04, 06, 09, wet pitfalls, 32°44'03"S, 116°56'55"E, 30 October 1997–12 May 1998, P. Van Heurck, N. Guthrie (WAM T41693).

Diagnosis

Epigyne short and wide, spermathecae located anteriorly and copulatory openings oriented forwards.

Description

Female (syntype)

In poor condition, partly macerated with no original colours preserved. Cephalothorax orangebrown, darker in eye region. The latter also with scattered brownish hairs. Abdomen yellow-brown with scattered ambery hairs. Anterior spinnerets dark, others yellow-brown. Clypeus brownish. Chelicerae orange-brown, promargin and retromargin with 2 teeth (Figure 1D). Pedipalps orange-brown. Maxillae and labium pale orange-brown, chewing margins paler. Sternum yellowish-brown with darker margins. Legs I enlarged, orange-brown except for yellow tarsi, tibiae with 5 and metatarsi with 2 pairs of ventrolateral spines (Figure 1C). Other legs slightly lighter and more delicate.

Epigyne with 2 depressions divided by central ridge (Figure 1A). Insemination ducts wide, thickwalled. Spermathecae oval, translucent (Figure 1B).

Female (T41688)

In good condition, colours well preserved. Eye field grey brown, thorax smudged light brown, eye surrounding darker. Abdomen grey. Clypeus smudged orange brown, chelicerae ambery brown. Maxillae, labium and sternum ambery, the first with lighter inner margins. Venter greyish. Legs greyish brown, lighter posteriorly and dorsoventrally. Other characters as in syntype described above.

Male unknown.

Dimensions (syntype)

CL 1.60, EFL 0.82, AEW 1.23, PEW 1.10, AW 1.35, AL 2.08.

Distribution

Recorded from several localities in south-west Western Australia (Map 1).

Adoxotoma bargo sp. nov. Map 1, Figure 2

Material Examined

Holotype

♀, 17.5 km S of Pheasants Nest Br., near Bargo, New South Wales, Australia, W side of Hume Highway, 34°17′S, 150°35′E, wet sclerophyll forest, under rocks and stones, 24 October 1987, M. Zabka (AMS KS57664).

Paratypes

Australia: New South Wales, 59, 14 juv., same data (AMS KS57665).

Diagnosis

Epigyne with distinctive posterior depression.

Description

Female (holotype)

Cephalothorax dark brown. Abdomen shiny, greyish-dark brown with slightly lighter indistinctive chevrons. Hairs sparse. Spinnerets orange. Clypeus brown with lighter hairs and 3 brown protruding bristles. Chelicerae light brown with 2 promarginal and 4 retromarginal teeth, the latter forming fissidentati pattern (Figure 2D). Pedipalps orange dorso-ventrally, sides darker. Maxillae and sternum smudged brown, the former with orange chewing margins. Sternum brown, lighter centrally. Venter dark with indistinctive rows of lighter spots. Legs I (Figure 2C) light brown, distally lighter, tibiae with 5 and metatarsi with 2 pairs of ventrolateral spines, respectively. Other legs smudged orange.

Epigyne (Figures 2A, B) similar to A. chinopogon

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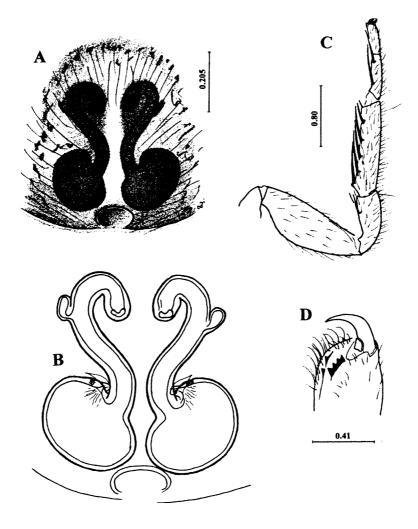


Figure 2 Adoxotoma bargo n. sp.: A, epigyne; B, female internal genitalia; C, leg I; D, cheliceral dentition.

but with posterior depression instead of anterior pocket.

Dimensions

CL 2.14, EFL 0.95, AEW 1.49, PEW 1.42, CW 1.67, AL 2.78.

Distribution

Known only from the type locality in New South Wales (Map 1).

Etymology

This species is named for the type locality.

Adoxotoma chinopogon Simon, 1909 Map 2, Figure 3

Adoxotoma chinopogon Simon, 1909: 196; Bonnet, 1955: 160; Roewer, 1954: 967; Wanless, 1988: 165; Zabka, 1991a: 18; Platnick, 1993: 733.

Material Examined

Syntypes

19, Lion Mill [now Mt Helena], Western Australia, Australia, 31°53'S, 116°12'E, [date uncertain] (ZMH); 19, Wooroloo, Western Australia, stn 98, 31°48'S, 116°18'E, 29 May 1905, W. Michaelsen (MNHN).

Other Material

Australia: Western Australia: 29, 29, Fraser Range Stn, 150 m W of homestead, 32°04'S, 122°48'E, in sac together under granite, 22–23 April 1995, A.F. Longbottom (WAM 99/2372-5); 29, Fraser Range Stn, W of homestead, 32°04'S, 122°48'E, under granite slabs, A.F. Longbottom (WAM T41692); 29, Mt Cooke, near summit, 32°25'S, 116°18'E, 4 August 1990, M.S. Harvey, J.M. Waldock (WAM 93/1679-80); 19, base of Mt Cooke, 32°25'S, 116°18'E, 24 November 1990, M.S. Harvey (WAM 91/600); 29, Mt Cooke, 32°25'S, 116°18'E, hand collected, 31 July

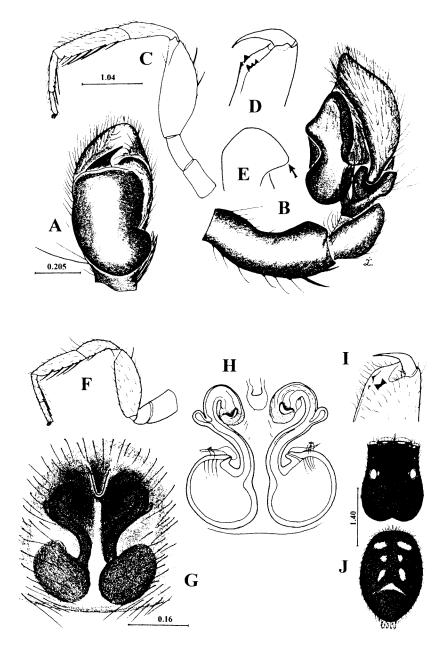


Figure 3 Adoxotoma chinopogon Simon, 1909: A, B, male palp; C, male leg I; D, male cheliceral dentition; E, male maxilla; F, female leg I; G, epigyne; H, female internal genitalia; I, female cheliceral dentition; J, female general appearance.

1991, M.S. Harvey, J.M. Waldock (93/1682-3); 19, Mt Cooke, 32°25'S, 116°18'E, hand collected, 27 April 1992, M.S. Harvey, J.M. Waldock (93/1686); 19, Mt Dale, 32°08'S, 116°18'E, under rocks, 27 October 1998, J.M. Waldock *et al.* (WAM T41691); 19, Sukey Hill, 34°18'S, 117°36'E, under silicified sandstone, S.1023, A.F. Longbottom (WAM 93/1688); 8?, Fitzgerald River National Park, slopes of East Mt Barren, 33°55'S, 120°01'E, under rocks, 26 May 1994, M.S. Harvey, J.M. Waldock, G. Harold, N. Brown (WAM T41690).

Diagnosis

Palpal tibia with retrolateral and dorsal

apophyses, epigyne with anterior pocket-like depression.

Description

Male (WAM 99/2372-5)

Thorax dark brown with scattered scale-like hairs, eye field almost black. Hairs few, whitish and brown. Abdomen with shiny black scutum, sides dark grey with lighter narrow stripes. Spinnerets smudged beige. Clypeus brown with pale long hairs overhanging towards chelicerae. Chelicerae light brown with 2 promarginal and 2–3 retromarginal teeth (Figure 3D). Maxillae with anterolateral

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process (Figure 3E), smudged brown with lighter chewing margins. Labium and sternum smudged brown. Venter dark grey. Femora I brown with sides shining, proximal patellae and metatarsi and distal tibiae orange, the rest brown, tibiae with 5–6 pairs and metatarsi with 2 pairs of ventrolateral spines (Figure 3C). Other legs lighter and more slender. Ventral sides of coxae and trochanters II–IV contrasting light.

Palps as shown in Figures 3A, B. Femur with distal bump, tibiae with 2 apophyses, embolus dagger-like.

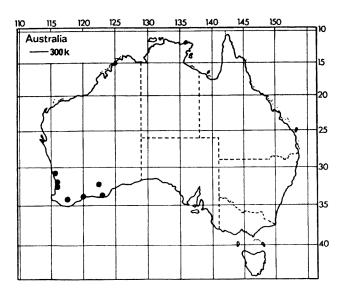
Dimensions

CL 1.71–1.89, EFL 0.75–0.82, AEW 1.10–1.21, PEW 1.03–1.14, CW 1.35–1.53, AL 1.78–1.94.

Female (WAM 99/2372-5)

Cephalothorax slightly lighter than in male, thoracic part with radial darker markings from fovea towards margins. Whole cephalothorax covered with sparse white and brown hairs. Abdomen dark grey with pattern of light spots, sometimes weakly marked. Brown hairs present anteriorly and grey marginally. Spinnerets smudged orange. Clypeus orange-brown with 3 central and single lateral orange bristles and sparse light hairs. Chelicerae smudged orange with 2 promarginal and 2 retromarginal teeth (Figure 3I), the latter fused at the base in fissidentati manner. Venter dark grey with lines of lighter spots. Patellae, tibiae and metatarsi I dark orange, other podomeres yellow-orange, tibiae with 5 anteroventral and 4-5 posteroventral spines (Figure 3F). Other legs yellow orange.

Epigyne (Figure 3G) with distinctive anterior pocket, accessory glands set approximately in the middle of insemination ducts (Figure 3H).



Map 2 Distribution of A. chinopogon (●).

Dimensions

CL 1.74–1.89, EFL 0.78–0.82, AEW 1.24–1.32, PEW 1.14–1.21, CW 1.35–1.46, AL 2.10–2.49.

Distribution

Known from south-west Western Australia (Map 2).

Adoxotoma hannae sp. nov. Map 3, Figure 4

Material Examined

Holotype

19, Murramarang National Park, junction of Skid Ridge and North Head Rds, New South Wales, Australia, 35°41'09"S, 150°16'04"E, pitfall trap, 17 March 1999, L. Wilkie, R. Harris, H. Smith (AMS KS58764).

Paratypes

Australia: New South Wales: 1 \(\), London Bridge S[tate] F[orest], 3.7 km SW of London Bridge Lookout, 29°51'31"S, 152°12'47"E, pit fall trap, 18 February 1993, M. Gray, G. Cassis (AMS KS38206); 2 \(\), Berry Jerry S[tate] F[orest] nr Collingullie, 35°03'S, 147°03'E, 12 December 1979, A.B. Rose (AMS KS4588); 1 \(\), Ballengarra S[tate] F[orest], Cooperabung Range Rd, 31°12'54"S, 152°42'44"E, pit fall trap, 19 February 1993, M. Gray, G. Cassis (AMS KS42578).

Diagnosis

Male palps with large ventral tibial apophysis, embolus not furcate, patella with small retrolateral outgrowth. Epigyne with anterior small oval depression. Copulatory openings wide apart, divided by broad central ridge, accessory glands in the proximal part of insemination ducts.

Description

Male (holotype)

Thorax dark brown with single white scale-like hairs. Eye field black. Abdomen with black shiny scutum and 2 median depressions (apodemes). Anterior spinnerets grey, median and posterior ones whitish. Clypeus dark brown with numerous white hairs overhanging towards chelicerae and with 3 brown bristles centrally. Chelicerae brown with 2 prolateral and 4 retrolateral teeth. Maxillae brown, with anterolateral outgrowth, labium brown, both with lighter chewing margins. Sternum smudged brown, lighter along median part. Venter grey, darkening laterally. Coxae, trochanters and proximal femora I orange, further parts of femora and patellae dark brown, tibiae and metatarsi smudged orange, tarsi yellow, tibiae I with 6 and 5 proventral and retroventral spines, respectively,

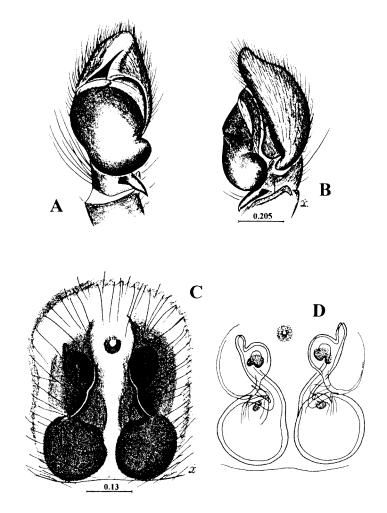


Figure 4 Adoxotoma hannae n. sp.: A, B, palpal organ; C, epigyne; D, female internal genitalia.

metatarsi with 2 pairs of spines. Legs II–III orange, IV – smudged orange.

Palps as shown in Figures 4A, B.

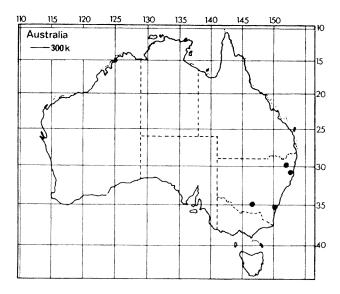
Dimensions

CL 2.35, EFL 0.99, AEW 1.53, PEW 1.32, CW 1.82, AL 2.39.

Female (paratype, AMS KS4588)

Thorax light brown with darker radial markings. Eye field dark brown, eye surrounding black. Abdomen grey with light pattern of dots, spots and lines. Hairs sparse, whitish and brownish. Anterior spinnerets greyish, median and posterior ones whitish. Clypeus brown with a few orange bristles, 3 in median area. Chelicerae orange-brown with 2 prolateral and 2 retrolateral teeth fused at the base. Maxillae dark orange with lighter chewing margins. Labium brownish. Sternum smudged light brown. Venter grey, darkening laterally with longitudinal rows of lighter dots. Sides of all legs darker than their dorsal and ventral parts. Femora I light brown, tibiae and metatarsi lighter, patellae and tarsi yellow, tibiae with 5 and metatarsi with 2 pairs of ventral spines. Other legs slightly lighter.

Epigyne (Figure 4C) relatively wide, with anterior oval depression, insemination ducts wide apart.



Map 3 Distribution of A. hannae (\bullet) .

Dimensions

CL 1.96, EFL 0.89, AEW 1.39, PEW 1.32, CW 1.49, AL 2.07.

Distribution

Known only from the type locality in New South Wales (Map 3).

Etymology

For my Mother Hanna.

Adoxotoma justyniae sp. nov. Map 4, Figure 5

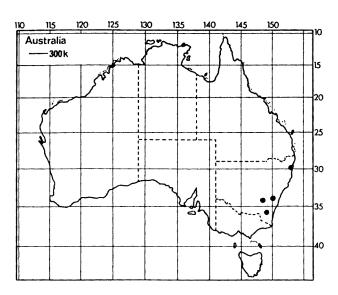
Material Examined

Holotype

19, Ramornie S[tate] F[orest], New South Wales, Australia, track off Mt Tindal Rd, 29°42'38"S, 152°38'09"E, pit fall trap, 18 February 1993, M. Gray, G. Cassis (AMS KS42279).

Paratypes

Australia: New South Wales: 1 \(\text{P} \), Chaelundi S[tate] F[orest], 450 m, 1.2 km W along Stockyard Fire Trail from Chandlers Ck, 29°56'48"S, 152°31'46"E, pit fall trap, 18 February 1993, M. Gray, G. Cassis (AMS KS42806); 2 \(\text{P} \), Chaelundi S[tate] F[orest], 450 m, 29°57'50"S, 152°31'23"E, 18 February 1993 (AMS KS42040); 1 \(\text{P} \), Kanangra, Boyd National Park, Blood Filly Ck nr Jenolan Caves, 33°51'S, 150°03'E, 27 March 1976, M. Gray, G. Hunt, J. McDougall (AMS KS30006); 1 \(\text{P} \), Currawong, 34°28'S, 148°22'E, 2 October 1966 (AMS KS19501); 1 \(\text{P} \), Brindabella, Rules Point Road, 35°24'S, 148°45'E, wet sclerophyll forest, 1 April 1988, M. Zabka (AMS KS57666).



Map 4 Distribution of A. justyniae (●).

Diagnosis

Palps with hammer-like retrolateral tibial apophysis, embolus furcate, epigyne with distinctive nose-like protruding knob.

Description

Male (holotype)

Eye field black, thorax dark brown with single white scale-like hairs. Abdomen rather short, with shiny black scutum and 2 distinctive depressions (apodemes) in the middle. Sides with longitudinal rows of blackish and light lines. Anterior spinnerets dark grey, median and posterior ones whitish. Clypeus dark brown, with 5 brown bristles (3 medially and single laterally), covered with many white hairs. Chelicerae orange-brown with 2 promarginal and 2 retromarginal teeth (Figure 5E). Maxillae and labium orange, sternum smudged light brown, venter blackish. Femora I brown, other podomeres lighter - especially near joints, tarsi yellow, tibiae with 5 pairs and metatarsi with 2 pairs of ventral spines. Other legs smudged orange with darker sides and lighter distal podomeres, tarsi vellow. Coxae and trochanters of legs II-IV contrasting light.

Palps (Figures 5A–D) massive, embolus furcate, tibia with 3 apophyses, the retrolateral hammer-like.

Dimensions

CL 2.24, EFL 0.96, AEW 1.46, PEW 1.39, AW 1.71, AL 1.96.

Female (paratype, AMS KS30006)

Thorax brown with single scale-like hairs. Eye field darker, eye surrounding black. Abdomen shiny grey (Figure 5F). Hairs sparse, white and brown. Spinnerets orange. Clypeus brown with 5 brown bristles, 2 single laterally and 3 centrally and with long white hairs overhanging towards chelicerae. Chelicerae honey-orange, with 2 promarginal and 2 retromarginal teeth, the latter fused at the base in fissidentati-like manner. Maxillae and labium honey smudged brown, chewing margins lighter. Sternum smudged orange with darker margin. Venter grey, darker laterally and posteriorly. Tarsi of legs I orange, other podomeres brown, tibiae with 5 pairs and metatarsi with 2 pairs of ventrolateral spines. Other legs orange-brown, lighter dorso-ventrally and distally. Coxae and trochanters of all legs contrasting light.

Epigyne (Figures 5H, I) very distinctive for its anterior nose-like knob.

Dimensions

CL 2.28, EFL 0.99, AEW 1.57, PEW 1.49, CW 1.71, AL 3.24.

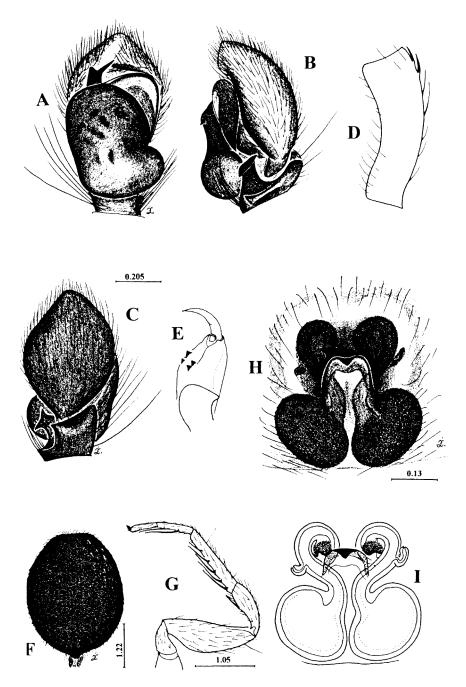


Figure 5 Adoxotoma justyniae n. sp.: A-C, male palp; D, male palpal femur; E, male cheliceral dentition; F, female abdomen; G, female leg I; H, epigyne; I, female internal genitalia.

Distribution

Known from several localities in New South Wales (Map 4).

Etymology

For Justynia, a friend of mine.

ACKNOWLEDGEMENTS

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REFERENCES

- Bonnet, P. (1955). *Bibliographia Araneorum*, vol. **2**: 1–918. Les Frères Douladoure, Toulouse.
- Davies, V. T., and Zabka, M. (1989). Illustrated keys to the genera of jumping spiders (Araneae: Salticidae) in Australia. *Memoirs of the Queensland Museum* 27: 189–266.
- Petrunkevitch, A. (1928). Systema Aranearum. Transactions of the Connecticut Academy of Arts and Sciences 29: 1-270.
- Platnick, N. I. (1993). Advances in Spider Taxonomy 1988–1991. The New York Entomological Society and the American Museum of Natural History, New York.
- Prószyński, J. (1971). Catalogue of Salticidae (Aranei)

- specimens kept in major collections of the world. *Annales Zoologici* **28**: 367–519.
- Prószyński, J. (1976). Studium systematycznozoogeograficzne nad rodzina Salticidae (Aranei) Regionów Palearktycznego i Nearktycznego. Rozprawy Wyzszej Szkoly Pedagogicznej, 6, 260 pp.
- Roewer, C. F. (1954). *Katalog der Araneae von 1758 bis 1940, bzw. 1954*. Institut royal des Sciences naturelles de Belgique, Bruxelles.
- Simon, E. (1901). *Histoire naturelle des Araignées*, vol. **2**, 381–668. Encyclopédie Roret, Paris.
- Simon, E. (1909). Araneae, 2^{me} partie. In W. Michaelsen and R. Hartmeyer (eds), Die Fauna Südwest-Australiens, vol. 2, 155–212. Gustav Fischer, Jena.
- Wanless, F. R. (1988). A revision of the spider group Astieae (Araneae: Salticidae) in the Australian region. *New Zealand Journal of Zoology* **15**: 81–172.
- Zabka, M. (1991a). Studium systematyczno-zoogeograficzne nad Salticidae (Arachnida: Araneae) Australii. Rozprawa naukowa 32, WSRP Siedlce.
- Zabka, M. (1991b). Salticidae (Arachnida: Araneae) of Oriental, Australian and Pacific Regions, V. Genus Holoplatys Simon 1885. Records of the Australian Museum 43: 171-240.

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