

# ***Maratus expolitus*: a new widespread peacock spider from Australia's east coast (Araneae: Salticidae: Euophryini)**

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**Abstract.** A new widespread species of peacock spider, the polished peacock spider, *Maratus expolitus* sp. nov., is described from the east coast of Australia.

**Keywords.** euophryine, salticid, morphology, taxonomy, jumping spider.

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## **Introduction**

In recent years, the native peacock spiders of Australia have obtained substantial media coverage for their brightly coloured males and intricate courtship displays. *Maratus* (Karsch, 1878) is distinguished from all other Euophryini by the presence of a dorsal opisthosomal plate and elongated legs III, which are usually ornate and used in an elaborate courtship dance (Otto & Hill, 2011, 2012). In recent years, the number of new species have risen exponentially (Otto & Hill, 2021). Recent media coverage has brought about more interest in the genus, particularly for those engaged in macrophotography, bringing many new species to light. This description raises the number of valid *Maratus* species by one, to 96.

## **Materials and Methods**

Live specimens examined for this study were collected from March 2021 to November 2021. Males and females were determined to be conspecific by their proximity when encountered in the field. Type specimens were examined using a Simul-Focal stereomicroscope (3.5-90x) or a Saxon 9" LCD Digital Stereo Microscope (11-457x). Live habitus images were taken using a Canon EOS 1200D using a 18-55mm EFS lens, utilising one extension tube. Epigyna were dissected and cleared in lactic acid overnight, then slide-mounted in lactic acid for imaging. Microscopic images were taken with an Amscope MA500 5MP camera; multiple images (6-30) were taken at different focal lengths and stacked using Helicon Focus 7.7.5: Method B. The distribution map was prepared with the *SimpleMappr* program ([www.simplemappr.net](http://www.simplemappr.net)). Plates were prepared with Adobe Photoshop 2022 and scale lines were determined using an gridded eyepiece graticule.

## Taxonomy

Genus *Maratus* (Karsch, 1878)

Type species: *Maratus amabilis* (Karsch, 1878)

### ***Maratus expolitus* sp. nov.**

(Figures 1 - 11)

*Material examined.* Holotype ♂ #1, New South Wales, Tanilba Bay, Tilligery Habitat, 32.728528°S, 152.004694°E, 28 SEP 2021, hand collected, L. Gale, [KS. 131127]. Paratypes: 1♂ #2, New South Wales, Mangrove Mountain, 33.336417°S, 151.189806°E, 27 MAR 2021, hand collected, M. Prasad, A. Kumar & A. Prasad [KS. 131134]. 1♀ #3, same locality as holotype, [KS. 131128]. 1♂ #4, same locality as holotype, 17 NOV 2021, hand collected, L. Gale, [KS. 131129]. 1♂ #5, same locality as holotype, 17 NOV 2021, hand collected, L. Gale, [KS. 131130]. 2♂ #6, same locality as holotype, 17 NOV 2021, hand collected, L. Gale, [KS. 131131]. 3♀ #7, same locality as holotype, 17 NOV 2021, L. Gale, [KS. 131132]. 3♀ #8, same locality as holotype, 17 NOV 2021, L. Gale, [KS. 131133]. All type specimens were preserved in 75% ethanol and lodged in the research collection of the Australian Museum, Sydney (AM).

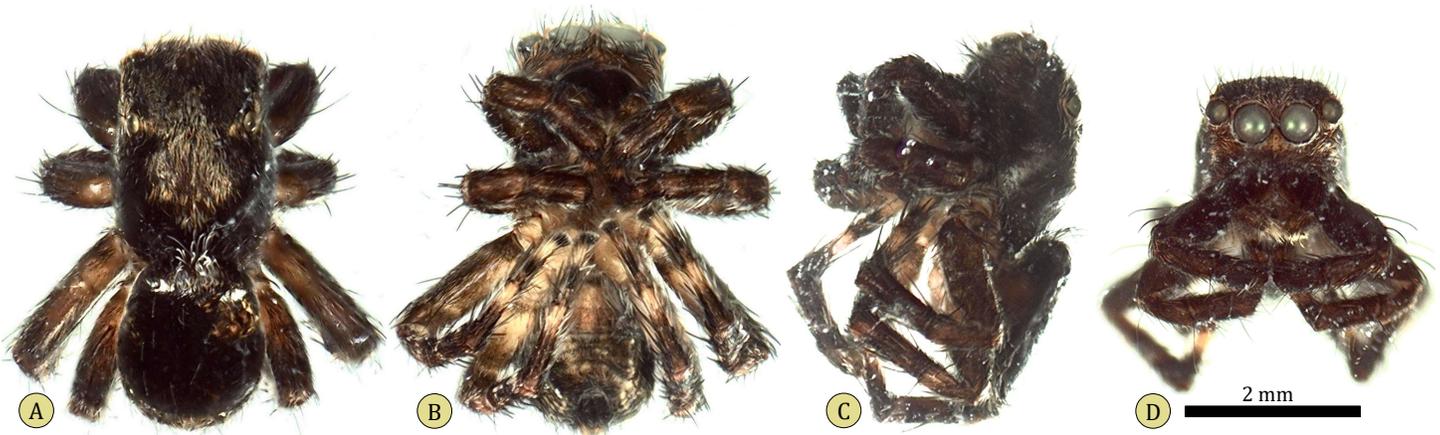
*Etymology.* The specific name (*expolitus*, Latin, m., adjective, English translation: *polished*) refers to the glossy or 'polished' appearance of the male opisthosoma.

*Diagnosis.* Adult male *Maratus expolitus* can be distinguished from all other *Maratus* except *M. speculifer* (Simon, 1909) by the near fully black habitus with glabrous opisthosoma, and can be differentiated from *M. speculifer* by the embolic disk of the male pedipalp. The embolic disk of *M. expolitus* sp. nov. is split into two apices, a blunt outer apex and a sharp inner apex; in contrast, *M. speculifer* possesses a wheel-rim-like embolic disk (Žabka, 1987: figs. 38-40). *M. expolitus* can be further differentiated by its darker legs, lacking the green ventral femora of *M. speculifer* (Otto & Hill, 2021: page 10). Females can be differentiated by their grey habitus with an inverse "T" shape on the mediodorsal opisthosoma (Figures 5, 6A,E-H). Based on the embolic apices, *M. expolitus* is assigned to the *Maratus anomalus* group.

*Description of male* (holotype). Carapace dark brown to black with light brown scale cover; more densely covered medially in a rhomboid shape (Figures 1, 2A, 3). Clypeus and chelicerae bare of scales; glabrous. Sternum dark brown to black. Labium, endites and coxae brown. Dorsal opisthosoma dark brown to black, lightly scattered black setae on opisthosomal plate, tuft of long white setae on anterior margin; black and light brown setae along posterior margin. Tuft of white setae situated above black spinnerets. Ventral opisthosoma dark brown to black with irregular off-white and black specks (Figure 2B). Opisthosoma lacks any form of opisthosomal flaps. Legs I and II subequal, legs III and IV longer, leg III longest. Integument of each leg dark brown to black, contrasted by alternating rings of light brown cuticle; rings absent on femora and coxae (Figures 1-3). Cymbium with long white setae. Large palpal bulb with retrolateral sperm duct loop and large tegular lobe. Retrolateral tibial apophysis finger-like with small dentition (Figure 4A). Outer embolic apex blunt with a sharp inner apex, embolic disc of left pedipalp coiled anticlockwise (Figure 4). One tegular bulge adjacent to embolus (Figures 4A,B). Sclerite on tegulum prolaterally below the embolic disc (Figure 3B).



**Figure 1.** Habitus of a living male *Maratus exopolitus*. A, Dorsal view. B, Anterolateral view. C, Anterior view. D, Lateral view. E, Posterolateral view. F, Posterior view.



**Figure 2.** Preserved holotype (♂ #1) *Maratus exopolitus*. A, Dorsal view. B, Ventral view. C, Lateral view. D, anterior view.



**Figure 3.** Four preserved paratype (♂ #2, 4 and 6) *Maratus exopolitus*, dorsal view.

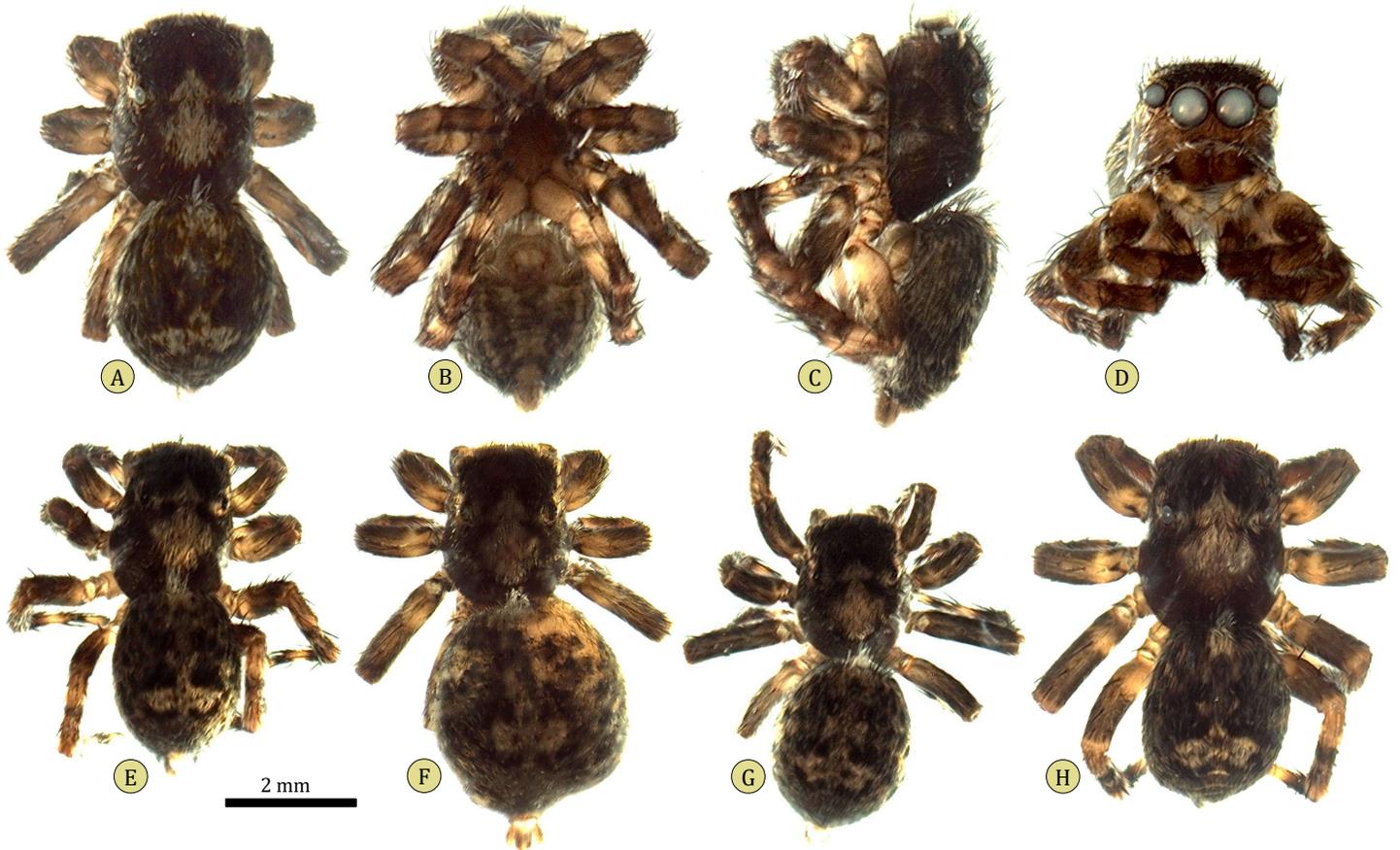


**Figure 4.** Preserved male *Maratus expolitus*, left pedipalp. **A**, Prolateral view. **B**, Retroventral view. **C**, Retroventral view. **D**, Detailed retrolateral view of apices of the embolus (outline). Photos A-C provided by Robert Whyte, used with permission.

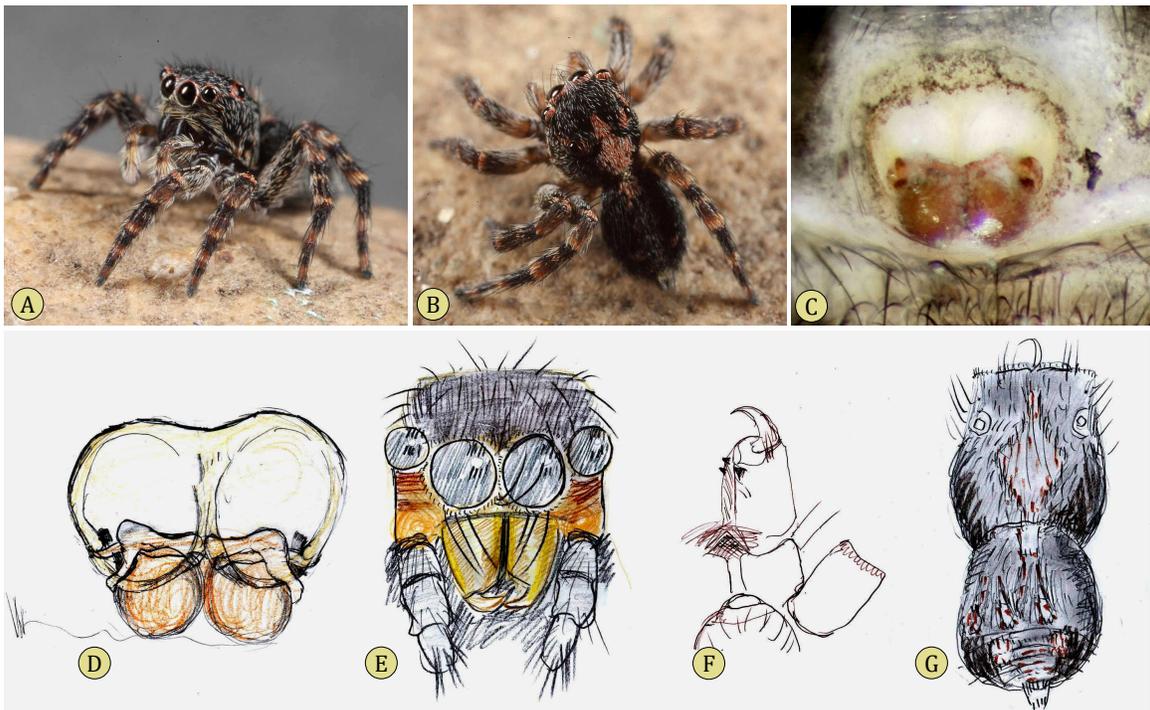
*Description of female (paratype).* Carapace mostly dark brown to grey, interrupted with specks of off-white setae, more densely covered medially in a rhomboid shape (Figures 5, 6A,E-H). Clypeus lightly covered with long white setae, chelicerae dark brown to black and glabrous. Anterior eyes ringed with off-white setae. Sternum brown, coxae and endites light brown. Dorsal opisthosoma grey, interrupted by specks of off-white setae and medial inverse "T" shape. Tuft of white setae above light brown spinnerets and tuft of long white setae on anterior margin. Ventral opisthosoma mostly grey, interrupted by two off-white to light brown lateral stripes and scattered off-white specks (Figure 6B). Legs I and II subequal, legs III and IV longer, leg III longest. Integument of each leg grey to dark brown, contrasted by alternating rings of light brown cuticle; rings absent on coxae (Figures 5, 6). Pedipalps light brown and translucent with incomplete cover of white setae. Epigynum with large circular windows separated by a median septum. Ovate posterior spermathecae behind each window (Figures 7D, 8-9). The epigynum varies greatly with respect to the size of the posterior spermathecae and the median septum (Figure 8).



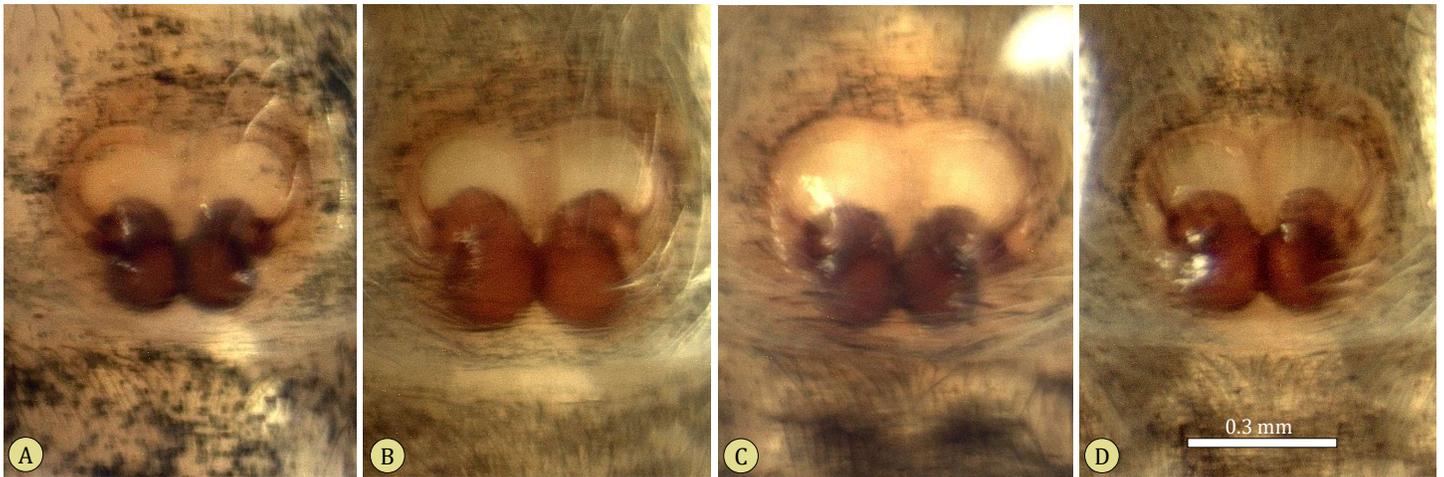
**Figure 5.** Habitus of a living female *Maratus expolitus*. **A**, Lateral view. **B**, Dorsal view. **C**, Posterolateral view. **D**, Posterolateral view. **E**, Anterodorsal view. **F**, Dorsal view.



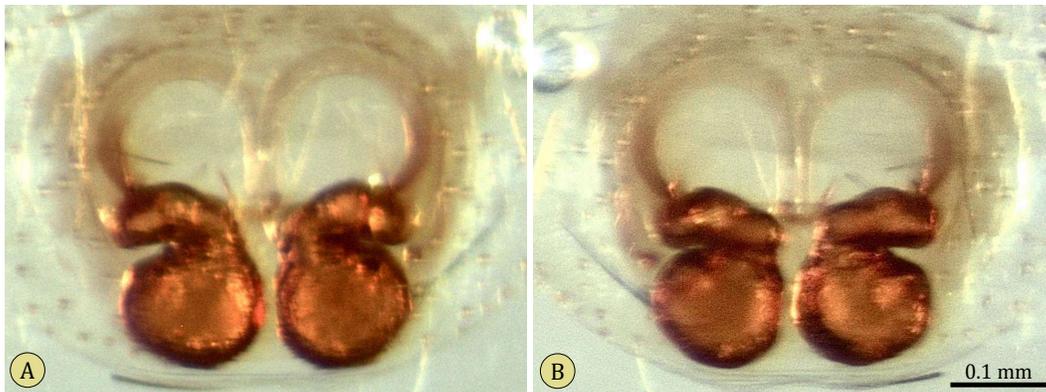
**Figure 6.** Preserved paratype ♀ *Maratus exopolitus*. **A-D**, Dorsal, ventral, lateral and anterior views (♀ #3). **E-H**, Dorsal views (♀ #7,8).



**Figure 7.** Images and sketches of a female *Maratus exopolitus* from Queensland. **A-B**, Two views of living female. **C**, Ventral view of epigynum. **D-G**, Drawings. **D**, Ventral view of epigynum. **E**, Anterior view of prosoma. **F**, Posterior view of left chelicera, endite and coxa I. **G**, Dorsal view of prosoma and opisthosoma. Photos and sketches by Robert Whyte, used with permission.

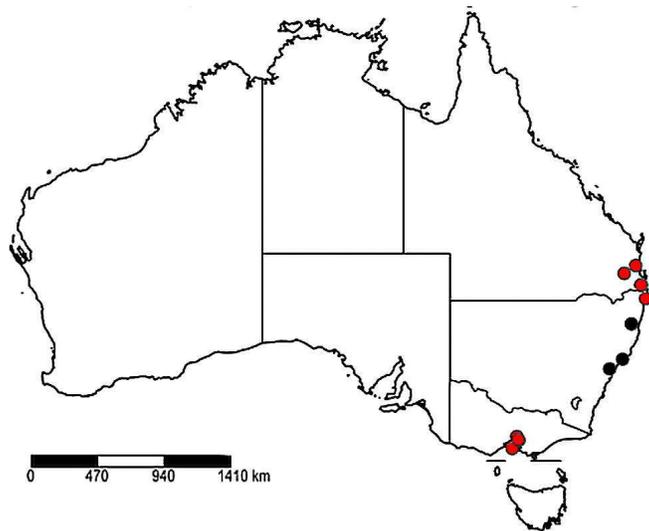


**Figure 8.** Epigyna of four preserved paratype female (♀ #7,8) *Maratus expolitus*, ventral view, showing spermathecal and septal variation.



**Figure 9.** Preserved and cleared epigynum of paratype female (♀ #3) *Maratus expolitus*. **A**, Ventral view. **B**, Dorsal view.

*Distribution and habitat.* Found along the east coast of Australia, from Victoria to southeast Queensland (Figure 10). Typically found in dry sclerophyll forests and frequently associated with boulders and rocky terrain (Figure 11).



**Figure 10.** Distribution of *Maratus expolitus* in eastern Australia. Localities for examined material are indicated with black circles, confirmed sightings with red circles.



**Figure 11.** Habitat of *Maratus exopolitus*. **A**, Crows Nest National Park, Queensland. Photo provided by Martin Stevens, used with permission. **B**, Dandenong Ranges National Park, Victoria. Photo provided by Nick Monaghan, used with permission.

*Courtship display.* Unknown. Two specimens from the same locality were placed together in an artificial environment, but no courtship dances or behaviours were observed. Multiple pairs were observed in the same conditions with the same negative result.

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