



HOW TO PHOTOGRAPH A MOLUCCAN WOODCOCK: EXPERIENCES OF A MODERN FIELD BIOLOGIST IN WALLACEA

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Abstract

One hundred and fifty years after Alfred Russel Wallace visited the Malay Archipelago much still remains to be discovered about the fascinating species that inhabit the islands now known as Wallacea. While modern fieldwork brings opportunities, and a few difficulties, that Wallace himself would not have imagined, many of the challenges facing field biologists in the twenty-first century are the same as those experienced by Wallace himself. Here I describe the struggles and excitement of Wallacean fieldwork through our efforts to obtain the first photographs of an endangered bird species, the Moluccan Woodcock *Scolopax rochussenii*, on Obi Island in the Northern Moluccas.

Key words: endangered, field biologists, fieldwork, Northern Moluccas, Obi Island,

In a world increasingly connected by high speed internet, satellite images, and ever-improving technology it is often easy to assume that most life on Earth has been found and catalogued and that the great age of scientific discovery enjoyed by Alfred Russel Wallace and his contemporaries has already come and gone. In fact, this could not be farther from the truth. Current estimates place the total number of species on Earth to be somewhere around 5 million of which only 1.5 million have been

described (Costello *et al.*, 2013), meaning that the job of cataloguing species, which Wallace himself so actively pursued, is less than a third of the way complete. It is true that the majority of species yet to be described are likely to be small, often microscopic, and their discovery requires the knowledge and attention of specialized taxonomists with years of training but this is not always the case. Even for the best known taxonomic groups, such as birds, much remains unknown about the basic

taxonomy and distribution of many species, particularly in Wallacea.

In June–August 2012 and November–December 2013, I conducted ornithological fieldwork on Obi, a medium-sized island in Wallacea's northern Moluccas. While Wallace himself never visited Obi, he spent several months just north of Obi on the islands of Halmahera and Bacan where, among other things, he encountered his first species of bird-of-paradise in the wild, Wallace's Standard-wing *Semioptera wallacii*. My research on Obi focused on conducting a general survey of the avifauna, and more importantly evaluating the conservation status of a species of rare and enigmatic shorebird known as the Moluccan Woodcock *Scolopax rochussenii*. Since its initial discovery in 1862, the Moluccan Woodcock had been recorded on fewer than ten occasions, and with only two sightings in the last thirty years it is a prime example of some of the avian mysteries that still exist in Wallacea. In addition to merely finding the woodcock, I was eager to get the first-ever photographs of it in life. My field notes on the challenges of doing this reflect some of the experience and excitement of doing research in eastern Wallacea.

It is 5.50 a.m., just before dawn on August 26, 2012, drizzling and still dark, and I am standing ankle deep in the fast-flowing water of the Sumbali River of northwestern Obi Island, hoping for a woodcock to fly overhead. Around me, the outline of high forest edging the river looms barely visible against the heavy black sky. Together with my collaborator Eden, and three masters students from the University of Indonesia—Eka Hesdianti, Endang Christine Purba, and Nova Dina Ashuri—I have been travelling around Obi for the past seven weeks. Persistent rain and days of slogging through swamp forest have taken a toll on our equipment and our feet: one camera tinted images a dull, sickening blue before fading into an unresponsive

torpor, a second became so infiltrated with damp that every photo appears to have been taken in a carwash, a headlamp fell in a river and fizzled, three pairs of field pants were ripped and fell apart and a rain poncho and a tarpaulin have started to leak. The things that remain seem to teeter on the brink of imminent tearing, leaking, short-circuiting. Our feet have not fared much better. This morning, I am wearing flip flops because some form of tropical foot rot—imagine meat soaked in water, then rubbed raw with sandpaper—has swollen my right foot beyond what can fit in a boot. But at the moment sore feet and ruined equipment are not on my mind. This is our last morning in the Obi forest, and I *need* to photograph a Moluccan Woodcock.

A large forest-dwelling shorebird endemic to the Moluccas of eastern Indonesia, *Scolopax rochussenii* was first collected by Heinrich Bernstein, a German naturalist who enrolled as a doctor in the Dutch Army to fulfill dreams of traveling to the tropics. Bernstein obtained a single male of *S. rochussenii* from Obi in 1862 (how, exactly, remains unclear) but never lived to see the species named. He died of illness in New Guinea in 1865 and "*Scolopax rochussenii*" was not described until 1866 when Bernstein's specimen arrived back at the Museum of Natural History in Leiden, The Netherlands. Over the next 150 years, western science only managed to find an additional seven individuals of the Moluccan Woodcock, and in 1982 the species disappeared entirely for almost thirty years until, in 2010, when a team of French bird-watchers observed and sound-recorded Moluccan Woodcock on two occasions along Obi's coast (Thibault *et al.*, 2013).

If you make it to Obi—a feat that for me required seven airplane flights, two weeks of obtaining permits in Jakarta, and eighteen hours in a cramped ferry—finding a Moluccan Woodcock, it turns out, is relatively easy. In areas along rivers and

over swamp forest the birds display daily just before dawn and after dusk. When a territory was nearby, we heard the bird twice a day, every day. In seven weeks we had tallied nearly fifty observations.

Getting a photograph, however, is far less straightforward. Display flights are consistently timed when it is just too dark for a camera to function and the birds were always too high for mist nets, usually too high for a flash and often unpredictable in their choice of flight path. In areas with dense forest—most of the island—quick shadowy glimpses through the canopy were the only views you ever had. And as soon as the sun comes out, Moluccan Woodcock apparently evaporate. In fifty-one days and more than 630 hours of wading through streams, splashing into swamps, clambering up ridges and sliding down valleys and gorges, and kicking, shaking and thrashing about in every dense, muddy, spiny, and impenetrable woodcock hideout we could find, one of us and had seen exactly one woodcock once during the day. It was in pouring rain at the end of a ten kilometer

hike and the bird flushed in front of me and glided up and over a waterfall before I could even consider that I had a wet, non-functioning camera in my pack.

Wallacea will be familiar to anyone with an interest in biogeography and conservation. Defined as the region of islands stretching from Borneo and Java east to New Guinea, it sits at the intersection between the Oriental and Australasian biogeographic regions. To the west are pheasants, gibbons and elephants, to the east, cassowaries, echidnas and birds-of-paradise, and in the intervening island patchwork, influences from both combine with bizarre endemic lineages in spectacular display of biological diversity. It was the informative geography of Wallacea that famously inspired Alfred Russel Wallace to develop his theory of evolution by natural selection. In his book the *The Malay Archipelago*, Wallace describes both the biological marvels and the difficulties he encountered in the Moluccas. Weather and the slow pace of logistics are a frequent theme:

Looking at my whole voyage in this vessel from the time when I left Goram in May, it will appear that my experiences of travel... have not been encouraging. My first crew ran away; two men were lost for a month on a desert island; we were ten times aground on coral reefs; we lost four anchors; the sails were devoured by rats; the small boat was lost astern; we were thirty-eight days on the voyage home, which should not have taken twelve; we were many times short of food and water; we had no compass-lamp, owing to there not being a drop of oil in Waigiou when we left; and to crown all, during the whole of our voyages from Goram by Ceram to Waigiou, and from Waigiou to Ternate, occupying in all seventy-eight days, or only twelve days short of three months (all in what was supposed to be the favourable season), we had *not one single day of fair wind*. (Wallace, 1869: 418)

The italics are Wallace's, one of only a few instances in the entire book where he uses them.

One hundred and fifty years later, the need for compass-lamps and sails has changed but the pace of travel and the inconsistency of weather in the Moluccas seem much the same. At Tanjung Rijang in the south of Obi, we waited four days for the wind to shift enough for a boat to be able to leave. When we finally gave up on waiting for the wind and decided to move to the next

village by piling all of our equipment on to motorcycles, a driver who promised to return in two hours left me waiting on a porch for twenty-three hours before finally returning. Despite reports that June-August tended to be the drier months, in the mountains—where we had been concerned that there might a be shortage of water—it rained on thirteen out of fourteen days, and

often with a ferocious intensity that made it seem the island was trying to collapse our tarps and hammocks and wash us off of its shoulders and back onto the coast where we belonged. In describing the climate of Wallacea, Derek Holmes notes simply: “those who visit Manusela National Park on Seram will soon discover the meaning of montane tropical rainfall” (Coates & Bishop 1997: 23). The same applies to Obi.

Hours spent waiting for boats and motorcycles and idly watching rain, quickly turned into hours of contemplating how to photograph a Moluccan Woodcock. We considered hoisting mist nets on 30-meter poles above the canopy or running nets on ropes between isolated high trees (no trees high enough, no consistent flight paths), sketched giant bird-catching butterfly nets (no bamboo stalks long enough) and captured fistfuls of bats with various strategically-placed evening mist nets. Playing back recordings garnered no response; climbing into a tree and hauling the camera up after me derailed when the only appropriately located tree was overrun with large, fierce ants which Iksan, one of our local guides, warned might sting my eyes and make me go blind. And so here I was standing in the Sumbali, where we were hopeful that the wide cut of the river would provide just enough of a view to squeeze out a picture. After the utter failure of every alternative idea, we were now banking on a patched together assemblage that consisted of my backup camera, Eden’s sometimes functioning flash and a lens with a spotlight duct-taped to it. With the ferry scheduled to leave tomorrow, this was our last chance.

Even if everything worked, the plan was a long shot. Success required hearing the woodcock coming, having it fly directly overhead, picking up its silhouette in the predawn darkness, finding it in the camera viewfinder, guessing a roughly correct focus and lucking into the flash deciding to perform at the right moment. If things

went perfectly, the bird might fly over three times with a couple of seconds for each pass. Counting the time for the flash to recharge—if it worked—I could conceivably get one photo per pass. We had been here now for three nights but between the rain, equipment malfunctions and the birds being generally uncooperative had nothing to show for it. Back in camp this morning our two local guides, Iksan and Pak Irham, have decided that woodcock photography is a doomed and ridiculous pursuit and have opted to stay in bed. At this point I am starting to agree with them.

At 5.52 a.m., exactly on schedule, I hear one of the woodcock start calling upriver to south: t’t’t’t’t’t’t’.....t’t’t’t’t’t’t’.....t’t’t’t’t’t’t’ The distinctive call is a short rattle repeated at steady intervals. I can track the bird’s movements based on the vocalizations, and this bird is still far upstream. I listen as it draws closer and then bends away again following a ridgeline to the south. *C’mon, c’mon, c’mon.* The calls edge closer again, twists away and then increase, this time coming right at me. Spotlight on, camera on, check the flash, check the focus. “t’t’t’t’t’t’t’.....t’t’t’t’t’t’t’.....t’t’t’t’t’t’t’” A shadowy outline breaks from the edge of the canopy and the bird begins to pass straight overhead. I lift the camera and can just make out the bird through the lens in the pale glow of the spotlight. *Wait for it...wait for it...now!* The flash gives a satisfying “pop!” followed by a shrill whine as it starts to recharge. The bird disappears into the shadows of the canopy on the opposite bank of the river. I anxiously check the picture. *Got it!* Not exactly frame filling but there, ghostlike against the dark sky, is the unmistakable image of a Moluccan Woodcock.

I received support for my research on Obi from a National Geographic/Waite Grant and a Ron and Mary Neal LSU graduate fellowship. In addition to photographing the Moluccan Woodcock, Eden and I

recorded 109 species on Obi in 2012, including 14 new records for the island (Mittermeier *et al.*, 2013). Most exciting were a *Micropsitta* pygmy parrot that likely represents a taxon new to science and an exceptional diversity of unrecorded rail species—amongst them a surprising range extension for the enigmatic Invisible Rail *Habroptila wallacii* of neighboring Halmahera. For more details on our findings from Obi see Cottee-Jones *et al.* (2013), Mittermeier *et al.* (2013), and Cottee-Jones *et al.* (2014). I am looking forward to returning to Wallacea for more fieldwork soon.

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A Moluccan Woodcock (*Scolopax rochussenii*) conducting its dawn display flight; Obi Island, North Maluku, Indonesia. This is one of the first photographs ever taken of this species in life. Photo by John C. Mittermeier.

