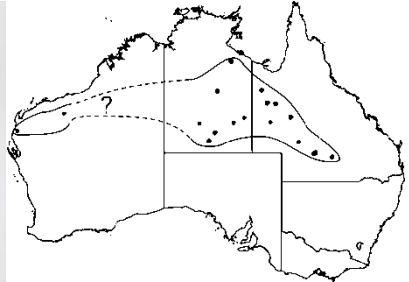


examined in detail. The paper containing descriptions of these species and subspecies (Popple, 2013) was published in *Zootaxa* in October.



Pauropsalta corymbiae adult male (left) and its distribution across mainland Australia (right)

Photos Lindsay Popple

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Popple, L. W. (2013) A revision of the *Pauropsalta annulata* Goding & Froggatt species group (Hemiptera: Cicadidae) based on morphology, calling songs and ecology, with investigations into calling song structure, molecular phylogenetic relationships and a case of hybridisation between two subspecies. *Zootaxa*, 3730, 1–102.

Life history notes on the White-banded Plane, *Phaedyma shepherdii* (Moore, 1858) Lepidoptera: Nymphalidae - Wesley Jenkinson



This interesting butterfly was previously described as two subspecies *Phaedyma shepherdii shepherdii* (Moore, 1858) being geographically located from central Queensland to north-eastern New South Wales and *P. s. latifasciata* (Butler, 1858) in north-eastern Queensland. Within Australia the two subspecies have since been identified as a cline and reassigned to the endemic (nominate) subspecies *P. s. shepherdii* (Braby, 2000). Because of its flight characteristics the species was also previously known as the Common

Aeroplane and Glider or Sailor in other parts of its range.



It is located chiefly in coastal and sub-coastal regions including the Great Dividing Range along margins situated in tropical and subtropical rainforest, monsoon forest, gallery forest, creeks and gullies wherever its larval food plants occur. It also breeds in suburban gardens in southeast Queensland where host plants are established. The wide variety of known host plants belong to seven different families being Bombacaceae, Boraginaceae, Fabaceae, Malvaceae, Sterculiaceae, Tiliaceae and Ulmaceae (Braby, 2000). Moss (2010) lists a dozen host plant species for this region which probably explains why it is usually a common butterfly, although never appearing in large numbers at any one time.

The adults of this species have a very distinctive flight pattern, quickly flapping their wings several times and then gliding with the wings outstretched. Both sexes are readily attracted to a wide range of small native and introduced flowers. While feeding, the wings are slowly opened and closed. The adults are active from mid morning to late afternoon in sunny conditions. Perching on leaves at the end of prominent branches the males defend small territories rapidly chasing off other butterflies flying past. After a quick chase they often return to the same perch. While perched, the head is angled down and the wings are slowly opened and closed. During extremely hot weather the adults can be observed imbibing moisture from damp ground such as gravel roads, forest tracks and creek crossings. At other times adults have also been observed walking on the forest floor apparently imbibing certain chemicals or feeding on fermenting vegetable matter (John Moss, pers com.). The males of this species are not known to hilltop.

In comparison to specimens from south-eastern Queensland, specimens from north-eastern Queensland have a wider central band on the hindwing and often have a slight greenish tinge which fades on collected specimens. Individuals show slight variation in the extent and shape of the white markings on the upperside. The males have a patch of silver-grey sex scales on the costa on the upperside of the hindwing and a patch near the dorsum on the forewing underside. The white streak near the base of the forewing and the white cell spot on the forewing is also larger in the male.

Wingspans for the pictured adult specimens are: male 55mm and female 57mm.



Images left to right: male, female (Beaudesert, south-east Queensland)





Images left to right: male underside, female underside (Beaudesert, south-east Queensland)



Images left to right: male, female (*Silver Plains 2003, Cape York Peninsula north-east Queensland)

* Permission was approved to access land and collect during April 2003 at Silver Plains, Cape York Peninsula via the Aboriginal people of the Kulla Land trust who I thank.

Phaedyma shepherdi (White-banded Plane)

Ovipositing females flutter slowly around the host plants and settle on a suitable leaf. With wings open or closed eggs are laid singly, usually on the upperside at the tip of the leaf apex. Females select older mature leaves rather than fresh shoots when ovipositing on Burny Bean (*Mucuna gigantea*). The young larvae feed and mature successfully on these.



Freshly laid egg

In March 2010, an egg was sleeved and raised through to an adult on *M. gigantea*. This egg was pale green, off spherical and largely pitted.

The first instar consumed the eggshell after hatching. It rested along a leaf midrib on the upperside of a leaf tip facing the apex. Later small sections of the leaf were cut and attached with silk to hang loosely from the leaf.



Similarly as the larva progressed in size, larger chewings were made towards the midrib leaving one section at a time towards the apex. This then became the next piece of leaf to be attached to the midrib to dry (as pictured at start of article). As the sections of leaf dried they turned brown (matching the larval colour) swaying in the breeze creating a high degree of camouflage against predators.

Another mechanism deterring predators appears to be the ventrally placed eversible organ (adenosma) which releases a repulsive odour, in much the same way as the forked osmeterium of swallowtail larvae (Miller, 2004, 2008).

For additional protection the last three instars have four clearly visible white lateral spots situated on abdominal segments 8 and 9. These spots no doubt serve to deter any female tachinid fly laying eggs on an apparently already infected host (one species of tachinid fly has quite similar sized and shaped eggs), tricking them into assuming that the larva already has several eggs attached. This is an unusual and effective form of mimicry, although even with this trick pattern some larvae still fall victim to the parasite.

The larva (which curiously, at maturity, has a resemblance to a Scotch Terrier dog!) was observed feeding during daylight hours, particularly before dusk. This larva attained a length of 27mm and completed 5 instars.



1st instar larva



2nd instar larva
3rd instar larva→



4th instar larva



5th instar larva





Left to right – pupa dorsal and lateral view

The pupa, measuring 19mm in length, was located below a leaf of the host plant near where the larva had been previously feeding. It was hanging head downward attached with silk by the cremaster.

Egg duration was 8 days, larval duration was 32 days while pupal duration was 19 days.

Within the new boundary of the Scenic Rim Regional Shire south of Brisbane, I have records of adults from all months except July. In this location the adults are more numerous from late summer to late autumn and there are probably two generations per year.

Acknowledgement:

I wish to thank John Moss for useful additions and corrections to the manuscript.

Photos Wesley Jenkinson

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Notes on the moth genus *Bracca* Hubner [1820] Lepidoptera: Geometridae: Ennominae - Graham J. McDonald

Introduction:

During a Cape York Peninsula trip in July, 2011, we visited Iron Range National Park. On the 16th July, I photographed a spectacular black, white and orange moth but could not classify it until just recently when I happened to recognise it on the iBOL website. This highlights the problem that an amateur lepidopterist faces in trying to name one moth from the vast fauna of between 20,000 and 30,000 Australian moths, many of which are still undescribed. The moth is *Bracca ribbei* and it seems to be restricted to rainforest habitats in the Iron Range area on eastern Cape York Peninsula.

