

# SOUTH AUSTRALIAN BUTTERFLIES

## *Data Sheet*

### *Cephrenes trichopepla* (Lower) (Yellow Palm-dart)



**Interesting aspects:** This skipper normally occurs in the hot tropical, coastal moist woodlands of northern Australia where its palm hostplants occur naturally, but since European settlement and urbanisation and the use of palm trees in gardens, the skipper has been gradually extending its range southwards into coastal subtropical areas by way of urban palms and accidental introductions. In Queensland its known southern range limit was Mackay in 1914, but to Coffs Harbour by 1995. Similarly in Western Australia the southern limit was Broome in 1981, but was recorded in the Perth area during the early 1990's coinciding with the importation of palms from northern areas. The skipper has also been documented from the Alice Springs-Palm Valley area since 1976, but it is not known if this represents an indigenous relict population or is the result of an accidental introduction. It does not appear to have made it to the major southern cities of NSW like Newcastle, Sydney and Wollongong, which is surprising considering it has established itself in Perth.

The skipper was not recorded in Adelaide during the big importation of palms in the early 1990's, when its close relative *Cephrenes augiades* was accidentally introduced. However, to the untrained eye these two skippers can look similar so it is not impossible *C. trichopepla* does already exist in low numbers in suburban Adelaide.

The colouration of both sexes is the same. They can look similar to the pale form of male *C. augiades* but are easily differentiated in the field in that the hindwing underside postmedian yellow band is clearly edged black in *C. trichopepla*, but this edging is either absent or diffuse in *C. augiades*. If the wings are open then in *C. trichopepla* the postmedian band on the forewing upperside is yellow coloured and spills over towards the terminal wing edge along the veins, but in *C. augiades* this band is orange and spillover does not occur.

This skipper, along with most others in the group, has a characteristic wing pose when settled in full sun, with the forewings being held partially open while the hindwings are held horizontal. The skippers usually fly near palm trees, with the males sometimes setting up territories on the palms, or higher still in adjacent trees, or sometimes even on nearby low bushes, where they will wait with the characteristic open wing pose, but periodically will fly

off to either check out other nearby palms looking for new females with which to mate, or to chase off other males. Males have a very fast flight, and even though they are large, they are soon lost to sight. Females tend to have a slower flight especially when in an egg laying mode, and will periodically land on a palm to lay eggs or sun themselves. They will cover large areas looking for suitable palms to lay eggs. The skipper is easily approached with care when settled.

The early stages and habits are very similar to *Cephrenes augiades*.

## Life History

**Larval food-host:** Most species of palms (Palmae/Arecaceae), but the adult female prefers to lay eggs on the palms with broad-leaf pinnae like *Archontophoenix* species (bangalow palm), *Livistona* spp (cabbage tree palms), and *Phoenix* spp (date palms). The larvae eat the leaves of the foodplant.

**Eggs:** Large, domal or hemispherical shaped, base flat circular, pale yellow when newly laid, but after 2 days if fertile the eggs acquire a narrow pinkish red lateral band and a similarly coloured micropylar area. Eggs turn white and pink near hatching. The small micropylar area on top of the egg is depressed, the upper part of the egg surface has a very fine indistinct raised polygonal pattern, while the lower part has indistinct, very fine vertical ridges. The base is rimmed. Laid singly either above or beneath the leaf pinnae situated on the outer parts of the palm frond, although more than one egg may occur on the pinnae due to successive laying. The egg shell is eaten by the larva after its emergence.

**Larvae:** The first instar is long cylindrical, initially pale yellow, but turning a semi-translucent greenish colour after eating the foodplant. The head is rounded, large, shining black having a few hairs, and the neck (prothoracic plate) is transparent. There are a few short hairs along the body and long recurved hairs occur posteriorly. After eating the empty eggshell the larva will move to near the tips of the leaves to form an open ended shelter, which it does by either folding over a tip portion of a single leaf pinnae to make a small tubular shelter (by joining the edges together by distinct cross strands of silk causing a zebra-like stitch pattern), or more often it will silk two leaves together on top of each other to make a flat shelter.

Subsequent immature instars are semi-translucent pale green or greenish white coloured and lose the body hairs. Sometimes the second instar in a torpid state will be pinkish brown coloured with the posterior end remaining pale yellow. The head becomes finely rugose and eventually by about the fourth instar, acquires the head pattern described for the final instar larva. The shelters become progressively larger, which are either made by folding over individual pinnae to make a tubular shelter or by silking two leaves together on top of each other to make a flat shelter. They are silked strongly together by individual strands of silk. The larvae feed at night and rest inside the shelters during the day, usually with their heads pointing towards the tip of the pinnae. They eat the edges of the pinnae, and where the skipper is prolific have the potential to skeletonise the palm fronds.

The final instar is about 40-45 mm, long cylindrical shaped, with the last posterior segment flattened into the anal plate, smooth, but with the posterior end having some hairs. The body is semi-translucent pale green or greenish white coloured, but sometimes they are pinkish or purplish, or even bluish, with a darker longitudinal dorsal line, and the posterior

end is yellowish. The head is large, rounded, slightly rugose, white or pale yellow coloured, marked with dark brown, vertical central and lateral lines.

The presence of larvae on a frond is discernible by large jagged eat marks at the edges of the pinnae and by the webbed overlapping of pinnae to make the flat larval shelters.

**Pupae:** Long cylindrical, about 26 mm long, semi-translucent pale green or greenish white to brown coloured, nearly smooth, heavily covered in a white powdery bloom, the latter acting as a water repellent and perhaps fungicide. Covered with short, stiff, white spinose bristles on the abdomen, dorsal parts of the thorax, and the head. The posterior end tapers to a very short cremaster ridge and long attachment bristles, which the pupa uses to anchor itself to the silk cocoon. The head is rounded, with the head cap (operculum) being pale coloured and hairy. The ventral proboscis significantly extends posterior of the wing cases as a loose extension, a feature that typifies the members of the Hesperinae subfamily.

Pupation usually occurs in the final larva shelter on the foodplant, but sometimes larvae will leave the foodplant to pupate, which is probably a good move if there are many larvae present on the palm frond. The final larval shelter is similar to the previous shelters, except that in this shelter the larva weaves a strong inner silken cocoon sealed off at one end, while the other end (the entrance and usually pointing towards the pinnae tip) is sealed off with silken cross threads before pupation. The sealed entrance helps to prevent predators from entering the shelter and also helps keep the pupa secure within the shelter during periods of strong winds. The silk sealing strands at the shelter entrance have to be broken by the emerging adult. The pupal duration is variable, even during the same time of the year. The empty pupal case remains inside the shelter after the adult skipper emerges.

**Flight period:** This skipper flies all year round in the northern tropical areas.



**Distribution:** The skipper has yet to be recorded from South Australia and native palms do not occur naturally in S.A. There have been several attempts to grow date palms in the Flinders Ranges, and the Far North Region particularly at Dalhousie, and ornamental palms are grown in major towns in the Far North at Marla and Oodnadatta, and it is possible that this skipper may accidentally be introduced to these palms in the future. However, the skipper was not seen at any of these localities during recent surveys (2001-2004) and it is likely either the winters are too cold or the localities are too isolated for this skipper to accidentally establish. The skipper is known from the Alice Springs area.

It is possible this skipper may accidentally be introduced to the more climatically suitable Adelaide (as happened in Perth) sometime in the future (if not already present).



**Habitat:** In northern Australia this skipper normally occurs in the hot tropical, coastal and subcoastal moist woodlands where its palm hostplants occur naturally. It has now adjusted to coastal urban areas wherever palms are growing in a high enough density. It is doubtful if it can survive in temperate areas unless it can access warm sheltered conditions such as might be found in the larger cities. It does not seem to be as cold tolerant as *C. augiades*.

**Conservation Status:** A common species in northern tropical Australia wherever palms are growing in adequate density.

**Threats:** In northern areas of Australia the main threat is from the annual winter burnoff.

**Conservation Strategy:** None required.

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