

Assassin Bugs

Fact Sheet



Gminatius wallengreni. Image: QM, Jeff Wright.



Common Assassin Bug, *Pristhesancus plagipennis*, showing strongly curved rostrum. Image: QM, Jeff Wright.

When is an insect a 'bug'?

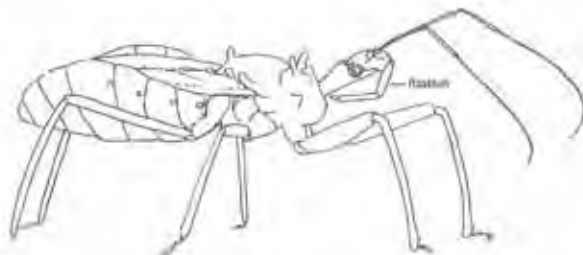
The name 'bug' is commonly used for insects that crawl rather than fly. The name is more correctly used to describe members of a large group of insects belonging to the Order Hemiptera. Insects we know as 'stink bugs' and 'shield bugs' belong to this group.

These true bugs all feed on the liquid foods they suck up through a movable tube (the rostrum), located on the underside of the head. In the centre of this rostrum are a number of fine needles (stylets) that are used to puncture the surface of the food source.

Most Hemiptera feed on plant sap, extracted by piercing and sucking the stems, roots, leaves, bark, fruit or seeds of plants. Many of these plant-feeders live on our food plants and become serious pests. Insects we know as 'stink bugs' and 'shield bugs' belong to this group.

Assassin Bugs

One large family of these bugs (the Reduviidae) are predatory and feed on the body juices of other animals, mainly other insects. These are called assassin bugs because of their habit of hiding in ambush for their prey. The rostrum of an ordinary plant-feeding bug is tucked flat against the underside of the head, but that of an assassin bug is curved outwards from the head. This is a very useful feature by which to identify predatory bugs. They are able to swing their rostrum forwards as they catch and pierce their prey. Once the prey is held and punctured, a salivary secretion is pumped into a canal running down between the fine stylets. This secretion immobilises the prey and dissolves its internal tissues into a pre-digested 'soup' that the assassin bug can then suck up. At the end of the meal,



Side view of the common Assassin bug, *Pristhesancus plagipennis*, showing the curved rostrum beneath its head. Illustration: Geoff Thompson.

all that is left of the prey is a dry, empty shell.

Bites by Assassin Bugs

Although most assassin bugs are slow-moving and non-aggressive, they will use their rostrum in self-defence if handled carelessly.

Such bites may be extremely painful to humans because the bugs inject the same salivary secretion used to dissolve the tissues of their prey. This results in the death of a small area of cells at the site of the bite.

The symptoms are an intense burning sensation, often followed by a small, itchy lump that may persist for several days. However, no true toxin is involved so it is rare for the reaction to last long or to extend beyond the site of the bite. Some bites occur when the bugs are purposely handled out of curiosity, but most happen through accidental contact while gardening or working in the open. Some species fly and may be attracted by the lights of houses at night and bites may occur indoors when such bugs seek shelter in clothing, bedding, shoes, etc. The sharp pain associated with assassin bug bites is usually enhanced by the surprise accompanying the experience.

The common Assassin Bug

Assassin bugs are widely distributed throughout Australia. The common species responsible for bites in coastal Queensland is *Pristhesancus plagipennis*. It can be found in most urban gardens, where it lurks amongst the foliage. It is sometimes called the 'beekiller', because a favourite food is the honey bee, but it will feed on any insect it can catch.

Adults of *P. plagipennis* are 25-30 mm long and yellowish brown. The females lay clusters of long, reddish eggs attached by their ends to twigs. From these eggs, hatch tiny spider-like babies with red bodies and black legs. They are sometimes confused with Redback Spiders but they have only six legs, not eight. As they grow and moult they become a speckled colour. Eventually they reach full size and moult into the plain brown adult.

Other species which commonly bite humans

Several other assassin bugs commonly bite people in Queensland. Large species of the genus *Peirates* sometimes fly into house lights at night. They are dark brown to black, often with a yellow blotch on the back.

Their rostrum is short and powerful and they can inflict a formidable bite. *Peirates ehippiger*, with pale legs, is common west of the Dividing Range. *Ectmocoris decoratus*, a fast-moving species with winged males and wingless females, is strikingly coloured in blue-black and orange. It occurs under loose bark and may be encountered when gardening or clearing vegetation. Because of its colour and speed, victims of this assassin bug often believe they were stung by a wasp.



Peirates ehippiger. Illustration: QM, Geoff Thompson.



Ectmocoris decorata, female. Illustration: QM, Geoff Thompson.

Blood-sucking Assassin Bugs

One interesting group of assassin bugs has evolved to suck the blood of mammals and birds, including humans. These are the Triatominae, which are common pests in South America. They carry a serious blood disease called Chagas' Disease. This is the disease that Charles

Darwin is thought to have contracted when a young man in South America and suffered from in his later years. A few Triatominae also occur in the islands to the north of Australia. One species of these blood suckers, the red and black *Triatoma leopoldi*, is now known to occur in Cape York Peninsula, but since Chagas' Disease does not occur in this part of the world there is no cause for alarm. We do not know what animals' blood *Triatoma leopoldi* sucks - perhaps birds or bats. Interestingly, the rostrum of these blood-sucking species is straight, and not curved out from the head as in normal predatory assassin bugs. They usually suck blood from their host when it is sleeping and their bite causes no pain so as not to wake their host.



Side of the head of *Triatoma leopoldi* showing its straight rostrum. Illustration: Sybil Monteith.



Triatoma leopoldi. Illustration: Sybil Monteith.

Further Information

Gross, G.F. & Malipatil, M.B. 1991. Superfamily Reduviioidea. in CSIRO. (Eds.), *The Insects of Australia: A textbook for students and research workers*. Division of Entomology CSIRO. Melbourne University Press, Carlton, Victoria, pp. 494-496.

Miller, N.C.E., 1971. *The Biology of the Heteroptera*. E.W. Classey Ltd, Hampton, UK.

Monteith, G.B., 1974. Confirmation of the presence of Triatominae (Hemiptera: Reduviidae) in Australia, with notes on Indo-Pacific species, *Journal of the Australian Entomological Society*, **13**: pp. 89-94.

Ryan, M. (Ed.), 2007. *Wildlife of Greater Brisbane*. Queensland Museum, Brisbane.

Ryan, M. (Ed.), 2000. *Wildlife of Tropical North Queensland*. Queensland Museum, Brisbane.

Author: Geoff Monteith, C. Burwell, C. Lambkin
Queensland Museum
PO Box 3300, SOUTH BRISBANE QLD 4101
Phone: (07) 3840 7555
<http://www.qm.qld.gov.au/>