

The Bushland Whistler

Friends of Forrestdale Newsletter ◆ 7th Edition ◆ June 2014

NATURE'S BUSHLAND TREASURES - Banksia Peacock Spider (*Maratus mungaich*)

THE BUSHLAND in the suburbs of Perth is home to one of nature's most exquisite creations. So tiny it can fit on a child's fingernail, this little gem is rarely seen. But for those lucky enough to glimpse one—especially when it performs its courtship dance—it's an experience not easily forgotten. The creature we refer to is the banksia peacock spider (*Maratus mungaich*).

Confined to the southwest of Western Australia, the banksia peacock spider inhabits banksia woodland and mixed forests of banksia, jarrah and marri. It usually shows up in the bushland in spring, but depending on weather conditions, can be seen as early as June.

The banksia peacock spider is a type of jumping spider. It is one of about 44 species in the genus *Maratus*, 28 of which are clearly identifiable as peacock spiders. But much work still needs to be done to determine whether the remainder do in fact belong to that group. New species of peacock spiders are still being discovered and quite possibly, by the time this newsletter is sent out, a new species will have been added to the list.

In nearly all species of peacock spiders the males are brightly coloured—females are larger, but drab by comparison. (For a special treat go to: www.youtube.com/user/Peacockspiderman—Jürgen Otto is doing amazing work with this group of spiders and his videos and images of various species are well worth a look.)

All species positively identified as peacock spiders occur only in Australia; a few occur further north, but the majority are found only in the southern half of the continent.



Most species, including *Maratus mungaich*, require top quality native bushland to survive, but a few, including the common peacock spider (*Maratus pavonis*), also found locally, are not so particular about the places they inhabit and will live in suburban gardens.

When not wooing a female, the male peacock spider holds his abdomen in the normal position, level with his cephalothorax (pictured left). But when a female is in the vicinity and the male is in an amorous mood, he adopts a theatrical posture: he lifts his abdomen and unfolds two flaps on either side that up until now have been tucked away. In the case of the banksia peacock spider, now on

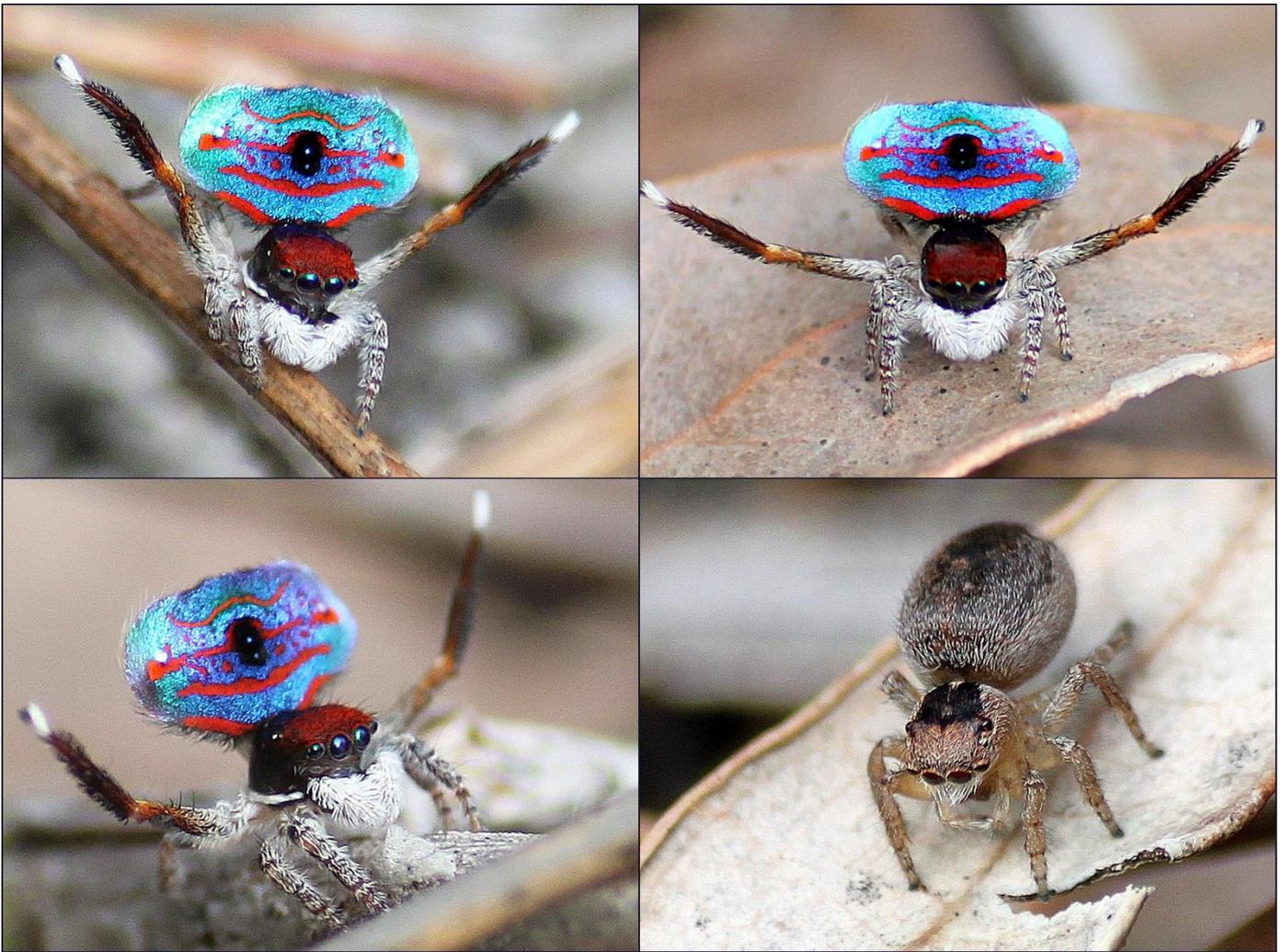
display is a shimmering banner of iridescent turquoise and ultramarine hues, scarlet stripes and spots, vividly enhanced by a dark central spot, like a large black eye. To intensify the spectacle, the spider now performs a whimsical dance, redolent of a bird of paradise—or a strutting peacock, hence the common name of the genus.

Here his third pair of legs come into play. Elongated and tipped with white, the legs are used for dramatic effect. He thrusts them out at various angles as he glides this way and that, shivering and shaking his dazzling banner.

One would expect the female to find this lavish performance irresistible. But (as was the case with the female pictured below) she can sometimes be fractious and hard to impress.

If a female is not ready to mate or has already mated, no amount of wooing will seduce her. During these times she is likely to regard him not as a suitor, but as prey. This is when the male must be super-alert. If he comes too close or drops his guard she may well pounce on him and eat him.

The outcome of the pair in the collage below was not determined. But clearly she disliked his advances; and he wasn't about to give up. Whenever he got close and she leaped at him, he jumped away with lightning speed—and was back in an instant to try his luck once more. ✧



Male banksia peacock spider displaying to the female (bottom right panel).



Photo - Jürgen Otto

Male common peacock spider (*Maratus pavonis*).

MEGAMOUTH BEE *Leioproctus (Ottocolletes) muelleri*

ANSTEY-KEANE DAMPLAND is home to a rare native bee that to date has been found nowhere else. Nicknamed “Megamouth” because the males of the species have unusually large mandibles, the bee was discovered by chance in December 2010 by Western Australian Museum volunteer Otto Mueller (for whom the bee has been named) and the then Curator of Insects, Dr Terry Houston. The bee they chanced upon was unfamiliar to them, so specimens were taken for analysis. These later revealed the species to be entirely new to science.

The large head and mandibles of the males of Megamouth bee are some of the defining features of this species and probably evolved as a result of another unusual trait the males have: nest-guarding, a behaviour previously unknown among male solitary bees.

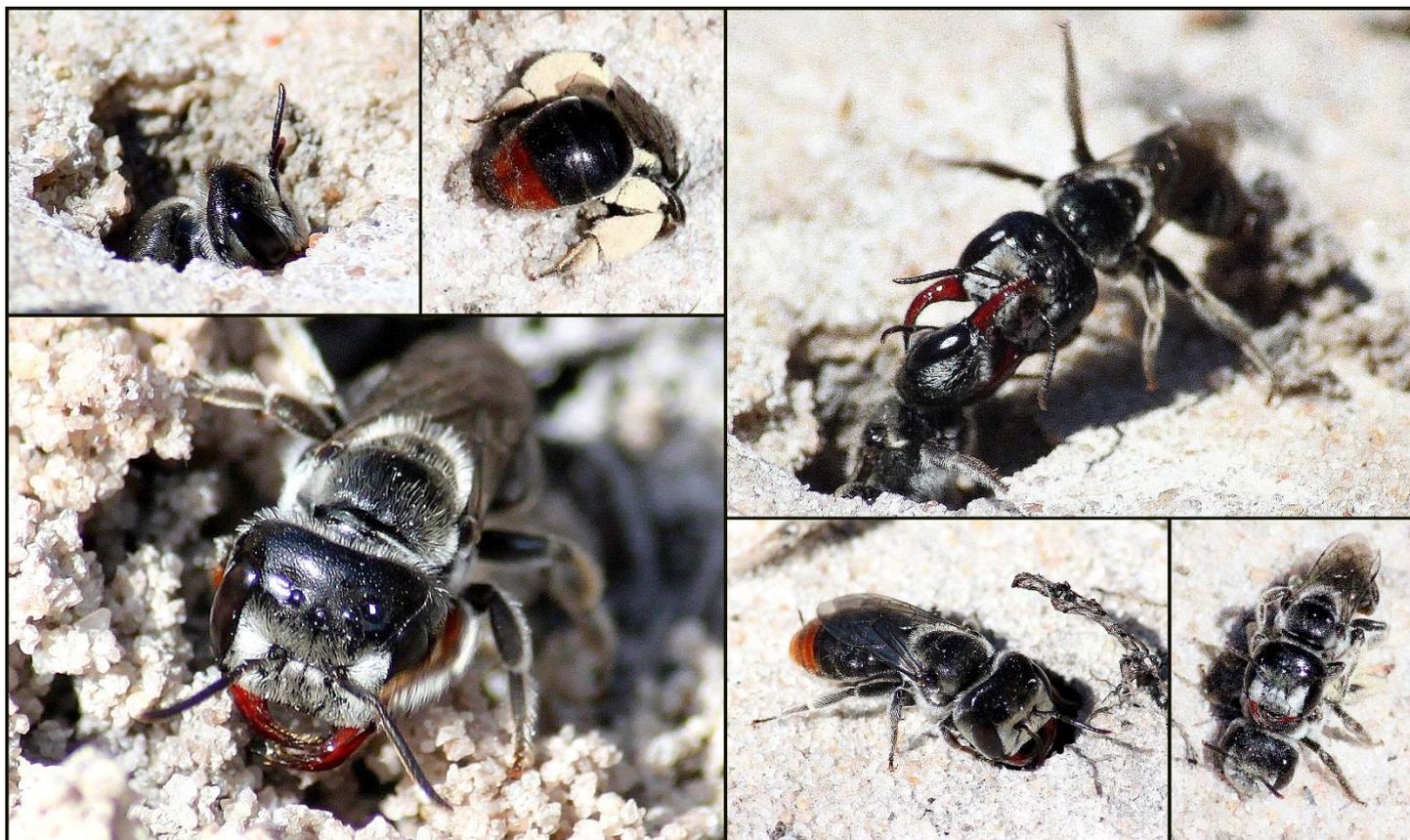
Adult bees are active in summer and nest in holes in the ground. Typically, a female and a male occupy a nest burrow and the male positions himself within it, facing out, and fends off rival males that try to enter. (Nest guarding duties may also involve defending the larvae against parasitic insects.) If a rival tries to enter the nest hole, a fight erupts between the two males. They use their large mandibles to grasp each other by the head—often so tightly that one combatant can lift his opponent clean off the ground.

The goings-on at the nest site don’t just involve males fighting. On more than one occasion, a male has been observed grabbing a female at a nest entrance apparently to try to mate with her as she returned laden with pollen after a foraging excursion.

The breeding site of the Megamouth bee is in open patches of sandy clay. In summer the site is dry and hard, in winter it is flooded. This gives rise to a further unusual feature of the bee: the capacity of the larvae to survive times of inundation; a remarkable ability made possible since the underground brood cells are lined with a waterproof membrane.

For a new animal to be found in this day and age in a suburb of a capital city is exceptional. The discovery of this new species of bee illustrates the significance of Anstey-Keane and its status as a biodiversity hotspot.

Megamouth bees have been recorded nowhere but at their breeding site in the dampland. This site is just 200 metres from the alignment of the proposed Keane Road extension. The proximity of the road (if it is built) to the nesting colony and likely foraging area of this extremely rare bee is of concern. There can be little doubt that the road will have a harmful effect on the species. ✧



Clockwise from top left: *Leioproctus muelleri* female emerging from nest burrow; pollen-laden female entering burrow; males fighting at burrow entrance; a pair of bees, possibly mating; male inspecting a nest burrow; male showing his large head and mandibles.

SWAMP FOX BANKSIA (*Banksia telmatiaea*)

CURRENTLY FLOWERING in the Forrestdale bushland is the swamp fox banksia, an uncommon and little-known species endemic to Western Australia. This small banksia has limited distribution and grows in seasonally wet areas between Badgingarra and Serpentine. In Forrestdale, the majority of swamp fox banksia plants grow in Anstey-Keane Damland, but some also occur in the reserve east of Forrestdale Lake.

Closely related to the round-fruit banksia (*Banksia sphaerocarpa*), the swamp fox reaches a height of about 2 metres. It flowers from April to August and the flower spikes come in a variety of subtle colours including gold, brownish yellow or dusty mauve and pink. New buds are particularly striking and gleam a lustrous gold in the sunshine. Mature flowers produce copious nectar which is food for pollinators such as birds and small nectar-eating mammals.

Although swamp fox banksias are not currently considered endangered or vulnerable, certain issues could put the species at risk such as land clearing and the susceptibility of the species to attack by *Phytophthora* dieback. Lacking a lignotuber, the plants are also killed by fire, though this particular problem is compensated for since the heat from the fire triggers the opening of the follicles contained within the fruiting cones, and seeds for the next generation are released. Ingeniously, the seeds of this species are designed not to drop straight away when the ground is still burning, but later following the first shower of rain.

Owing to the flower spikes being mostly concealed among the foliage, the swamp fox is (at first glance at least) less showy than many banksia species and is therefore not generally cultivated. Nevertheless, it can be a beneficial addition to any native garden, and shouldn't be overlooked. The inflorescences bloom at a time when little else is flowering and their abundant nectar draws birds to the garden. In addition, the plants are quick-growing and spread into attractive bright green shrubs that can provide shelter for wildlife of many kinds. ✧



Buds of *Banksia telmatiaea*.



Banksia telmatiaea growing among *Regelia ciliata* – Anstey-Keane Dampland. Inset: fruiting cone with unopened follicles.



Inflorescences of *Banksia telmatiaea*.

RUBBISH PICK-UP – Piara Nature Reserve

FRIENDS OF FORRESTDALÉ members, Ian, Jim, David and Bryony spent the morning of May 13, picking up rubbish along a section of the perimeter of Piara nature reserve in Piara Waters. In the short distance covered, we filled 12 bags that were later removed by the Department of Parks and Wildlife. The rubbish—originating mostly from adjacent new housing estates—spans a significant distance on the northwest and southern boundaries of the reserve, so a lot more work still needs to be done and another busy bee will be planned soon.

It is important that the rubbish is removed without too much delay. A lot of it consists of large pieces of plastic, cardboard, polystyrene etc., which blows into the bush and smothers the native plants. A further problem arises when plastic and other material breaks down over time into myriad pieces and it is then almost impossible to remove it all. So these little pieces, composed of toxic chemicals, remain on site and contaminate the environment. Shards of broken glass pose a problem too, as wildlife can cut their feet on them. In addition, rubbish lying around is extremely unsightly and conveys a message that no one cares.

Working bees to remove rubbish (or weeds) from bushland need not be seen as just hard work. They should to be recognised also for their health benefits: it is widely documented that spending time out in the environment, surrounded by nature enhances people’s health and wellbeing.

Fresh air, exercise, the sound of birdsong, morning tea breaks in the bush, chatting with friends and the satisfaction of leaving the area in better condition, all add to the enjoyment of the event—and have positive health effects too. ✧



Top: David, Jim and Ian cleaning up the boundary of Piara nature reserve. Bottom left: rubbish from adjacent housing estates scattered along the edge of the reserve. Bottom right: a bandicoot forages among the rubbish on the perimeter of the reserve.