Scorpion flies - The insect that catches a spider... Grace Lewis

When out looking at orchids and wildflowers in spring, you might be lucky and spot an insect flying along carrying a spider, a bit like a rugby player clutching a football. That's not the way it usually goes in the insect world – usually, the insects are being eaten by spiders – but these aren't like most insects.

This is a Scorpion Fly. They're not true flies, but are in an order by themselves, Order Mecoptera. A key feature that makes them immediately (and visibly) different from larger flies, like craneflies, is that Scorpion Flies have two pairs of wings, where all flies (Order Diptera) have only one pair. The name Scorpion Fly apparently comes from a modification to the abdomen and genitalia of some males - where the abdomen curls up like a scorpion's tail.

This one is one of the *Harpobittacus* species, probably *Harpobittacus australis* (Family Bittacidae, genus *Harpobittacus)*. There are only 10 species in the genus, and 30 species of Scorpion Fly in Australia generally. It is not a diverse insect group when compared with larger groups like beetles, moths and butterflies.

As courtship or bribery, male Scorpion Flies catch soft-bodied insects and small spiders and present them as an offering to the females. According to CSIRO, it's thought that the females need the extra protein from insect bodies to help with egg production. It's



1. Hanging on a bush



2. Gripping a Spider

believed that some species of

Scorpion Fly are mostly nectivorous, feeding on pollen and nectar most of the time, and on insects and spiders only when breeding. Others, especially those in the genus Bittacidae, feed mostly on insects and spiders.

To hunt, Scorpion Flies use the two front pairs of legs for hanging off vegetation, much like the Scorpion Fly in picture no. 1. The back pair of legs each have a claw at the end, which the Scorpion Fly uses to catch prey that flies or crawls past. Picture no. 2 shows a back 'foot' (technically called a tarsus) gripping a spider. The tarsi are modified to be thicker and claw-like, and are used to catch prey and to carry it from one location to another if required. The mouth parts of a Scorpion Fly are described in my field guide as beak-like, which evokes the mental image of an eagle-like insect (strong claws and strong beak).

I wondered if this Scorpion Fly, picture no. 3, may be off to try and find a lady friend, as it was constantly on the move through the heathland and it already had lunch. The next challenge for me will be to try and find one of these actually eating prey!

On a side note, the feet or toes of Scorpion Flies curl right around the grass stalk, very different from other insects like dragon flies and butterflies that have little claws on their feet. It might reflect that Scorpion Flies need longer feet that can grip vertically to things like grass stalks, and provide a strong anchor for the insect during hunting, whereas other insects like dragonflies hunt aerially and have evolved feet that perch on a structure, as opposed to gripping.

If you're keen to see a Scorpion Fly for yourself, have a look at the orchid spot on Forest Rd just past Woodlands Track – and look at the wildflowers while you're there! I took these photographs in October last year so the timing is about right for them to be around.



3. Out Hunting?

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