



Archerfish aiming a jet of water at an insect above the water surface. Courtesy of *Mother Nature Blog*.



Epiphytic ant-plants. Left: *Hydnophytum* sp. in place on a tree trunk. Right: *Myrmecodia* sp. removed from its tree and partly cut open to show ant-harboring cavities.

Naturalist-In Series...

THE YEAR OF BORNEO 3 – TWO MORE LOOKS AT SARAWAK

by Chris K. Starr



Review of:

Charles Hose 1929. *The Field-Book of a Jungle-Wallah*. London: H.F. & G. Witherby 216 pp. Reprinted 1985 by Oxford Univ. Press.

Robert W. Shelford 1916. *A Naturalist in Borneo*. London: T. Fisher Unwin 331 pp. Reprinted 1985 by Oxford Univ. Press.

[50th in a series on "Naturalist-In" books; see www.ckstarr.net/reviews_of_naturalist.htm]

Charles Hose (1863-1929) took up an administrative position in Sarawak in 1884 at the invitation of the second Rajah, Charles Brooke. We are not told exactly what his job was, leading to the suspicion that his official post was a cover for something else. It would not be far-fetched to think that Rajah Brooke was using him to check up on the various district officers. In any event, Hose had plenty of liberty to explore in an age when Borneo was even more outside the main

routes of travellers. As noted earlier, most of Sarawak was forested, with very few roads outside of the towns, but it was well supplied with rivers, which served as the main routes.

This engaging little book opens, appropriately, as he awoke on the boat the morning of arrival at the mouth of a river (presumably the Sarawak River by Kuching) with the sense of great expectation that the situation called for. His main focus throughout his stay was the Baram River and its tributaries on the north-eastern edge of Sarawak. The eight chapters have such titles evocative as "All on the Bornean Shore", "A Mountain Treasure House" (about an ascent of Mt Dulit), and "The Wealth of the Jungle".

Hose's observations were more those of an amateur naturalist than an original researcher, although this distinction was not nearly so pronounced then as now. His attention and knowledge were mainly directed to vertebrate

animals, especially his comments on particular birds and their habits, together with scientific names. His later publications included a monograph on the mammals of Borneo.

Hose was especially taken with the slim little mudskipper fishes, *Periophthalmus*, spp. This genus of 18 known species in the Indo-Pacific region and one on the Atlantic coast of West Africa are strange in form and endlessly engaging in their habits. They can be quite abundant on tidal mud flats, where they inhabit burrows in the soft mud and move about actively on the surface at the water's edge. Their main physical peculiarities are the long, tubular body, bulging eyes at the top of the head and the fleshy, protruding pectoral fins. They use the latter to move along on the surface of the mud in a gait known as "crutching". As Hose commented, "they are fast becoming land animals, and seem only to resort to the water for breeding purposes, although they never go far from it." The thing that strikes me [Chris] from many idle hours watching them moving about on the mud flats, ducking in and out of their burrows and squabbling on the surface, is their un-fishlike manner, more like frogs in some of their behaviour and lizards in others.

Hose's remarks on invertebrates were much more general, with very little mention of scientific names. I notice that one can sometimes infer from his observations of a particular ant what it must have been, but Hose himself seems not to know. However, he picked up on Beccari's observations of the ant-plants of the genus *Myrmecodia* (and by implication *Hydnophytum*; see previous review), suggesting that they must gain an advantage from harbouring the inquiline ants, most likely through

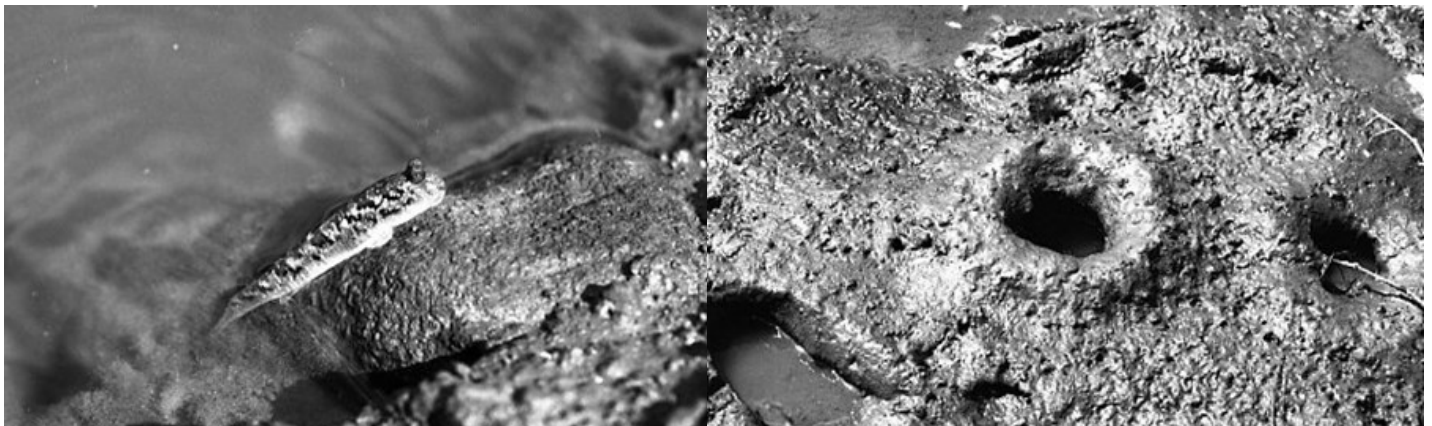
defence against herbivorous animals. This is now the conventional wisdom regarding these ant other ant-plants (Chomnicki, in press).

Robert W. Shelford (1872-1912) was a British entomologist and museum administrator. His health was never strong, and his early death resulted from the recurrence of a childhood illness. He went to Sarawak in 1897 to serve as curator of the Sarawak Museum, remaining until 1905. Then, as now, natural history museums in the tropics served three overlapping functions: a) to help satisfy the needs of the local people, b) to disseminate knowledge of the local biota, and c) as centres for research.

Note that, although his book was published earlier, he went to Sarawak some years after Hose, about whom he includes plenty of mention. The book is illustrated with 32 full-page photos of landscapes, buildings and animals. He gives both native and scientific names of plants and animals treated, one of the things in which this book surpasses Hose's.

Reflecting something that Darwin, Wallace or Beccari might have said, Shelford regretted that, "It is an unfortunate thing that the vast majority of collectors and field naturalists are poor philosophers, whilst a great many philosophic zoologists are sorry failures when it comes to observing the living animal in its natural surroundings." In a different context, this would be called an appeal for the unity of theory and practice.

Shelford's job both required and allowed him to spend a great deal of time exploring Sarawak. He had very broad interests, with research expertise focused on orthopteroid insects (the subject of Chapter 5), especially cockroaches, of which he




Unidentified mudskipper in central Luzon, Philippines. At left, a fish is resting on a stone at the water's edge. At right, two typical burrows in the mud.

described 44 new genera and 326 new species. He kept many insects in captivity, the better to observe their habits. He also made a special study of camouflage and mimicry (Chapter 8), something that must strike the attention of any temperate zone entomologist who comes to the tropics. His Tables I-III, listing models and their apparent mimics, is an especially valuable feature. He also had chapters of beetles and—following both Burbidge and Beccari—on Hydnophytum, Myrmecodia other plants in their relations with ants.

Naturalists writing about Borneo tend to take a large interest in the very diverse human aspect. Hose was an exception to this rule, but not so Shelford, whose interests included anthropology. His classification of the aboriginal groups of Sarawak placed Land-Dayaks quite apart from the Sea-Dayaks. He took delight in the native stories and legends, which were often told around the campfire and appropriate to the place. In his remarks on many native beliefs, he remained non-committal on whether he believed them to be true. “This may very well be the case, but all I can say is that I have never seen it myself.” In my interpretation, this was not just the politeness of a guest among a foreign people. Rather, he had the sense to realise that people living close to nature are often acute observers, while at the same time they can hold some quite fanciful ideas even about species that they often observe. A cautious suspension of judgement was therefore the prudent policy, especially in a land that still remained largely unknown to the scientist.

References

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A leaf insect, *Phyllium* sp., showing the wonderfully close resemblance to leaves of these distinctive members of the order of stick insects (Phasmida).

Source: Encyclopedia Britannica.



Two young Sea-Dayaks in traditional attire. This photo, apparently from around the time of Hose's and Shelford's times in Borneo, has been