A Special Ridge – *Andrew Atkins*

'Unthinking, you drift into a memory landscape of deeply living activity: all about the song and colour of nature; boundless micro-stories of survival, instinct and passion'. Anon.

Everyone experiences those rushes of blood, racing heartbeats and the unhidden joy when exploring new landscapes; just a touch of apprehension bound with inquisitiveness, perhaps brashness; an explorer's motivation - a naturalist's excitement. Memories abound, but for me, those most indelible are the collecting days at Blackdown Tableland, Central Queensland: the sun's spreading intensity, harsh bush calls, weary walks amid a sometimes hostile understory, but beautifully challenging. Add the wildlife, the early summer storms, remoteness - and azure butterflies spinning in the sky.

Warm early morning thermals lofted the Cessna easily to 3,000 metres. This was early 1970, and, as part of Australian Broadcasting, Rockhampton Queensland (ABRQ-9) film production unit, we were heading to Emerald to do a 'doco' on quarter horses. Just under the forty-minute flight a majestic sloping arrowhead of highlands appeared to the south. The pilot leaned across "Expedition Range - sandstone country, discovered by Ludwig Leichhardt in 1847" he said. Now soaring above the highest northern tip, a pale creamy-orange steep ridge of cliffs, cut by narrow, violet gorges breached above a surrounding ocean of blue-grey brigalow woodland. An instant moment of recall: those past, productive 'sand stone' field trips to the Grampians and the Blue Mountains to the distant south. This range looks butterfly-friendly!

Filming done (there was no video-tape in those days), we returned in the late haze. The pilot generously banked the aircraft to reveal below a rusty railway line, and parallel to this, a glistening (with broken wind-screen crystals) Capricorn Highway fringed with dust columns. Just south of Dingo and Bluff, a small sandy track traced its way through dry-sclerophyll forests and forked toward a lonely grazing settlement with rustic farmhouse. The right hand fork probed west, shyly disappearing between the zigzags of foothills.

Back home at Rockhampton the maps confirmed that this frail track, indeed, was the way to the summit of the sandstone ridge. Further research revealed that the range itself consisted of three converging mountain ridges, the Dawson (eastern side), Expedition and Shotover (on the western flank). They rise roughly south to north toward the Tropic of Capricorn reaching a northern 900-metre plus high plateau ('Blackdown Tableland'), its precipitous western slopes draining into the Comet River, and part of the vast Fitzroy River catchments. Beyond Duaringa and not far south along the Dawson Range, towards the aboriginal settlement of Woorabinda, the maps revealed Coomooboolaroo, a property that had been acquired in the late 1800's

Plate 1

by George Barnard and family from Tasmania. His educational directive was that his two sons and a daughter should study the wildlife of the district. In 1891 the English collector, A.S. Meek, visited the Barnard family on an extended ('apprenticeship') working stay, prior to his notable trip to New Guinea. My friend 'Zooie' (J.C.) Le Souëf knew this country well; in his younger jackaroo days he had mustered cattle in and beyond the property. Today some of the winter holding-yard posts still stand near the camping ground at Blackdown.

A quick packed lunch, a bottle of 'sars' and I was away on the 22nd November, 1970, then braving an exploratory path (by a less than powerful two-wheel drive Toyota), along the Capricorn Highway, and towards those mysterious western peaks. In those years bitumen was scant, and the graded road (sometimes single-lane) was no easy a trip to Emerald. The turn-off (at 100 miles in the old scale) was reached. Turning left, and then along 5 kilometres of rippled 'Clearview' track, bumping and jolting down to the right fork, and then into two dry creek dips lined with *Cyperus* sedge.

Through the brigalow woodlands a dazzling flash of Red-winged Parrots, then beyond in the open scrub, two dingoes emerged pacing the car, but more intent on running down a lazy Bustard. Here were groups of *Terminalia* shrubs, stripped of foliage by the restless caterpillars of that ancient skipper-butterfly, the Migratory Awl (*Badamia exclamationis*), and Orange Migrants (*Catopsilia scylla*) were already on the move (Pl. 1). Now, another 10 more kilometres of ochre dust, then finally the sloping scree and massive sentinel blocks of sandstone; Expedition Range. Wow!

Sculptured with potholes, the track ascended, gently circled, and then abruptly narrowed, just squeezing through the pink rock-chasms and cabbage palms. Here were sloping corridors of *Scleria* sedges, daisies, *Acacia* and *Boronia* bushes. Further along the trail worn carriage-wheel rut-marks (a remnant of the Cobb & Co Emerald-bound mail coaches) carved across rough flagstones. The surrounds were tumbled and scarred with breakaways. Now beneath a strengthening morning sun, stood blanched clusters of Lemon-scented gums and Zig-zag wattles, the knurled feet of *Angophora* were scattered with many flowering heath plants. In eroded swales between large boulders of sandstone abounded large grass tussocks of *Triodia*; I had reached Blackdown plateau.

Mild warming sunshine attracted many insects to Ti-tree and Grass Tree flowers. Skippers were common; some (particularly females) feeding on nectar, their mates had already begun to hilltop, resting near the highest edge of a looming western escarpment. They included four related brown sedge-skippers (*Hesperilla*), one of which was new to me (a fifth species was found later in the foothill soaks). Each species favored different resting sites, which they protected from intruders. Some were fighting each other and attacking other insect or bird intruders. At noon a lull in insect activity, and by mid-afternoon large indigo-bellied cumulonimbus crowded in from the west through steamy skies: no more loitering - I fled!

Plate 2

Back home in Rockhampton one of the ridge-topping skippers was found to be *Hesperilla furva* (Grey Sedge-skipper) a species that had only recently been discovered in the Eidsvold district by Don Sands, a second was *H. crypsigramma* (Wide-brand Sedge-skipper) (at that time placed, in the genus *Toxidia*). These skippers, including *H. sarnia*, sp.n (Swift Sedge-skipper) were later reviewed in a biological and taxonomic paper (my humble first) with the invaluable guidance of Ian Common (Atkins, 1978). A white-spotted skipper proved to be '*Pasma*' *polysema* (Spinifex Sand-skipper). This rare species was only known from a few specimens (a female at Petford, north Queensland and males near Darwin, NT) collected in 1911-12 by the celebrated Frederick Dodd.

A week later I was back, and further captures and observations revealed species of butterfly more common to the south, others clearly of a northern origin. Some even appeared to differ from their coastal neighbours. This was exciting stuff; the Blackdown Tableland seemed to hold isolated communities, but linking the butterfly fauna of the Great Dividing Range both to the south (including Carnarvon Gorge) and to the north. Perhaps the most note-worthy examples (collected nine months later) were the appearance of the Heath Ochre (*Trapezites phigalia*) and the Fringed Heath-blue (*Neolucia agricola*), both nearly 500 kilometres north of their recognized range (for further information on the distribution of *T. phigalia* see Atkins, 1999). In the gullies were sword-grasses, which produced juveniles of the Two-spotted Sedge-skipper (*Hesperilla malindeva*) and Spotted Sedge-skipper (*Hesperilla ornata*), the latter with a remarkable protruding pupal cap (in this species the caps vary from small 'beaks' and open prongs in Victoria and NSW to closed or variable down-turned 'trowels' in central and northern Queensland, or even small 'spatulas' in Cape York (fig.1); maybe a DNA study is needed here? There were other interesting butterflies; along sandy tracts of grass, sedges and iris flew dark-brown skippers painted with white spots. Unknown "Blues' (lycaenids) patrolled the higher shrubs and trees of the escarpment (these were later found to be species of *Ogyris, Hypochrysops* and *Acrodipsas*). Fast-flying migrants (pierids) surged over the ridge.

On the 28th of November 1971, John Landy and myself visited Blackdown; only to discover much of the plateau woodlands and heath had been incinerated to the ground (98%) by a wildfire that had escaped from a grazing property. Remarkably, the country recovered the following years, with most butterflies once again present in good numbers (Pl. 2). On the 4th March 1972, in a plateau gully of regrowth, I witnessed a remarkable sight, a speckled cloud of pale 'tinsel' floating over *Boronia* bushes - a colony of the rare lycaenid *Nesolycaena albosericea* (Satin Opal). This was the possible holotype (original) locality for the species, first collected by George Barnard and described by Miskin (1891).

Plate 3

Perhaps the most baffling observation was that of a larger, trapezitine skipper that appeared (occasionally), rapidly hill-topping on the escarpment, or visiting *Banksia*, *Xanthorrhoea* and *Leptospermum* flowers. With much sweat and effort, both males and females were eventually netted (the first on 16th of Sept., 1972). It took several more years of investigation and rearing (from eggs to final instar larvae) before I was confident enough to describe it as new to science (Atkins, 1997), and named it *Trapezites taori* (Sandstone Ochre), along with *T. genevieveae* (Ornate Ochre) (the latter from the rainforests of northern NSW and SE Qld.).

Subsequent trips to Blackdown were generally made (mostly alone) during weekends or during short camping holidays. These gradually revealed a prolific and diverse butterfly community especially along the sandstone ridges and at the escarpment near Horseshoe Lookout. Damper areas in the ravines and along the shallow streams or sedge and fern-clustered rock pools were also productive, especially near Mimosa Creek and at Rainbow Falls. Most of the species were found to be breeding in these areas, including *Heteronympha merope* (Common Brown) and *Geitoneura acantha* (Ringed Xenica).

One memorable (eerie) camping trip, when exploring the heathland before dawn, a whispered, fluttered zephyr of shadows moved above the heath: not bats but hundreds of Migratory Awls. Looking back, as I crawled between the boulders and tussocks, eight pale glowing (torch-lit) eyes moved slowly foreword - a pack of curious (and seemingly not hungry!) dingoes. They vanished when I shouted in delight, finding the first larva of *Proeidosa polysema* encased up side down, in a hard resinous, teepee-like shelter (fig 2.) within the tough spinifex (*Triodia mitchelli*) (what strong jaws the young larva must have!). This confirmed my suspicion that this hesperid taxonomically belonged with the southern Sand-skipper group.

More visits were to come (over fifty trips were made to Expedition Range between late November 1970 and 2000), these included field studies in the surrounding lowland dry forest areas, gorges (Pl.3), along the western escarpment, on the southern foothills and northeastern hill and brigalow woodlands. These areas produced the larvae of four species of *Jalmenus* (*eubulus, pseudictinus, daemeli* and *ictinus*) and the larvae of *Hypochrysops ignita* and *H. delicia duaringae*. The latter species feed on *Alphitonia excelsa* and the adults are small and very bright pale metallic blue and generally fly near dusk (see cover illustration). It is possible that this taxon may be a distinct species, with its southern limits the Sunshine Coast where its larvae commonly are found within the galls on *Acacia*.

Some of these Blackdown visits were aborted due to cyclones or monsoon storms, washaways, floods or new road works graded for large timber trucks. One late afternoon I was forced to return home via back roads due to a flash-flooding of the Dawson River. This added over 2 hours and 100 kilometres to the trip; and with a near empty fuel tank, I arrived back in Rockhampton covered in mud (beware of the local storms that appear from ‘nowhere’ in these extensive outback catchments which

feed the Fitzroy River system!). After the strong monsoons of the mid-70's, the wandering Small Green-banded Blue (*Psychonotis caelius)* expanded its range further west to Blackdown (see cover illustration).

In these early years much of the work continued at home, especially focusing on the biology of the butterflies of Blackdown and surrounding country, the most notable perhaps being that of *Nesolycaena albosericea*, Fiery Copper (*Paralucia pyrodiscus*), *Hypochrysops delicia* (see above), *Proeidosa polysema, Hesperilla sarnia, H. furva, H. crypsigramma* and *H. sexguttata*.

The species list was now approaching 100 (including some collected by colleagues) (see Atkins 1974, a & b). This included at least 31 new distribution (range) records. At this time several lepidopterists had visited Blackdown, including Zoo and Mary Souëf, Hiro Sibatani and Ray and Nola Manskie: Mary, in fact, was the first to collect a female Swift Sedge-skipper (feeding from Ti-tree flowers) on the Range. Other butterflies I observed there, but not collected, included the Azures *Ogyris* nr. *ianthis, O. zosine* and *O. oroetes* (the host ant of the first mentioned, *Frogatella kirbyi*, was found in the upper Lemon-scented gum woodlands). Larval eats were also observed of the Yellow Jewel (*Hypochrysops byzos*) on *Pomaderris* shrubs near the Rainbow Falls.

Over the years Expedition Range proved the most productive and interesting inland locality for Queensland butterflies, with several rare or local species reared from the near pristine scrub, heath and woodland. Diversity was most noticeable in the genera *Trapezites* (6 species); *Hesperilla* (6); *Acrodipsa*s (5); *Ogyris* (5), *Jalmenus* (4), *Candalides* (5) and *Eurema* (5). It is likely that the Carnarvon Range (to the south-west and including the Salvatora-Rosa N.P.) will include a similar number and diversity of species.

Footnotes: Later, when living in Newcastle (NSW) and then in Eudlo (Qld.), I made a few more trips to the Blackdown Tableland (1984 – 2008). Many of the specimens collected during those years in central Queensland can be found in the ANIC, Canberra and others are housed in the Centre for Butterfly Research, University of Florida, USA.

Parts of the Blackdown Tableland were proclaimed a National Park in the mid-1980's, and hopefully the wider, general area is adequately protected as a reserve for its unique flora and fauna. However, further research is required in the forests, particularly in areas of wet sclerophyll, remnant rainforest and isolated swamplands along these southern upland butterfly habitats. Some genera of lycaenids, hesperiids and pierids in particular, are under-represented including *Candalides, Toxidia, Telicota, Ocybadistes* and *Taractrocera.*

During and after the 70's large areas of Brigalow and scrubland were 'ball-chained' to near-extinction. More recent government agricultural directives (2014-2015) have cleared 296,000 hectares of Queensland's natural woodlands and wetlands,

particularly in central Queensland. The Migratory Awl is now reduced to very small numbers and the Pale Imperial and Macqueen's Hairstreaks are all but gone. Those beautiful brigalow woodlands have barely survived mankind's greed - the 'salt table' still rises, and the mud-cracks grow to provide excellent habitats for the plague locust.

Acknowledgements
I warmly thank the many family, friends, rangers, botanists and lepidopterists in general for patience, help, company and advice during my 'Blackdown days' of exploration and research. The present and past indigenous people are acknowledged; their valued heritage, maintenance and custodianship of these rangelands and its wild life are symbolized by the stenciled handprints and symbolic art in the caves and rock over-hangs at Expedition Range. I also thank Kelvyn Dunn for reading and correcting with comments on a draft of this manuscript.

Bibliography

Atkins, A.F., 1973. A new genus *Proeidosa* for an Australian skipper *Pasma polysema*(Lower) (Lepidoptera: Hesperiidae: Trapezitinae). *J. Aust. ent. Soc.* **12**: 253- 260.

Atkins, A.F., 1974a. Butterflies of Expedition Range, central Queensland. *Victorian Ent.* **4**(1): 9-14.

Atkins, A.F., 1974b. Further notes on the butterflies of Expedition Range, central Queensland. *Victorian Ent*. **4(**6): 78.

Atkins, A.F., 1978. The *Hesperilla malindeva* group from northern Australia, including a new species (Lepidoptera: Hesperiidae). *J. Aust. ent. Soc* **17**: 205-215.

Atkins, A.F., 1984. A new genus *Antipodia* Lepidoptera: Hesperiidae: Trapezitinae) with comments on its biology and relationships. *Aust. ent. Mag*. **11**: 45-57.

Atkins, A.F., 1997. Two new species of *Trapezites* Hübner (Lepidoptera: Hesperiidae: Trapezitinae) from eastern Australia. *Aust. Ent.* **24** (1): 7-26.

Atkins, A.F., 1999. Chapter 5. The Skippers, *Trapezites* (Hesperiidae). Pp 75-104, figs 1.1-4.6, 4 pls. *In* Kitching, R.L., Scheermeyer, E, Jones, R.E. and Pierce, N.E. Biology of Australian Butterflies: *Monographs on Australian Lepidoptera; Volume 6.* CSIRO Publishing, Collingwood, Victoria.

Sands, D.P and Kerr, J. F. R. A new species of *Hesperilla* (Lepidoptera: Hesperiidae) with a rediscription of *H. sexguttata* (Herrich-Schaffer). *J. Aust. ent. Soc*. **12**: 277-283.

Illustrations (all created with water-colour and gouache media)

Front Cover

The plains of Expedition Range: near dusk

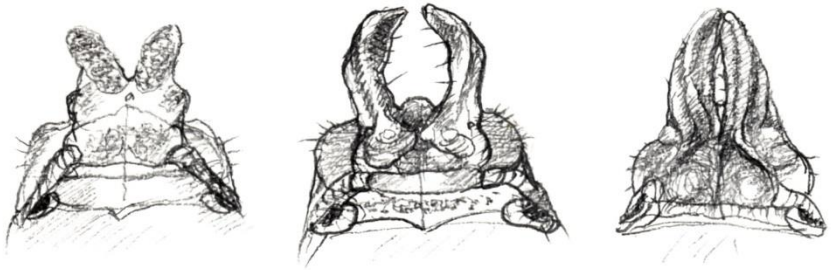
The 'Starlight Jewel' (*Hypochrysops delicia duaringae*) flying in twilight north of Dingo, central Queensland: foreground, male left, female (underside) right; background female centre; above left male Small Green-banded Blue (*Psychonotis caelius*), right female, settled on food plant (*Alphitonia excelsa*).

Plate 1
The foothills of Expedition Range: early morning
Migrants, the Migratory Awl (*Badamia exclamationis*), female foreground and males; Orange Migrant (*Catopsilia scylla*), female centre, males below and left background.

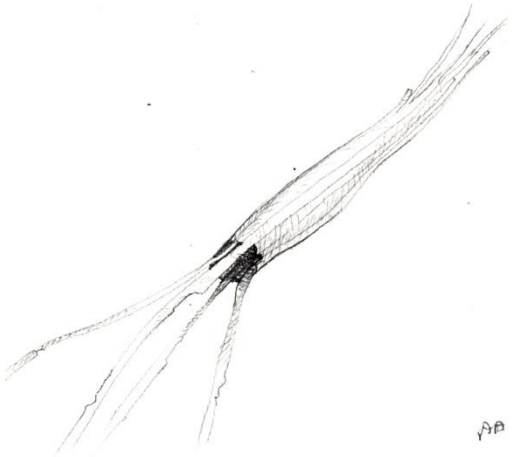
Plate 2
Blackdown Tableland: one year after the bushfire
Skippers; foreground right Sandstone Ochre (*Trapezites taori*) female feeding from Grass Tree, male just above; left foreground Spinifex Skipper (*Proeidosa polysema*) male front, female behind laying egg; centre female Heath Ochre (*Trapezites phigalia*); just above, male Iris Skipper (*Mesodina halyzia*); just above in background male Spotted Sedge-skipper (*Hesperilla ornata*): Blues: upper left female Southern Purple Azure (*Ogyris genoveva*); upper right female and male Sydney Azure (*Ogyris ianthis*); upper centre male Silky Azure (*Ogyris oroetes*); upper left male Northern Purple Azure (*Ogyris zosine*).

Plate 3
Blackdown Tableland: monsoon summer
Skippers: Foreground below, left male Broad-brand Sedge-skipper (*Hesperilla crysigramma*), centre male Swift Sedge-skipper (*Hesperilla sarnia*); right male Grey Sedge-skipper; centre female Double-spot Sedge-skipper (*Hesperilla malindeva*); above right female *Hesperilla sarnia*. Blues: Middle left a male and two females (with broader black wing-tips) Bright Opal (*Nesolycaena albosericea*): top left Fiery Copper (*Paralucia pyrodiscus*).
Note: The butterflies depicted are in habitat perspective and not necessarily in relative size.

Figures (graphite)



1. Pupal caps (dorsal view) of *Hesperilla ornata* (Spotted Sedge-skipper): left, *H. o. monotherma*, Iron Range, NQ; middle, *H. ornata*, Blackdown Tableland, CQ; right, *H. ornata* Mt Archer (Rockhampton) CQ.



2. Larval shelter of *Proeidosa polysema* (Spinifex Sand-skipper) on *Triodia mitchelli* (Spinifex).

All artwork by Andrew Atkins

ITEMS OF INTEREST

A Thorny Issue – *Lois Hughes*

I have always been a "sucker" for cute. Some time ago I had been admiring a row of cute insects that had congregated on some of the stems of one of our favourite butterfly nectar plants, the vanilla scented, White Duranta, until I realised, with some dismay, what they were!

Adults of *Aconophora compressa* with nymphs during September 2015

Resembling thorns, these were the "dreaded" lantana sap-sucking bug, *Aconophora compressa*! This incident occurred in 2003.

Newspaper and magazine articles at the time variously described them as "an invader as bad as the cane toad", "backyard monster" and "bug bear" so I was none too pleased to find them here! Much of the furore was, of course, directed at the Government of the day, for these insects had been released as a biocontrol agent for that other thorny pest, *Lantana camara*. Lantana is listed both as a "Weed of National Significance" and one of Australia's "Most Wanted Weeds". Perhaps that should be "Most Unwanted Weeds" of our bush and farmland!