

## WILDLIFE CIRCULAR Q2 2023

During late 2022 we did a walk at Herold Winery and came across a pond below the farm dam that had a number of dragonflies present. Early this year I therefore decided to re-visit the site with my camera and a tripod in the hope that I could get some better dragonfly photos. It was a hot, sunny and somewhat windy day, but luckily the dragonflies were out in force. I consequently managed to get some reasonable shots although some species seemed to fly continuously without perching, which made for difficult photography given the speed and erratic flight paths they adopt. I confess to not knowing much about dragonflies at the start of this exercise, but the more I read about them the more I realised just how fascinating they are. Hopefully you will enjoy the pictures and background information. One of the specimens present in plentiful numbers was the Swamp Bluet Damselfly. Damselflies and dragonflies share many characteristics. **So how does one distinguish between a damselfly and a dragonfly?**

- i) Damsels close their wings when resting while dragons keep them open like an aeroplane.
- ii) Both sets of damsel wings are the same size and shape while in dragons the hind wings are much broader than the front set.
- iii) Dragons have larger eyes set closely together while damsel eyes are relatively smaller and are spaced further apart.
- iv) Damsel bodies are long and slender while in dragons they are chunky and shorter.
- v) Damsels are generally smaller and more dainty than dragons

**Photo 1 below: Sailing Bluet Damselfly. Wingspan 34mm.**



Dragonflies start life as water-dwelling nymphs in a pond. This phase of their life can last for up to 5 years. Eventually they emerge and morph into adult dragonflies that normally have a much shorter lifespan numbered in months rather than years. Dragonflies apparently hold the record as the fastest flying insect at 35 mph. Wings vibrate up to 1600 times a minute. They can fly in any direction, hover, fly left or right, up or down, forwards and even backwards. The G force of a turn can reach 9 times the force of gravity, while in straight line flying it can reach 4G. It is worth noting that humans normally pass out at 4 to 5G.

The sex life of dragonflies is particularly intriguing. Just prior to mating, the male, using special appendages located at the tip of his abdomen clasps the female at the back of the head. The appendages will only fit the same species of female. In damselfly the female is clasped further back on the prothorax behind the head.

**Photo 2 below: Sailing Bluet Damselfly hitching a ride on a Painted Reed Frog's back**



**Photo 3 below: Red-veined Dropwing Dragonfly. Wingspan 58mm.** Dropwings are named as such because their wings hang forward when at rest.



**Photo 4 below: Red-veined Dropwings in the first phase of mating. Note the female's abdomen is yellow.**



**Photo Below: A pair of Palmiet Sprite Damselies in the first stage of mating. Sequence taken at Jubilee Creek.**



The genital opening for sperm is found in the 9<sup>th</sup> abdominal segment in male dragonflies. In addition to this they have secondary genitalia in the form of an accessory organ on the 2<sup>nd</sup> abdominal section. Sperm is moved from the first to the secondary genitalia just before copulation by bending the abdomen forward to achieve this objective. Once clasped behind her head by the male, the female then responds by curling her abdomen upwards towards the male's secondary genitalia to receive the sperm from him, thereby forming the so-called

**“wheel or heart position”**. For dragonflies this process usually starts while both are in flight. Copulation may continue in flight although some do settle onto a perch. However because females are promiscuous and will mate with multiple partners if given the opportunity, the male in some species will consequently remove any existing sperm from the female genitalia before replacing it with his own to ensure his own parenthood. Some males also engage in guarding by continuing to clasp the female until she deposits the fertilised eggs ensuring that she cannot mate again before doing so. This makes the Kama Sutra look positively dull by comparison!



**Photo above:** The female arches her abdomen upwards. **Photo Below:** The climax, heart shape completed.



Interestingly only the males normally hang around next to the pond where all the action takes place, while females usually visit the area only when they are ready to mate.

Some additional interesting facts about dragonflies / damselflies:

- i) They pre-date most if not all other insects and were one of the first species to inhabit the earth. From fossil records they are estimated to have been in existence for some 300 million years. Early dragonflies were however larger in size.
- ii) They are expert hunters and can judge the speed and trajectory of prey insects with a high degree of precision enabling them to adjust their own flight to intercept the intended victim. They boast an up to 97% kill rate when hunting.
- iii) Their enormous compound eyes each contain 30000 facets, with each facet feeding information about their surroundings to their brains. This essentially gives them virtually 360 degree vision with only a small blind spot immediately behind them. Just think about this complexity all happening in something as small as a dragonfly brain. Never mind about super computers!
- iv) Their 2 sets of wings are controlled by muscles in the thorax. Each wing is individually controlled and the angle can be individually manipulated giving them incredible aerial agility. This amazing control of their wings even enables them to fly in reverse.
- v) They catch prey with their legs (notice the barbs visible in some of the photos) and then while still flying tear off the wings with their mandibles to prevent escape before wolfing the meal down whole. Fortunately they don't bite humans.
- vi) Dragonflies do humans, and indeed other animals too, a huge favour by devouring pests such as mosquitos and biting flies. Even more impressive is the fact that they can polish off between 30 and 100 mosquitos daily.

**Photo 5 below: Jaunty Dropwing. Wingspan 52mm.**



**Photo 6 below: Julia Skimmer. Wingspan 60mm.**



**Photo 7 below: Blue Emperor. Wingspan 105mm**



The Blue Emperor is a very large dragonfly. This particular species proved to be almost impossible to photograph, as the specimens present never settled, but just kept zooming around at great speed. I eventually resorted to taking a burst of shots at high speed and eventually got 1 half reasonable photo.

In the Circular for Q2 of 2022 I gave feedback on the sterling work that **Arne Witt** and his helpers are doing clearing aliens. I recently received the following update from him:

*Dear All*

*Once again many thanks for your continued support. Attached are some images of two of the many sites we have been working on. We just started at the Touwsranten site, below the graveyard along the Touw River. This is the site that recently burnt – the wattle seedlings are still too small to uproot so we started removing the larger wattles that were not killed by the fire. We have also started ring-barking the gums. Attached you can see the progress we made in one day.*

*The other images are from erf 244 along Whites Road – we have tried to “rehabilitate” the erf after the initial clearing undertaken by others was not up to standard. We have also cleared many of the wattles, pines and gums to the east and southeast of the stand. We have undertaken many follow-ups, removing copious amounts of wattle and pine seedlings, along with Jerusalem cherry, Canadian elder, periwinkle, Madeira vine, etc. The recovery of native plants is impressive with many Cape beech, false-olive, wild pomegranate, bietou, blinblaar, forest currant, Searsia, etc. spp. seedlings now visible on the stand. Every time we have been there we have seen bushbuck. TRC and WRRRA have also planted some native trees on the stand so we are making progress.*

*We have made two follow-ups on two consecutive Sundays on the erf towards the end of Whites (dirt section) – I call that site Mooigeelee. Will share some images of the recovery soon.*

*We have also been working on 7 passes (east) doing follow-up on a site that was badly cleared a few months ago. Many wattle and bugweed seedlings. We have also been stacking the branches that have not been removed. Will share some images soon.*

*The guys that work with me are eternally grateful. For most of them it is their only source of income. So you are making a real difference with your donations so thanks again.*

*Regards*

*Arne*



Space does not allow for inclusion of all the photos but the top row & middle row left above show the work at Touwsranten, while the middle row right & the row below on the next page shows the work at 244 Whites Road. Anyone interested in making a contribution to this sterling project can mail Arne at [a.witt@cabi.org](mailto:a.witt@cabi.org)



**Small Grey Mongoose or alternatively Cape Grey Mongoose:** Nigel Forshaw submitted the photo below of two Cape Grey mongooses in a huddle. Yes that's correct the plural is mongooses and not mongeese. They are normally solitary creatures so this photo of 2 in a cuddle is unusual. They are possibly young siblings. They weigh from 0.5 to 1.0 kg but despite their small size can measure up to  $\pm$  70cm in length (the bushy tail can be up to half that long). Their diet consists of insects, small rodents, small reptiles / amphibians and fruit. They have adapted well to human encroachment and can often be seen close to developments.





## Quarterly flower / tree recommendation

My recommendation this quarter is the highly attractive small indigenous tree ***Burchellia Bubulina***. This is commonly known as the Wild Pomegranate or Wildegranaat in Afrikaans. It is fairly commonly seen in the remnants of indigenous forest still found in the greenbelt areas of the Constantia Kloof area. It is a smallish tree growing to a height of approximately 5m and is evergreen. The tubular orange flowers grow in terminal clusters. Flowering occurs from September through to January. The flowers contain nectar which is used by birds. The Zulu name for the tree, Isigolwane, reflects this, as it can be translated as “bird’s liquor”. It occurs along the south eastern coast of South Africa from Cape Town into KwaZulu-Natal and up the eastern border of the country into Mpumalanga and Limpopo provinces. It is named after William John Burchell (1781 – 1863) who undertook extensive plant collection expeditions in the old Cape Province between 1810 and 1815. Interestingly ***Bubulina*** is derived from the Greek word “boubalos” which means buffalo. As you know these are exceptionally tough animals and the use of the name here reflects the very hard nature of the wood.

This is a very useful tree to plant in your garden for a number of reasons namely:

- i) The beautiful orange flowers it bears that attract birds.
- ii) It will tolerate dense shade although it flowers best in full sun. Light partial shade is best
- iii) It is relatively small in size and although slow growing it tends to flower at an early age.
- iv) It is a neat tree that tends to keep its shape and doesn’t require regular pruning.
- v) Seeds germinate easily.

**Photo 8 below: *Burchellia bubulina* flowers**



Thank you to all who submitted comments after the previous circular and also to Nigel who forwarded a photo for inclusion.

Trust you enjoyed reading this issue as much as enjoyed putting it together.

John Callanan