

Maratus vespertilio (Simon 1901) (Araneae: Salticidae) from southern Australia

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In his original description of the male *Saitis vespertilio*, Simon (1901, see Appendix) recognized its similarity to the better-known *Salticus volans* (now *Maratus volans*) of O. P. Cambridge. Simon described the distinctive opisthosomal plate covered with ashen hairs, bearing "semicircular curves" beneath (apparently a reference to the lateral opisthosomal flaps) with a mixed cover of iridescent green at the margins. The locality of Simon's *vespertilio* was reported as *Victoria int.*, or somewhere in the interior of the state of Victoria.

According to the Western Australian Museum (WAM) this species has been identified from a number of locations in Western Australia and New South Wales (ALA 2011). Using the WAM data one of us (J. C. Otto) recently (November 2010) located specimens of *Maratus vespertilio* near Whitton (11 males), and Old Junee (2 males), New South Wales. The identity of these spiders has been confirmed by Julianne Waldock of the WAM. Voucher specimens from these locations will be deposited in the Australian Museum in Sydney. Subsequently, we have identified photographs of similar spiders photographed in the vicinity of Nericon, New South Wales, and also in the Wearne forest block of Western Australia. These five localities are mapped in Figure 1, along with other localities identified by WAM, and some of the spiders that have been found are shown in Figures 2–4.

Figure 1. Australian localities where *Maratus vespertilio* has been found. **1**, Simon's original location (*Victoria int.*). This could be anywhere in Victoria. **2**, Whitton, New South Wales. **3**, Old Junee, New South Wales. **4**, Nericon, New South Wales. **5**, Wearne forest block, Western Australia. Other records (small yellow dots, not numbered) are based on 53 records posted by the WAM (ALA 2011). The background satellite image was prepared with the NASA *World Wind* 1.4 tool (<http://worldwind.arc.nasa.gov/index.html>).

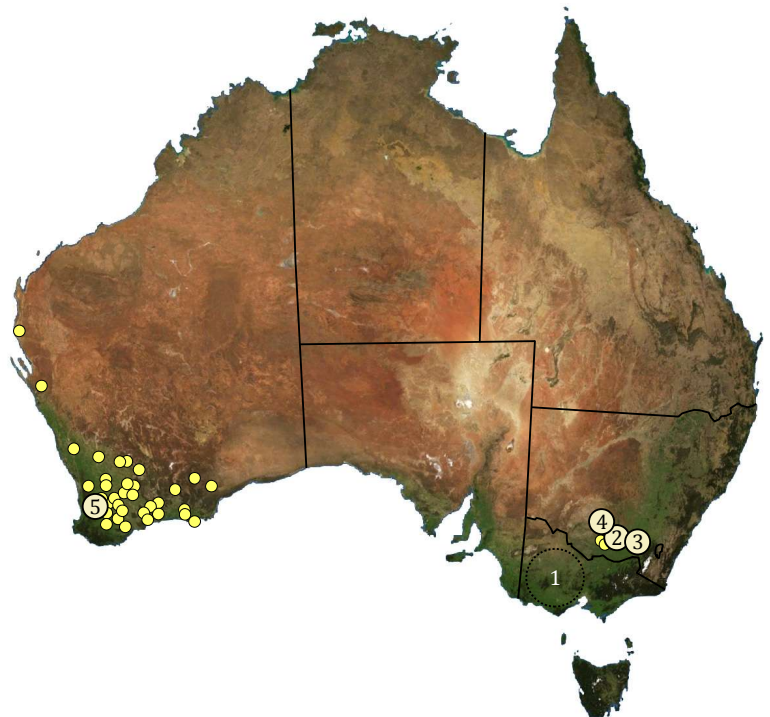




Figure 2. Male *Maratus vespertilio* from Whitton, New South Wales. **1**, Note the light-coloured setae and alternating pattern of light and dark bars on the carapace. **2–3**, Oblique to lateral views showing the dark femora and fringe of long white, ventral setae on patellae and tibiae III. Distinctive white setae associated with the tarsi III of many *Maratus* are not found in this species. **4–5**, Rear view of two different males, showing variation in colouration of the dorsal opisthosomal plate. Although Simon described this scale colour as ashen, it includes a mixture of different colours, including some iridescent light blue scales. **6**, Male extending leg LIII in a display. **7–12**, Views depicting different states of elevation of the opisthosoma and elevation of the lateral flaps by males during display. In **7**, you can see the smooth, semicircular outline of the extended flaps, from the rear. Also note the variation in iridescent scale colour from light blue to green. Images Copyright © J. C. Otto.



Figure 3. Comparison of male *Maratus vespertilio* from different locations in southern Australia. **1–2**, Two views of a male found along Ricks Road, Wearne forest block, Western Australia, 18 September 2010. **1**, The opisthosoma was raised and the flaps extended as this male faced a nearby female that showed no interest. **2**, Rear view, showing a more contrasty pattern on the opisthosoma than was seen in males from New South Wales (**3–6**). **3**, Rear view of a male from Nericon, New South Wales. **4**, Male from Whitton, New South Wales. **5–6**, Two males from Junee, New South Wales. Images 1–2 Copyright © Jean and Fred Hort, image 3 Copyright © Peter McHugh, used with permission. Images 4–6 Copyright © J. C. Otto.

So far, all photographs of display by these males do not show extension of legs III in association with elevation of the opisthosoma or expansion of opisthosomal flaps, as has been observed in the *Maratus* species that have bright white setae on the metatarsi of these legs (Hill 2009, Otto & Hill 2010, Hill & Otto 2011). The cryptic coloration of these males is also quite different from the elaborate color patterns associated with other male *Maratus*. As shown in Figure 3 (3), the mixed field of brown and iridescent blue scales of the dorsal opisthosoma may match the plants or other surfaces on which these spiders live. In Junee and Whitton, they were found on or near the ground, on cow dung pads or on small dead twigs where they were cryptic and very difficult to find (Figure 4). Selection for crypsis in local populations may thus be an important factor related to the variability of these patterns.

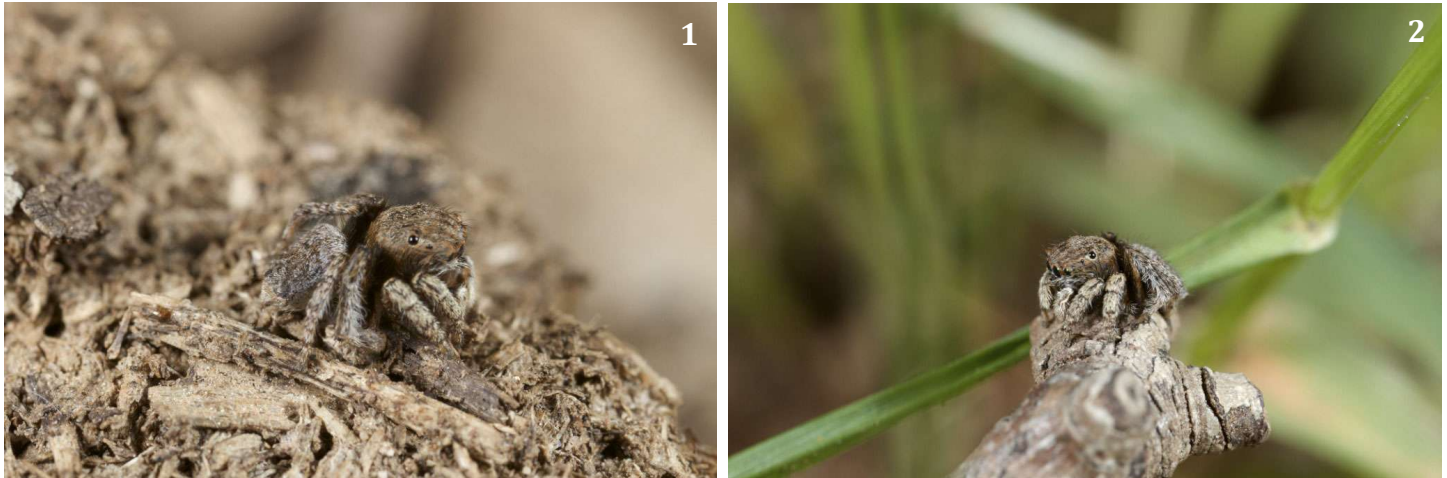


Figure 4. Male *Maratus vespertilio* from New South Wales in their natural habitat. **1**, Resting on a cow dung pad. **2**, On a small dead twig near the ground. Images Copyright © J. C. Otto.

Prószyński (1971) reported the existence of a specimen labeled *Saitis vespertilio* in the *Muséum National d'Histoire Naturelle*, 61, rue de Buffon, Paris V^e, France. Although Simon did not designate any type specimens with his description, this may represent the spider that he described. We were unable to borrow the specimen as it had been on loan, but hope to publish a photograph of it at a later date. Žabka more recently (1987) worked on the genera *Lycidas* and *Maratus*, but did not include *vespertilio* in either genus. Later Žabka (1991) did place Simon's *vespertilio* in the genus *Maratus*. No additional descriptions of this spider have been published, and Prószyński recently (2011) listed our state of knowledge of this species as "Dubius."

Acknowledgments

We thank Julianne Waldock of the Western Australian Museum for identifying New South Wales localities for *M. vespertilio*, and also for confirming the identity of spiders found at those sites. We thank Christine Rollard of the Muséum National d'Histoire Naturelle in Paris for information on Simon's specimen. We also thank Jean and Fred Hort, and Peter McHugh, for allowing us to include their photographs in this account.

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Appendix

Simon's description of *Saitis vespertilio*

Simon's original description (Simon 1901) of *Saitis vespertilio* was written in a fairly inaccessible version of *Neoclassical Technical Latin*, a combination of Latin and "Latinized" words that was popular with scholars at that time. This same language forms the basis of much of our current medical terminology, also developed at that time. Here, both the original version, and a new English language translation, are presented.

Simon, Eugene. 1901. Etudes arachnologiques. 31e. Memoire. L. Descriptions d'especes nouvelles de la famille des Salticidae (suite). Annales de la Société Entomologique de France 70: 66–76.

p. 68, original description in Neoclassical Technical Latin

S. vespertilio, sp. nov. — ♂ long. 3 mill. — Cephalothorax altus, parte cephalica fere parallela declivi, thoracica valde declivi, ampliata et ovata, niger, obscure cinereo rubroque pubescens. Oculi antichi smaragdinei, a sese praesertim laterales, sat distantes, apicibus in lineam subrectam, pilis cinereo-rubris cincti. Clypeus latus, retro obliquus, ad marginem pilis fulvis crassis vestitus. Abdomen crassum sed supra deplanatum, paulo longius quam latus, subparallellum, antice obtuse truncatum, postice recte truncatum cum angulis acutis, nigrum, crebre albido-squamulatum, antice vitta transversa lata, dein vitta longitudinali, simpliciter cinereo-pilosis notatum, subtus laminis binis semicircularibus mollibus et incurvis, squamulis albis, ad marginem et antice squamulis viridimicantibus mixtis vestitis, fere omnino obtectum, regione mamillarum leviter depressa, subfoveolata. Chelae, sternum et partes oris nigricantia. Pedes nigricantes, valde cinereo-fulvo-pubescentes et hirsuti, tarsis cunctis, coxis, trochanteribus, metatarsisque posticis dilutioribus et fulvis, pedes quatuor antichi robusti et breves, femoribus clavatis et compressis, pedes 3ⁱ paris pedibus 4ⁱ paris multo longiores, aculeis ordinariis, numerosis et longis armati. Pedes-maxillares parvi, castanei, femore nigro, reliquis articulis superne crasse et crebre flavido-hirsutis.

Australia orient. : Victoria int.

A *S. [Salticus] volanti* O. P. Cambr., cui sat affinis est, praesertim differt tegumentis nigris, albido-cinereo-squamulatis, haud vel vix micantibus et abdomine, superne viso, anguloso.

English translation by D. E. Hill

Saitis vespertilio, new species — ♂ length 3 mm — Prosoma (cephalothorax) high, the cephalic (head) part nearly parallel-sided and descending, the thoracic part steeply descending, wider and ovate, black (dark), with faintly ashen red hair. Anterior eyes emerald green, especially the laterals, separated, the tops aligned, surrounded by ashen red hairs. Clypeus wide, oblique to the rear, covered with thick, tawny (reddish-yellow) hairs toward the margin. Opisthosoma (abdomen) thick (fat) but level above, a little longer than wide, subparallel (sides almost parallel), the anterior obtuse and truncated, the posterior truncated at an acute angle, black (dark), bearing dense white scales, the anterior with a wide transverse band, followed by longitudinal lines, simply marked with ashen hairs, beneath a plate of two smooth, semicircular, curves bearing white (grey) hairs, with a mixed cover of iridescent green to the margins (laterally) and to the front, nearly entirely covered, in the area of the spinnerets slightly depressed, less wide. Chelicerae, sternum and mouth parts blackish (dark). Legs blackish (dark), hairy, with many ashen-tawny (ashen reddish-yellow) hairs, tarsi completely, coxae, the rear of the trochanters and metatarsi thin and tawny, the four legs generally robust and short, femora striped and compressed, 3rd legs much longer than 4th legs, armed with many long, regular spines. Pedipalps small, chestnut brown, femur black, the remaining segments yellow-haired, coarsely above and densely below.

Eastern Australia: Interior Victoria

Salticus volanti O. Pickard-Cambridge, related to this species, has a different black (dark) integument, bearing ashen white scales, barely iridescent and the abdomen, as seen from above, angulate.