

SOUTH AUSTRALIAN BUTTERFLIES

Data Sheet

Herimosa albovenata albovenata Waterhouse (White-veined Grass-skipper)



Interesting aspects: A pretty skipper when newly emerged. The white veining on the wing undersides is a cryptic camouflage pattern that imitates the many sun bleached dead stems of its wiry-grass larval foodplants. Unless startled, it has a relatively slow flight, and both sexes fly near the ground close to their foodplants. Males will settle on the ground, and will set up territories on bare or open patches of ground between the foodplant grasses, or sometimes on adjacent tracks, and wait with wings partially open for newly emerged females to fly into the area for mating. They are very well camouflaged when settled on the ground if there is also some old leaf debris present. The males will periodically fly off to either patrol nearby areas looking for new females, or to chase off other males. Females also fly in foodplant areas, and have a slower flight when in an egg laying mode, particularly when they are heavy with new eggs, but will periodically land on the foodplant to lay eggs or sun themselves, and will cover large areas looking for suitable habitat to lay eggs. During the early morning and late afternoon both sexes feed from low flowers, particularly the near prostrate yellow flowering *Goodenia* that grows in the *Austrostipa* grasslands.

The skipper is reasonably timid, but can be approached with care when settled, especially when feeding at flowers. It is a tough and resilient skipper, and is a good indicator species for the condition of the native *Austrostipa* grasslands, such that its presence is a sure sign that the grassland is environmentally healthy, and that its absence means that the grassland is abused, overgrazed or subject to toxic sprays.

This skipper belongs in a small tribal group of skippers that have characteristics similar to both the much larger Australian tribal groups of the Trapezitini and Hesperillini. The larvae of this small group usually construct tent-like shelters (long conical or teepee shaped) with a

single opening at the bottom and within which the larva rests with its head pointing downwards. However, this particular skipper is the only member of the group that constructs a shelter that opens at the top.

Life History

Larval food-host: The perennial *Austrostipa eremophila* (desert spear-grass), *A. scabra* (rough spear-grass), *A. scabra falcata* (delicate spear-grass), *A. semibarbata* (fibrous spear-grass) (Poaceae). The larvae eat the leaves of the foodplant, which apart for *A. semibarbata*, are wiry leaved. (The identity of the broad-leaved *A. semibarbata* as a foodplant needs reconfirmation.)

Eggs: Large, pale green, hemi-ellipsoid with numerous very indistinct vertical ribs, laid singly on the foodplant. The eggs do not acquire red markings if fertile. Eggs are only laid on a dead portion of the foodplant situated in full sun. In situations where the egg is wider than the dead grass stalk upon which it has been laid, the base of the egg will wrap itself around the stalk during the hardening stage of the egg. Larval development within the egg commences immediately after being laid, and larvae begin to emerge after about two weeks. The egg shell is eaten by the larva after its emergence.

Larvae: Initially pale yellow, with a large slightly rugose, shining black head with a few long hairs, the neck (prothoracic plate) is black, and long recurved hairs occur posteriorly. The larvae gradually turn green after eating the foodplant.

After eating the egg shell, the young larvae move off to the growing parts of the foodplant and make small shelters by silking together several leaves or stems within the lower parts of the foodplant. Later instars construct larger, more elaborate upright shelters within the congested lower parts of the foodplant, by loosely silking together many stems.

The final instar is long cylindrical shaped, about 18-25 mm long, slightly thickened in the middle, with the last posterior segment flattened into the anal plate, smooth, but with the posterior end having some hairs. The head is large, finely rugose, rounded, there is an indistinct central longitudinal furrow, noticeably hairy with pale coloured hairs that are simple and pointed, with longer hairs laterally, but those hairs on the front being bent and directed forward. The body colour is variable from pale brown to pale yellowish brown to pale yellowish green, with a darker dorsal line, and a further two pairs of indistinct darker longitudinal subdorsal lines. The area in between the brown lines is infilled a pale whitish colour. The anal plate and neck are finely speckled black. The head is pale brown with a dark brown or black frontal vertical mark above the mouth edged laterally pale yellowish brown, and the mouthparts are dark brown or black. The body, and particularly the anal plate on the last segment, have some tiny secondary setae. Along the body they are elongate vase shaped set on transparent simple raised bases. On the anal and prothoracic plates they are spinose with blunt or pointed ends, set on black coloured raised bases.

The opening of the shelters is at the top, and the head of the larvae can often be seen by looking vertically down into the foodplant. (Larvae of the cutworm moth also feed on native grasses, and utilise the same grasses as the skipper. Larvae of both moth and skipper look very similar, but the larvae of the skipper are differentiated by their large rugose heads. Moth larvae have heads that are small, smooth and shiny.) The skipper larvae feed briefly at night, hiding from predators during the day inside their shelter. They grow slowly

through the warmer months. However, the foodplants in some areas often dry out during summer and the larvae then go into a torpid diapause condition within their shelters, waiting for the autumn rains to produce a new flush of growth. After receiving the rains, these larvae begin to eat again and continue to mature and will pupate by the end of winter. If the preceding season is good and the grass remains in a green condition, then larva maturity can be reached at the end of autumn or early winter. Some of these larvae will then pupate, while others will become quiescent and will individually pupate at different times during winter. Pupation occurs inside the final larva shelter within the lower parts of the foodplant.

Pupae: Brown or dark brown, darker anteriorly, about 16-19 mm long, short cylindrical, tapering posteriorly, nearly smooth without abdominal bristles, and the head is rounded and rugose. The head cap (operculum) is black and brown coloured, having a characteristic rounded shape, and there are many short brush-like hairs (i.e. many hairs emanating from a single base). The central part of the operculum is black coloured, heavily sclerotised (very rugose) and is divided into a larger ventral, elevated part that is triangular or elliptical in shape, and two smaller equal-sized dorsal parts that are set in a lower position. The posterior end of the pupa tapers to a short, bluntly rounded, dark brown cremaster.

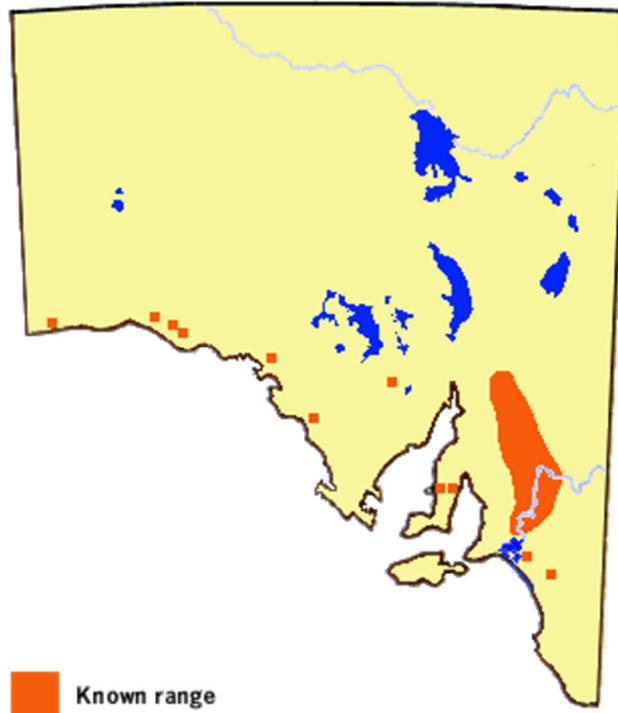
Pupation occurs in the final larva shelter situated at the base of the foodplant, with the head of the pupa directed upwards. The pupa is weakly secured within the silk lined shelter by hooked bristles emanating from the terminal-ventral portion of the cremaster. The pupal duration is variable, and can be as short as two weeks in early spring. Those pupae formed at the beginning of winter will obviously have a much longer wait for the early spring emergence.

Colonies of this skipper are often plagued by small, black, braconid parasitoid wasps (*Apanteles* sp), which attack the larvae.

Flight period in S.A.: It is single brooded with a short flight period during early spring of about one month in each locality. The flight commences about two weeks earlier in northern Eyre Peninsula compared to the eastern parts of South Australia. It overwinters as larvae and pupae.



Distribution: The skipper probably once occurred in a semi-continuous band across southern temperate mainland Australia within the broad-acre *Austrostipa* grassland plains. This habitat has now been extensively fragmented and abused due to agricultural and pastoral development. Within South Australia the known range of the skipper presently extends from the Upper Southeast, northward through the Murray Valley into the Mid North on the east side of the Mt Lofty and Flinders Ranges. It is also known from central Yorke Peninsula, northern Eyre Peninsula, and the Nullarbor Plain. Two other subspecies are recorded from southwest Western Australia, and from inland NSW.



Habitat: The broad-acre temperate *Austrostipa* grasslands occurring within an annual rainfall band of about 250 - 600 mm.

Conservation Status in S.A.: Vulnerable, bordering on rare. Many of the South Australian populations now only exist on roadside verge.

Threats: This is a native grassland skipper and consequently has suffered considerably from agricultural disturbance and the effects of overgrazing and trampling by stock. These *Austrostipa* grasslands are also the prime breeding ground for the plague locust and the skipper has therefore been further decimated by the toxic spray programs adopted by the Locust Control Board. Grass fires are also a severe local threat as are the periodic droughts.

Conservation Strategy: Remaining native *Austrostipa* grasslands used for pastoral purposes need to be managed in an ecologically sustainable manner. With more conservation awareness and better pastoral management in the pastoral areas it is likely this skipper would recover rapidly as it is very resilient and is well adapted to the dryland *Austrostipa* grassland habitat. Failing this, specific grassland habitat may have to be conserved for the long term survival of the skipper. Hopefully, new technology through the use of a *Metarhizium* fungus to control the plague locust will see a lasting improvement in the native grassland environment.

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