

Leps in Books: Michael Parsons and the Butterflies of Papua New Guinea – Roger Kitching

The science of animal and plant distribution is called biogeography, emerging from the writings of von Humboldt, Darwin, Bates and other naturalist/travellers in the nineteenth century. It was a true nineteenth century genius, however, Alfred Russel Wallace, who codified the subject culminating in his masterwork *The Geographical Distribution of Animals* published in 1876. It is to Wallace that we owe the division of the globe into biogeographical ‘realms’ and the designation of our part of it as ‘Australasia’. There is sometimes a temptation among Australian biologists to equate Australasia with Australia and, indeed, if land area alone was the key this would perhaps be justified (sorry, New Zealand!). Australasia, as conceived by Wallace, includes, in addition to Australia and New Zealand, the vast island of New Guinea and its surrounding archipelagoes, Timor and the Moluccas (that is: that part of the Indonesian archipelago east of Bali and south and south-west of Borneo). Wallace had difficulty placing the huge island of Sulawesi (then known as the Celebes) and, in the end, placed it in Australasia for no better reason than that its mammalian fauna included a small number of marsupials. We now understand more about the deep history of Sulawesi and its complex formation as a result of continental drift (inconceivable in Wallace’s day) and volcanic activity. That, though, must remain a story for another day.

So, now, consider the Australasian butterflies. Thinking of the relative biological richness of the butterfly faunas of Australasia and including the more northerly regions in our thinking then any boast for Australian pre-eminence falls apart comprehensively. Australia has about 430 species of butterflies in a land area of 7.692 million square kilometres (that’s about 17800 km² per species). For New Zealand it’s hard to quote comparable figures simply because no one can tell us with confidence how many species of butterfly call New Zealand home. This is because a couple of genera (one lycaenid and one satyrine) seem to be in process of active evolutionary diversification and whether each slightly different isolated population represents a species, sub-species or merely a geographical ‘form’ depends on whether you’re, taxonomically, a ‘lumper’ or a ‘splitter’. If, like the position taken in the recent book by Patrick and Patrick (2012), you take these all to be full species then New Zealand can own a maximum of about 55 species in its 0.26 million square kilometres of land area (that’s 4764 km² per species). All these figures, though, pale into insignificance when we think about the great Australasian island of New Guinea. New Guinea is home to about 950 known species of butterfly (with many others probably awaiting discovery). This is in a land area of 0.786 million square kilometres (about 819 km² per species).

Of course there are many obvious factors accounting for these differences – Australia’s shape and vast arid interior, New Zealand’s oceanic isolation and New Guinea’s ‘young’ topography and tropical position, among many others. It does mean though that anyone interested in the butterfly fauna of Australia cannot ignore the rich



reservoir of diversity sitting just to our North – within easy flying distance for many of the more robust species.

Fortunately we have a superb set of literary resources available to us providing access to the vast New Guinea fauna – and almost all due to the labours of a single author, Dr Michael John Parsons. It is his three books on the butterflies of New Guinea (Papua New Guinea to be precise) that are the focus of this third article on ‘Leps in Books’.

The richness and special nature of the New Guinea butterflies have been long appreciated. Alfred Russel Wallace himself collected extensively in the region (mostly on the offshore islands to the West of the principal land mass, but including one excursion to the north coast of the New Guinea mainland) and is renowned for his enthusiastic comments upon netting his first birdwing. Most of Wallace’s extensive collections from those 1857-58 excursions ended up in the enormous collection of Baron Lord Rothschild, now a part of the even larger holdings of the London Natural History Museum (see BOX). Curiously, Wallace never visited Australia even though he prepared a later book entitled *Australasia: I. Australia and New Zealand* (Wallace 1879). Many other collectors were active subsequently in New Guinea (outlined in detail by Parsons, 1999) including many based in Australia. Most of that material ended up in European museum collections. A couple of exceptions of particular interest for Australian lepidopterists were those made by the ‘butterfly man of Kuranda’, Frederick Parkhurst Dodd (Monteith 1991) during a five month visit to New Guinea in 1917. Some of this material featured in the display collection subsequently exhibited for many years at the Dodd home in Kuranda and taken, to great acclaim, twice, on tour around the eastern and southern states of Australia (Kitching & Edwards, 2020). Those display cases are held in the Queensland Museum (Monteith, 1991). William Waldemar Brandt, a Swedish entomologist who lived in New Guinea from 1949 until 1963 collected very extensively during that period. Ultimately based in Australia, Brandt’s very extensive collections were deposited in the Australian National Insect Collection in Canberra.

Returning then to the topic of books about the butterflies of New Guinea. Parsons’ works had a few notable predecessors. Adalbert Seitz’s masterwork on the *Macrolepidoptera of the World* appeared between 1907 and 1940 originally in German but subsequently in English and French. Volumes 9-12 of the sixteen that make up this work were devoted to the Indo-australian fauna and the two parts of Volume 9 are about butterflies. They are illustrated copiously with fine colour lithographed plates and, until the 1970s this was perhaps the only work available that allowed many of the New Guinea (and other) species to be identified (although Evans’, 1949, work on the skippers did cover some of the ground). Charles Barrett and Alan Burns’ (1951) book on the *Butterflies of Australia and New Guinea* included, as the title suggests, some species from New Guinea but is highly selective and, although otherwise informative, is useful only for identification of only the commonest and most spectacular species.



Bernard D'Abrera's richly illustrated book, *Butterflies of the Australian Region* first appeared in 1971 (subsequent editions appeared in 1978 and 1990). A compendium of annotated photographs of mounted specimens, principally in the collection of the Natural History Museum, London, D'Abrera's work did include New Guinea species although not the skippers, which the author summarily dismissed as 'not butterflies'. Much active collecting and taxonomy of New Guinea butterflies was happening at about the same time and the book was challenging to use for identification of the New Guinea fauna.

Then, in 1979, Parsons appeared on the New Guinea butterfly scene.

He was appointed as a senior entomologist with the Insect Farming and Trading Agency, part of the Wildlife Division of the Papua New Guinea (PNG) government, the successor body to a similarly named organisation under the earlier colonial administration which had been established to control the unofficial and often exploitative (not to mention illegal) trading in insect specimens that had developed over the years. Parsons remained in PNG for four years and during that time played a major role in regularising the trade in New Guinea butterflies based both on wild collecting and on the products of so-called butterfly farms – village-based rearing and ranching businesses generating income streams for the locals. He also began an extended period of huge productivity in research and scientific writing.

Clearly during this period Parsons recognised the absence of (and need for) guidebooks to underpin the butterfly trade and to fill an obvious longstanding gap in the literature. His first book, *Papua New Guinea Butterflies* (Figure 1) was a short, 32 page, introduction to the New Guinea butterflies published by the Insect Farming and Trading Agency itself, illustrated by photographs, mostly of living insects, taken by Parsons.

Parsons departed PNG in 1983 and became a consultant, working in many tropical countries on insect conservation and butterfly farming. Initially based in Los Angeles, USA, he and his wife subsequently moved to Florida where Parsons then spent a decade working within academia at the University of Florida.

He continued working on the fauna of PNG, however, and in 1991, produced his first major work on the fauna. This was '*Butterflies of the Bulolo-Wau Valley*' (1991, Figure 2) describing and illustrating the 373 butterflies recorded from that tiny area of PNG. The focus on the Bulolo-Wau valley reflected the existence of the Wau Ecology Institute: a field station established by the Bishop Museum, Honolulu, in 1961. The Wau Ecology Institute hosted visiting researchers and local workers until its close in 2007. The Bishop Museum withdrew support for the Institute in 1973 and the station ran as an NGO until its close. From the point of view of the biological world at large, one of the most useful products of the Wau Institute was a series of handbooks describing aspects of the work carried out there. These handbooks ranged from field guides to groups of fauna and flora through to a compendium of biological terms in Melanesian pidgin. The Parsons' book was Handbook No. 12 and was



published by the Bishop Museum Press. It is an impressive 280-page work with 22 colour and 3 black and white plates.

Finally, in 1999, Parsons produced his masterwork, the large format volume *Butterflies of Papua New Guinea: their Systematics and Biology*' (Figure 3). This massive book (the word tome comes to mind) runs to 736 large format pages of text accompanied by 26 black and white plates illustrating genitalia, sex brands and characteristic damage patterns on host-plants. No fewer than a 104 colour plates follow, illustrating male and female upper and undersides of the adult butterflies. The final 35 colour plates show immature stages and living adults of selected species. The work was published by Academic Press of London and San Diego.

From a practical viewpoint this book enables identification of any butterfly described from Papua New Guinea and remains useful and critical for identification of material from surrounding regions. As a work of science and art it is unlikely to be surpassed any time soon. It may well also have been the inspiration (or challenge) for John Tennent's comprehensive and complementary work, *Butterflies of the Solomon Islands*, published in 2002.

The downside for *Butterflies of Papua New Guinea* is its current availability and likely cost. The book is now out-of-print and appears never to have had a very large print run. Originally sold for about A\$350 (at least that is what I recollect my copy costing) a recent example sold at auction for US\$500 and the only copy I can find currently available (on AbeBooks) has an asking price of an eye-watering US\$1200.

Nevertheless, the work is available in major libraries and remains the key work on the butterflies of Papua New Guinea. The butterflies of the western half of the island, Indonesian New Guinea and its offshore islands, however, await their monographer.

The Parsons, meanwhile, have established their own Florida-based wildlife documentary film-making organization. They currently have four one-hour programmes ready for public release; with several more documentaries currently being filmed and edited.

Acknowledgement

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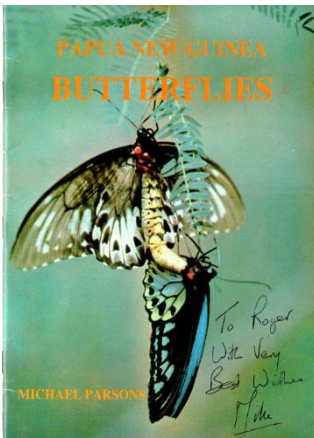


Figure 1. Cover of Parsons' *Papua New Guinea Butterflies* (1983)

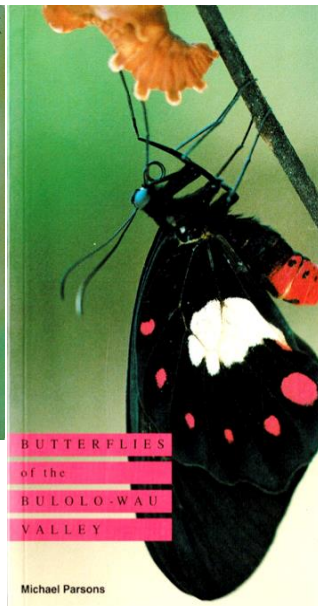


Figure 2. Cover of Parsons' *Butterflies of the Bulolo-Wau Valley* (1991)

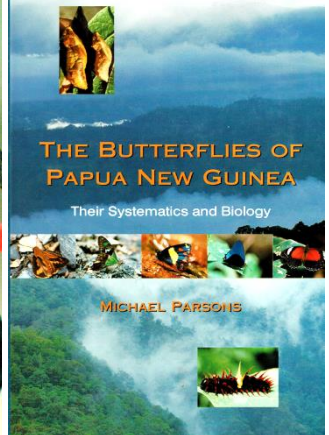


Figure 3. Cover of Parsons' *Butterflies of Papua New Guinea* (1999)

Photos Roger Kitching



ALFRED RUSSEL WALLACE AND THE BIRDWING OF BATCHIAN

Roger Kitching, Peter Hendry

Wallace spent six months on the island of Batchian in the Moluccas just west of New Guinea in 1858/59. He devotes a whole chapter to this period in his travelogue *The Malay Archipelago* (5th edn, 1874). The island (now referred to as Batjan or Bacan) was notable for its rich butterfly fauna and it was here that Wallace had his famous encounter with the Golden Birdwing which he later named. He wrote:

The beauty and brilliance of this insect are indescribable and none but a naturalist can understand the intense excitement I experienced when I, at length, captured it. On taking it out of my net and opening the glorious wings, my heart began to beat violently, the blood rushed to my head, and I felt much more like fainting than I have done when in apprehension of immediate death.

Wallace's specimen still exists (see Figure), now housed in the Natural History Museum, London.



Wallace's Golden Birdwing (*Ornithoptera croesus*) is now considered to exist as two subspecies, the nominate form *croesus* from Batchian, and a second, *lydia*, from the larger adjacent island of Halmahera. Like many of the *Ornithoptera* (including the Australian, *richmondia*, *euphorion* & *priamus*) the taxonomic standing of this species was long debated. For a time it was thought of by many as merely a golden variant of the green and black *priamus*. Once genitalia were compared, however, (rather the rather variable wing patterns) it was reinstated by Zeuner (1943) as a full species. This status was confirmed and maintained in the definitive work of Haugum and Low (1979).

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Photo Peter Hendry

