# SPIDERS

## FROM THE COOLOOLA BIOBLITZ
## 24-26 AUGUST 2018

ROBERT WHYTE

## Acknowledgements

Thanks to Fraser Island Defenders Organisation and Cooloola Coastcare who successfully planned and implemented the Cooloola BioBlitz from Friday 24 to Sunday 26 August 2018.

The aim of the BioBlitz was to generate and extend biodiversity data for Northern Cooloola, educate participants and the larger community about the area's living natural resources and build citizen science capacity through mentoring and training.

Cooloola is a significant natural area adjoining the Great Sandy Strait Ramsar site with a rich array of habitats from bay to beach, wallum to rainforest and fens to high dunes.

A study by the CSIRO in the late 1970s identified an array of fauna including 280 species of ants, many new to science. Much of Fraser Island (K'gari's) World Heritage values were inferred from that study.

The 2018 Cooloola BioBlitz was supported by many biological scientists, both amateur and professional, who contributed important baseline data for a comprehensive biological inventory. The involvement of scientists, naturalists and community members in all phases of observation, identification, recording and analysis of habitats of all living natural resources, was an important exercise in promoting and developing citizen science.

Ninety seven people signed on for seven target areas representing distinctive habitat types easily accessible from Rainbow Beach, the centre of operations.

Sites ranged from mangrove forests at Bullock Point to Lake Poona perched in the high dunes; littoral forests of Inskip Point Peninsula to rainforest at Bymien; wallum heathlands to eucalypt forests adjacent to Carlo Sandblow; and from the fens to Seary's Creek.

Thanks to all our collectors, especially the Bromley-Forrester family who were highly successful spiderologists on the weekend and Sandra and Lara's enthusiasm at Carlo Point which kept everyone in high spirits and eager to learn.


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Cooloola BioBlitz

Cover: *Argyrodes* sp. Silver Cobweb Spider, Carlo Point ROBERT WHYTE

One of our first 2018 BioBlitz new species was an *Ornodolomedes* sp. nov. found at midnight on Friday 24 August at Lake Poona by Ben Revell, who is part of the Australian Questagame Citizen Science team. Ben is a specialist with these Water Spiders (Pisauridae) recently having *Ornodolomedes benrevelli* named in his honour. Adult *Ornodolomedes* can reach a body length of around 7-10 mm. ROBERT WHYTE

The next new species was this tiny Crab Spider (Thomisidae) body length 1.55 mm (from eyes to spinnerets inclusive) on Saturday 25 August at Carlo Point. It may or may not be the same species as one found at the recent Woodfordia Planting Festival. It is an undescribed *Tharrhalea-Lehtinelagia* sp. ROBERT WHYTE





## Introduction

Spiders (order Araneae) have proven to be highly rewarding organisms in biodiversity studies[1], being an important component in terrestrial food webs, an indicator of insect diversity and abundance (their prey) and in Australia an understudied taxon, with many new species waiting to be discovered and described. In 78 Australian spider families science has so far described about 4,000 species, only an estimated quarter to one third of the actual species diversity.

Spiders thrive in good-quality habitat, where structural heterogeneity combines with high diversity of plant and fungi species. These fundamentals result in high diversity and abundance of insects and other terrestrial invertebrates. Many lineages of spiders have evolved to utilise the terrestrial habitat niches where their food is found, some in quite specialist ways.

For the 2018 Cooloola BioBlitz, we utilised techniques to target ground-running and arboreal spiders. To achieve consistency of future sampling, our methods could be duplicated , producing results easily compared with our data. Methods were used in the following sequence:

- careful visual study of bush, leaves, bark and ground, to see movement, spiders suspended on silk, or spiders on any surface
- shaking foliage, causing spiders to fall onto a white tray or cloth
- scraping and brushing bark
- peeling bark (utilised minimally so as to leave habitats relatively undisturbed)
- turning logs and rocks (returning them to their initial position)
- transferring leaf litter into bags, then sifting though a handful at a time

1 https://goo.gl/Q7zGLw Google Scholar resources for spiders biodiversity.

Pholcidae *Wugigurra* sp. adult male possibly *W. yawai*. This is one of the native Australian Daddy Long-legs. There are nine species of Daddy Long-legs spiders which have come from elsewhere. It was found by Chris and Katrina Sanderson. *W. yawai* was named for the Taribelang (also called Yawai) aboriginal tribe from around Bundaberg. ♀ 3 mm ♂ 2.4 mm

- sitting beside grass tussocks and waiting (watching for movement of Peacock Spiders).

Common collection methods not utilised at Cooloola due to our consideration for the sensitivity of the habitats included: knock down pyrethrum fogging; digging burrows and working litter down to its base.

Spiders can also be attracted with vibrations of a rough-running diesel engine, impractical on this occasion. However we benefited from 'by-catch' from entomologists, botanists and fungi experts.

Our sampling was restricted to three locations, Carlo Point, Seary's Creek and Inskip Point.

Our initial findings suggested we were encountering far greater diversity than we had expected. We assumed depauperate, old soils with low nutrient levels would mean low diversity. The opposite was true, suggesting that the relative stability of the landscape over long periods of time has resulted in adaptations to suit micro-niches. It seems where life is a struggle, a wide variety of organisms colonise a given area, without any of them becoming overwhelmingly successful to the detriment of others.

In total we collected over 700 specimens from three sites, about half of these able to be released on site because they were either very well known, or juveniles which have little taxonomic value. We further culled by releasing duplicates. The number of specimens remaining to be studied in the lab with a stereo microscope was about 250, still containing some that were possibly juvenile, but being tiny, needed verification.

About 165 adults were retained after microscope examination and of these we found a little under a quarter, or 37 species, were not yet described, being 13 confirmed new species, and 24 putative (judged to be) new species, being those for which we could find no match in the literature but which would require examination by other experts or a revision of their genus or family. Orb Weavers (Araneids) are especially difficult to declare as new species because many taxa are described, but lack good documentation and in some cases are without any remaining specimens from their type series.

Naturally we found fewer new undescribed species

Another specimen of the tiny, new, undescribed *Tharrhalea-Lehtinelagia* sp. (Thomisidae) body length 1.50 mm, found on Saturday 25 August at Carlo Point. This is the male. ROBERT WHYTE

As far as we know this is the world's first image of a live specimen of *Cetratus circumlitus* (L. Koch, 1876). Nicknamed "White-line Fever" it was collected by the Spiders Team at Carlo Point on Saturday 25 August 2018. This is a range extension for a species previously known only from NSW. The undescribed male was also found at the site. ♀ 5 mm ♂ 4.5 mm ROBERT WHYTE

A putative (unconfirmed) new *Opisthoncus* sp. body length 3.8 mm from Carlo Point, Saturday 25 August 2018. This Back-walking Garden Jumping Spider could solve a puzzle in *Opisthoncus*. It is a small jumper in the *Opisthoncus parcedentatus* group, because of its jaws and male sex organ, but could be the undescribed male *Opisthoncus serratofiasciatus.* ♀ 5.5 mm ♂ 4 mm ROBERT WHYTE

as we progressed, because we recognised the same new species occurring in each location, not retaining specimens where this was obvious.

It was remarkable, however, how many completely new species we found at Seary's Creek and Inskip Point and in particular Inskip Point where the diversity was simply mind-blowing. It suggests the affect of an overlap of many habitat types, because of the leeward side being close to the open ocean side. Forest, wallum, dunes and heath are all in close proximity in a small area. Sampling skills had also improved by that time. The collection at Inskip Point was cut short (by about half) because of rain, making it all the more astonishing.

The highlights of collecting overall included:

- Ben Revell's near magical abilities to find new species of *Ornodolomedes*
- Robert Whyte misidentifying the common *Bomis larvata* as a new species of *Cymbacha*
- Dr Robert Raven identifying a new species of *Desognaphosa* and *Orthobula* in the new family Trachelidae
- More specimens of the new Crab Spider species *Tharrhalea-Lehtinelagia* "woodfordia", which is not conspecific will become *Tharrhalea-Lehtinelagia* "cooloola"
- First live photos of *Cetratus circumlitus* and first ever sighting of its unknown male
- Mr Stripey and Exclamation Point finally separated into two new species
- Many new Money spiders, the chances of identifying them in Australia being next to nil
- Hundreds of *Tetragnatha* sp. which normally have webs above fresh water, nowhere near fresh water
- Robert Whyte misidentifying a Linyphiid as a Theridiid
- Many apparently new Theridiids, especially at Inskip Point
- Pairing up of some Theridiids into obvious conspecific males and females
- World's first ever successful photos of a Baalzebub male
- Confirmation of a new species of Jumping spider related to *Opisthoncus sexmaculatus*
- Being able to declare a new species of Araneid, apparently in genus *Verrucosa.*

Biggest disappointment was missing the company of Sandra and Lara after Carlo Point, because they had to lead their own teams. Second biggest disappointment was not getting live photos of *Verrucosa*, the new *Phoroncidia* sp., and several of the new Theridiid sp.


Summary of the Spider results at Cooloola BioBlitz 2018

Confirmed new species of the Back-walking Garden Jumping Spider *Opisthoncus*, closely related to *O. sexmaculata,* differentiated by genitalia and by having more than six marks.
ROBERT WHYTE


The location of this marker is where we stopped to collect spiders from the eastern side of the road and into the scrub. GOOGLE MAPS

# Carlo Point

Carlo Point is 3.4 kilometres from Rainbow Beach on the leeward shores of Tin Can Bay with access to littoral environments and normally wet heathland.

The site was chosen by the Spiders Team because it was the closest to the Rainbow Beach centre of operations. Knowing that fortune does not always favour the lazy, we were not expecting great discoveries.

Training for collecting involved demonstrations of techniques and the distribution of trays, glass specimen vials and magnifying loupes.

Almost immediately a pink-gold *Simaethula* was sighted (unfortunately a juvenile) then soon after a great many specimens of what was thought to be a striking new Crab Spider species of *Cymbacha*. This later proved to be the rather common and unexciting *Bomis larvata*. One male and one female specimen of *Bomis larvata* were retained and the genitalia photographed for the scientific record.

This was followed by at least a 'known unknown', meaning a species well known to arachnologists but known to be undescribed. This was the Yellow-tailed *Eilica*.

Large numbers of a small slender *Tetragnatha* sp. began appearing in the glass vials. This was unusual because these species are known to string webs across fresh water. We learned the area in less dry years is apparently quite wet, the water pooling in the sandy depressions resembling 'melon holes' of the western Darling Downs.

The species seems to be related to *Tetragnatha macilenta* (Tetragnathidae), the Thin Long-jawed Spider widespread across Pacific islands and eastern Australia. It was significantly smaller than the usual *T. macilenta* and had a series of paired blotches down the abdomen. Most specimens were juvenile, but one male and female pair was adult.

Then came two more Crab Spiders which made Carlo Point an extremely interesting spidering location, both of which have been mentioned in the introduction; the tiny *Tharrhalea-Lehtinelagia* "woodfordia" (or not) and the relatively large *Cetratus circumlitus* which has never been seen in a published photo before now.

Why *Tharrhalea-Lehtinelagia*? Because Lehtinen, after whom the genus was named, decided to synonymise *Lehtinelagia* with *Tharrhalea*, on what seemed to us very skinny grounds. Therefore, while the name change is official, we have indicated it may well revert to *Lehtinelagia*, which was a genus erected by Pawel Szymkowiak. On viewing this specimen from Cooloola, Pawel Szymkowiak was circumspect about

Bomis *larvata* Larval Crab Spider(Thomisidae). The name refers to the size, larval (as in small) when compared to other spiders. *Bomis larvata* is found nearly everywhere across Australia including TAS. ♀ 2.5 mm ♂ 1.5 mm. ROBERT WHYTE

Yellow-tailed *Eilica* sp. (Gnaphosidae). Australian *Eilica* spp. are fast running ground spiders connected with ants. This is an adult male, the gender obvious by the 'boxing-glove' shaped pedipalps below the eyes, swollen by development of the secondary sexual organ. ♀ 5 mm ♂ 3 mm ROBERT WHYTE

it even being *Tharrhalea-Lehtinelagia* but we have nowhere else to put it at the moment.

The male *Cetratus circumlitus* was a major find, contributing a missing male to make the species complete, something we all strive for, and not just with spiders.

It became clear Carlo Point was also a haven for some small Jumping Spiders known to keen enthusiasts, but also undescribed, Mr Stripey (opposite above) and Exclamation Point! (opposite below).

The question everyone was asking. "Are Mr Stripey (opposite top) and Exclamation Point! (opposite bottom) different species?" The answer is YES. Mr Stripey has a double pronged insemination apparatus and a retro-lateral tibial apophysis curving to venter, while Exclamation Point! has retro-lateral tibial apophysis straight, and insemination apparatus with only one prong! But better than that, they look different, with close inspection. They are both very small spiders (2-3 mm body length) in a new genus not yet erected. ROBERT WHYTE

Undescribed male *Cetratus circumlitus* (Thomisidae), Carlo Point 25 August 2018. The female however was known by taxonomists at least as early as 1876 when Ludwig Koch described it. It must have irked Koch that no one could find and send him the male, because taxonomists everywhere are loth to describe a single gender in a species. It nearly always leads to trouble, with one species being named for the male and another for the female. This doesn't happen as much as it previously did, because you can get all the taxonomic papers from the World Spider Catalogue, and check. The search is here http://www.wsc.nmbe.ch/search. Membership http://www.wsc.nmbe.ch/user/register is free and gives you access to download the literature in which the new or revised names appear. Because of Swiss laws you can download papers normally inaccessible due to copyright law restrictions. (You need to be logged in for this to work.) It's a Darwin-send! ♀ 5 mm ♂ 4.5 mm ROBERT WHYTE

Next was an old favourite, being the female of the real *Hypoblemum albovittatum* (image below), now under the name *Maratus scutulatus* but known to be misplaced. It has also been described as *Lycidas karschi*, among other things. It will be put into a new genus with the species name *scutulata*, coming soon, but we are not allowed to tell you the genus name till publication.

The other significant Jumping Spider at the site, mentioned in the introduction, was a reddish brown adult male with an interesting pattern of squamous (flattish, scale-like) hairs on the carapace, the upper part of the cephalothorax. This was possibly the male *Opisthoncus serratofasciatus*, which has never been found or described. This was photographed in alcohol to record the palp, jaws and habitus (general appearance).

Above. *Opisthoncus* sp. This is possibly the male *Opisthoncus serratofasciatus*, which has not yet been described. The female is known to science The image above shows the diagnostic features which are used to determine new species of spiders, in particular the male palpal organ, the swollen tip of the pedipalp, a small leg-like structure near the jaws. Other characteristics include spurs and teeth on the jaws, general appearance, leg spines, relative leg leg lengths and their decoration with bristles or hairs. The spiders are stored in 100 per cent ethanol (pure alcohol) and at low temperatures if to be used in DNA analysis. ROBERT WHYTE

Below. The female known as *Lycidas scutulatus*, *Maratus scutulatus*, *Lycidas karschi*, *Maratus dialeucus*, *Hasarius lineatus*, and *Hypoblemum albovittatum*. ♀ 5 mm ♂ 4.5 mm ROBERT WHYTE





Above, a new species of *Desognaphosa* in family Trochanteriidae, better known for its extremely flat spiders which live in rock crevices and other narrow places. Below left, a new species of Linyphiidae (Money Spiders) genus not yet determined. Below right, a well known crab spider *Stephanopis barbipes* easily recognised by the male's large tufts of hair on the first pair of legs. This female is much harder to identify, being almost identical to *Sidymella lobata*, but the white rim of the abdomen is a help. ROBERT WHYTE

Top left, *Cyclosa* sp. resembling *Cyclosa insulana* but quite a bit smaller at 4.8 mm. Top right, a Cobweb Spider (Theridiidae) matching no species in the literature except perhaps *Achaearanea diversipes* from Lord Howe Island which Rainbow said was unlike any Australian species. Middle left, a Theridiid in the *Argyrodes fissifrons* group, but not that species. Middle right, the well known *Araneus acuminatus*, common in most bushland on the eastern Australian coast. Bottom, a relative of *Tetragnatha demissa*. ROBERT WHYTE

This 2.4mm *Orthobula* sp. found on 25August 2018 at Carlo Point, during the Cooloola BioBlitz, is a new species of a genus in the family Trachelidae which is not yet official for Australia, because no Australian species in Trachelidae have yet been described. When it is described Australia will have a new spider family. ROBERT WHYTE

## Seary's Creek

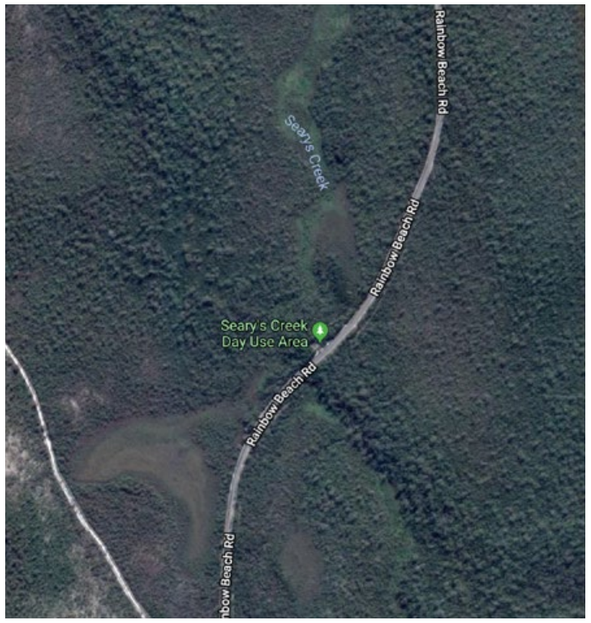
The Spiders Team had great hopes for Seary's Creek, a spring-fed stream with a sandy bottom and clear water. Wildlife love waterways and spiders love wildlife.

The car park for the day use area is just off the main Rainbow Beach Road about halfway between Cooloola and Rainbow Beach

From the car park it is a short walk down a wooden boardwalk to a T-junction. We took the left-hand turn and set up beside the creek just beyond the junction. The now experienced went straight to work.

On the day, the highlight for Seary's collecting was a huge Huntsman, a very impressive *Heteropoda cooloola* female. It was so big we did not have a container big enough to keep it in so after verifying its identification it was let go.

In the follow up there were so many Cobweb Spiders (Theridiidae) we consulted Dr Helen Smith who is working on revising one of the theridiid subfamilies, the hadrotarsines. That let us put a certain new species tag on a specimen below known only as "part of the L group".




Seary's Creek. GOOGLE MAPS

A Hadrotarsine from Arachnologist Dr Helen Smith's L group, known to be undescribed. It is in manuscript, so it will get a name one day. Body length about 2mm. ROBERT WHYTE

Seary's Creek and Lake Poona are the only natural expressions of permanent surface freshwater in the 2018 Cooloola study area. The very distinct habitat immediately either side of Searys Creek contrasts with the dwarfed wallum vegetation it passes through. JOHN SINCLAIR

This was a tricky one. Many Cobweb Spiders (Theridiidae) look like this but this one is in fact a different family (Linyphiidae). It is a new species of *Laperousea* body length about 2.4 mm related to *L. blattifera* and *L. quindecimpunctata.* ROBERT WHYTE

A quartet of small Cobweb Spiders from Seary's Creek hard to put even to genus and new as far as we can tell. The two spiders above are the same species. The one below on the left is in the vicinity of *Theridion pyramidale* and *Achaearanea meraukenis*, but neither, while the one on the middle right below is related to the top two but different again. ROBERT WHYTE

Below left, a Seary's Creek Araneid which may turn out to *Araneus usualis*, but which is unable to be identified to species until we get a handle on what *Araneus usualis* actually looks like. On the right below a jumping spider from Seary's Creek identified with certainty as *Servaea villos*a, the Shaggy Servaea, one of the most common jumping spiders in Queensland. ROBERT WHYTE

One of the highlights of the 2018 Cooloola BioBlitz for the Spiders Team. As far as we know the world's first successful photograph of a living *Baalzebub* up close and personal. Previously we have only (barely) seen these miniature spiders in the context of their unusual tensioned webs. *Baalzebub* (Lord of Flies) is a Theridiosomatid, a little-known spider family found worldwide in the tropics. They live almost exclusively in humid, shaded forest habitats. Australian genera include *Baalzebub* and *Theridiosoma*. Some live in caves or around cave entrances, seeming to prefer dark situations. The family name refers to a body shape like that of some theridiids (Cobweb Spiders). Some make complete orb webs; others have a few sparse threads or even no web at all. They are called Ray Spiders or Cone-web Spiders because some species distort their webs into a cone shape with tension lines but some, like *Baalzebub*, don't. Body lengths range from 0.5 to 2.5 mm. This Seary's Creek male was 1.17 mm. ROBERT WHYTE

Above, the new *Opisthoncus* mentioned In the introduction, unexpected in terms of how easy it was to diagnose as a new species because of the striking pattern on the rear half of the abdomen, with eight dark marks, or nine if you count the rearmost one. It is clearly related to the *Opisthoncus sexmaculatus* with six marks, but just as clearly not that species with distinctly different female genitalia. If you want a crash course on determining *Opisthoncus* species, it's all about the 'kissing chooks'. The female epigynum has visible ducts and vessels which appear to take the form of two chooks facing each other. The diagnosis depends on how wide or tall these shapes are, how close the 'beaks' and 'tummies' are, and how wide the windows are where the heads of the chooks appear. ROBERT WHYTE

Below, to wrap up the section on the spiders of Seary's Creek (though there were many more than the small selection depicted here) are two known species, a Crab Spider on the left and a Classic Orb-weaver on the right. The Crab Spider is named *Australomisidia cruentata* which distressingly means 'blood spattered'. It is common all across Australia. On the right is a scrunched up small male *Araneus albotriangulus* in subfamily Araneinae of the Orb-weaver family Araneidae. The silver translucent 'boxing gloves' are the partially developed palpal organs, the male genitalia. ROBERT WHYTE

## Inskip Point

The Inskip Point Peninsula, with significant areas of rich littoral wet sclerophyll forest, offered another area of diverse vegetation and wildlife despite the fact that the area to the west of the road was disturbed by sand mining in the 1960s and early 1970s.

The tip of the Point and a nearby off shore sandbank are important roosts for shore birds.

This area was billed by the 2018 Cooloola BioBlitz as possibly one of the most productive areas for bioblitzing. It did not disappoint. The Inskip Peninsula represents an area of great potential significance as far as spiders are concerned and is well worth continuing close scrutiny.

You might have thought that by the time we got to the Point all the new species would have been found already since the sites were not far from each other and, from a broader viewpoint, not dramatically different.

The new species, much to our surprise, kept rolling in. The group which was the clear winner in terms of new discoveries was Cobweb Spiders, and, as usual, tiny ones.

In terms of follow up work post Blitz, by the time we got to the Inskip Point Batch, unfortunately some of the new species were a little tired and unemotional, due to the long wait for their turn under the microscope. This did not affect the science too much, but did reduce the number of live photos from this batch. New species not photographed alive included a *Verrucosa* sp. important because it is in a rare group of orb-weavers of undecided sub-family, and a stunning new *Phoroncidia*, a new species in a peculiar group of Cobweb Spiders which carry their eyes on a swollen knob like a paw-paw on a stalk (the 'neck'). Tiny of course, a male under 2 mm.

Inskip Point was the only site we found spiders from the family Uloboridae, the Venomless Spiders. This is *Philoponella variabilis* specimen (Variable Venomless Spider). We were able to confirm the ID with the help of *An Illustrated guide to the genera of Orb-weaving Spiders in Australia* 1988 by Val Davies. ROBERT WHYTE

Some, we had already seen, like this Cobweb Spider (Theridiidae). It matches no species in the literature except perhaps *Achaearanea diversipes* from Lord Howe Island which Rainbow said was unlike any Australian species. It is common all over the east coast of Australia from at least Batemans Bay to Rockhampton.  Body length 2.4 mm ROBERT WHYTE

This Lynx Spider, *Oxyopes* sp. in family Oxyopidae, lives up to its name. *Oxyopes* means spikey legs. ROBERT WHYTE

## Strays and by-catch

Some of the most interesting material gathered in a BioBlitz, or any biodiversity survey, comes from other participants, whose interests and collecting methods, often at night, leads them into peculiar places harbouring peculiar species.

The main contributor at the 2018 Cooloola BioBlitz from outside the Spider Team was a biologist looking for herps and other verts at night, Chris Sanderson, who has been involved in surveys all over Australia.

Other people bringing us specimens included the botanists, entomologists and fungi specialists. Even Rainbow Beach residents got into the spirit of things, bringing specimens from their back yards. It all counts in a fauna, flora and fungi stocktake of an area.

This common orb-weaver *Araneus dimidiatus*, was interestingly in perfect condition, having retained the scape on the epigyne normally broken off. Collected by Chris Sanderson. ROBERT WHYTE

Below, this Stiphidiid was a bit of a puzzle. These are common in New Zealand . We don't know if this one is new or not. Collected by Chris Sanderson. ROBERT WHYTE

*Ozicrypta cooloola* in family Barychelidae collected by Ben Revell on a midnight walk to Lake Poona. Note the hitch-hiking ecto-parasites. ROBERT WHYTE

Below, a probably known *Clubiona* sp. in the family Clubionidae. Clubionids like this are almost impossible to identify with certainty because there are dozens if not scores of species which look almost identical, and all we have to go on are some very ancient drawings by Koch & Keyserling in *Die Arachniden Australiens* from the 1800s. ROBERT WHYTE





## New species

New species can become known if one finds a known species that has been lost, misdiagnosed or misidentified which matches the one you have. That's always a possibility. Officially, they are not really new until the taxonomy gets done in a respected peer-reviewed journal. Just collecting is not enough. You have to do the hard yards, measuring leg segments and counting spines. All good skills to obtain. The real payoff though is getting a glimpse of a far off perhaps mirage-like state of mind where we have some better understanding of the ecology of the areas we study.

LIST OF NEW SPECIES

- Araneidae *Verrucosa* not *furcifera*
- Gnaphosidae *Eilica* sp.
- Linyphiid Male
- Linyphiidae *Laperousea*
- Pisauridae *Ornodolomedes* Female 1
- Pisauridae *Ornodolomedes* Female 2
- Pisauridae *Ornodolomedes* Male
- Pisauridae *Ornodolomedes* Sub-Male
- Salticidae New Genus in press
- Salticidae *Opisthoncus* 1
- Salticidae *Opisthoncus* 2
- Salticidae Exclamation Point
- Salticidae Mr Stripey
- Salticidae *Neon*
- Salticidae *Jotus*
- Stiphidiidae *Procambridgea*
- Tetragnatha sp.
- Theridiidae Small Balloons
- Theridiidae Large Balloons
- Theridiidae Male 1
- Theridiidae Male 2
- Theridiidae Male 3
- Theridiidae Male 4
- Theridiidae *Argyrodes*
- Theridiidae *Episinus*
- Theridiidae Hadrotarsine
- Theridiidae *Phoroncidia* sp.
- Theridiidae Female 1
- Theridiidae Female 2
- Theridiidae Female 3
- Theridiidae Female 4
- Theridiosomatidae *Baalzebub* Female
- Theridiosomatidae *Baalzebub* Male
- Thomisidae *Cetratus circumlitus* male
- Thomisidae "woodfordia"
- Trachelidae *Orthobula*
- Trochanteriidae *Desognaphosa*

An exercise in futility? Trying to photograph a fast-running *Cosmophasis* spiderling (probably *Cosmophasis thalassin*a) under 1 mm body length. It was never going to be a success. but at least it's evidence of failure.

Below, two of the little jumpers (putative new species) that did not make it to the stage to perform in front of the camera with their tricky moves. The lower one is a new *Neon* (or not) and the one directly below appears to be a *Jotus*.

Carlo Sandblow, Cooloola National Park, Queensland by Eduardo M. C. CC-BY-2.0