

Wallace's Help: The Many People Who Aided A. R. Wallace in the Malay Archipelago

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Abstract

Alfred Russel Wallace was a quintessential Victorian collector-naturalist, remembered for his eight years of collecting throughout the Malay Archipelago, today's Indonesia, Malaysia, Singapore and East Timor. Written accounts almost always note that Wallace collected 125,660 natural history specimens, but almost no one mentions that he had a great deal of help in assembling this vast collection. His published and unpublished writings contain references to an array of hired assistants, boatmen, porters, cooks and guides. Along with the well-known assistants usually mentioned, Charles Allen and Ali, hundreds of local people helped Wallace by showing him where local animals lived and explaining how they behaved, and they procured the vast majority of the vertebrates in his collection. This article suggests that at least 1,200 individuals helped Wallace in one way or another, and the number could easily have been twice as large.

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Introduction

Alfred Russel Wallace's collecting expedition in Southeast Asia between 1854 and 1862 is rightly famous. Accounts of his activities rarely fail to mention his impressive collection, which totalled around 125,660 natural history specimens, which he later reckoned consisted of 310 Mammals, 100 Reptiles, 8,050 Birds, 7,500 Shells, 13,100 Lepidoptera (butterflies and moths), 83,200 Coleoptera (beetles) and 13,400 other types of insects. Wallace was the first naturalist to visit many islands and regions, and he discovered countless new facts about animal behaviour and distribution. His articles and books have inspired generations of naturalists and travellers.

The focus on Wallace's individual achievements, while important and perfectly understandable, overlooks the fact that assembling such a large collection required the support of a veritable army of people. This article examines the role played by local helpers in Wallace's voyage and collections.

Wallace told his readers at the start of his classic travel book, *The Malay Archipelago* (1869): 'the main object of all my journeys was to obtain specimens of natural history ... I must premise that I generally employed one or two, and sometimes three Malay servants to assist me; and for nearly half the time had the services of an English lad, Charles Allen.'¹ The roles of Charles Allen and Wallace's chief assistant, Ali from Sarawak, have been the subject of recent detailed studies, but Wallace did not just have the help of two or three assistants.² His publications, letters and notebooks show that his results and successes required the help of hundreds of local people.

Wallace did not record every person he hired to shoot birds, cook, paddle a boat, bring him specimens or work as porters, guides or translators, but we can glean the approximate number of helpers at a given location, based on the written sources that survive. Sometimes the number of helpers can be inferred. For example, if Wallace hired five boatmen to take him to a new collecting location but omitted to mention the boat journey on the way back, we can infer that the return journey also required about five further boatmen. In other cases, he reports that 'natives' regularly brought him Birds of Paradise, insects or shells. In such cases I have adopted a low figure to avoid exaggerating the number of helpers. European men and women, the crews of commercial steamships or sailing ships and those from whom Wallace purchased food have been omitted, although many of the Europeans are included in a table below.

The aim here is to re-examine Wallace's voyage from the perspective of his interactions with the people among whom he lived and travelled. And this is the sort of revelation we should expect in the history of science—Wallace was not a lone genius, nor was he 'the greatest field biologist of the nineteenth century', a hagiographic comment that has become ubiquitous.³ Wallace was a Victorian specimen collector and naturalist, not a field biologist, which is a modern concept.

¹ Wallace (1869a: 1, xiv). Wallace's complete publications are available in a single online edition: van Wyhe (2012), the only place where it is possible to electronically search all of Wallace's publications with a powerful search engine.

² Rookmaaker and van Wyhe (2012) and van Wyhe and Drawhorn (2015).

³ Perhaps first coined by Quammen (1997) and since very often repeated verbatim in publications on Wallace.

They are not the same thing. Equally, it is erroneous to refer to him as a scientist, another term which connotes workers of a different age and culture. Wallace lived and worked before the age of professionalized science.

Victorian commercial collectors often travelled 'alone' in the sense of being a lone Westerner without a companion or partner. But the true complexity of their time and actions can only be revealed if we try to situate them in the historical context. Such a perspective throws real light on mid-nineteenth-century collecting practices.

Voyage in the Malay Archipelago

Wallace left Britain for Singapore in March 1854 accompanied by a teenage assistant or servant named Charles Allen (1839–92). Allen, who called Wallace 'Sir',⁴ assisted Wallace in collecting and preparing natural history specimens in Singapore, Malacca and Sarawak from April 1854 until December 1855 or February 1856, and worked again for Wallace in 1860–2.⁵ Ali was recorded as shooting birds although he presumably performed other tasks. Allen and his assistants collected, at a rough estimate, about 2,000 of Wallace's total of 8,050 birds, while Ali may have collected 3,000, and possibly even more. This is merely a guess based on the amount of time Ali worked for Wallace since there was normally no separate recording of specimens by assistants and Wallace himself. The collections of all assistants were integrated into Wallace's collection and their discovery credited to him, even if the specimen was collected by someone Wallace employed or a helpful local person, as was the case with Wallace's Flying Frog (as it has been known since 1875), which he acquired from a Chinese worker at a remote mining site.

In the discussion that follows, each location will be summarized with a focus on the help provided by assistants and local people.⁶ The estimated number of people who aided Wallace is given beside each place name. The historical spelling of place names is used throughout for consistency with Wallace's widely consulted writings.

Singapore (c.8)

Wallace's expedition began on a small scale on the island of Singapore, where only Charles Allen apparently contributed to the collections. Allen shot vertebrates and collected insects, and prepared and preserved the resulting specimens. Wallace and Allen spent most of their time in the Bukit Timah district, staying with the Rev. Anatole Mauduit and some of his brethren, a French Catholic missionary who was *not* a Jesuit. The congregation was Chinese. One of the other missionaries suggested collecting in Cambodia but this trip never materialized.⁷ Wallace and Allen also spent a week collecting on the nearby island of Pulau Ubin. A few boatmen would have been needed to get there and back, although they were not

⁴ See Wallace (1869a: 1, 72). Malay-speaking assistants seem to have called him 'Tuan'; see *Ibid.*: 74.

⁵ Rookmaaker and van Wyhe (2012).

⁶ Wallace's complete day-by-day itinerary can be found in van Wyhe (2015, 39–42) and van Wyhe and Rookmaaker (2013a).

⁷ Wallace to M.A. Wallace 30 September 1854, in van Wyhe and Rookmaaker (2013a: 23).

recorded. Wallace's list of birds collected in Singapore and Malacca in his *Notebook 1* (pp. 19–54) includes their Malay names, which someone must have supplied. The darker ink used suggests that they were added at a later date.

Malacca (c.16)

Wallace's second collecting location was Malacca and its environs on the Malay Peninsula between July and September 1854. Allen remained with Wallace. The resident Catholic missionary, Father Pierre Favre, facilitated a place for Wallace and Allen to stay at Gading, a Chinese Catholic mining settlement in the interior, and Wallace hired two Portuguese men to accompany them, 'one as a cook, the other to shoot and skin birds'.⁸ Allen and Wallace both came down with fever, and the government doctor in the town of Malacca healed them with liberal doses of quinine.



FIG. 1. Orangutan attacked by Dyaks. The body of the orangutan was later given to Wallace. (Source: Wallace 1869a)



FIG. 2. Wallace's standard wing, male and female, discovered by Ali. (Source: Wallace 1869a)

The next collecting locale was called Ayer Panas,⁹ where the Resident Councillor, Capt. Ilay Ferrier, had offered Wallace the use of the government bungalow before his untimely death from 'fever'. Wallace and Allen were accompanied by a local resident named George Rappa Junior. Wallace recorded 'obtaining other men', presumably as porters, and possibly an additional collector.¹⁰

⁸ Wallace (1869a: 1, 43).

⁹ See van Wyhe (2015: 92).

¹⁰ Wallace (1869a: 1, 44).

A more ambitious expedition was climbing Mount Ophir (Gunung Ledang), for which he hired 'an old man and four young ones to carry our baggage to the mountain'.¹¹ Wallace mentions 'our guide', who may have been one of the five. He described the older man elsewhere: 'I had an old Javanese with me, who had been with Dr. Blume in Java, and since with M. Diard, and had for twenty years been shooting and skinning birds...'¹²

Sarawak/Borneo (c.160)

After returning to Singapore, Wallace and Allen headed next to Sarawak, on Borneo, where they arrived on 29 October 1854. Wallace had met the Rajah of Sarawak, Sir James Brooke, in Singapore, and was received by Captain John Brooke and the small number of other Europeans residing in Sarawak. The record of Wallace's first four months is very incomplete. A retrospective account mentions 'one Malay boy as cook' while staying in a house 'at the mouth of the Sarawak river, at the foot of the Santubong mountain'.¹³ This is possibly the first reference to Ali, for Wallace later wrote: 'When I was at Sarawak in 1855 I engaged a Malay boy named Ali as a personal servant, and also to help me to learn the Malay language by the necessity of constant communication with him. He was attentive and clean, and could cook very well.'¹⁴ Ali was about fifteen years old and a good boatman. Just as likely, however, is that someone else was the cook or that

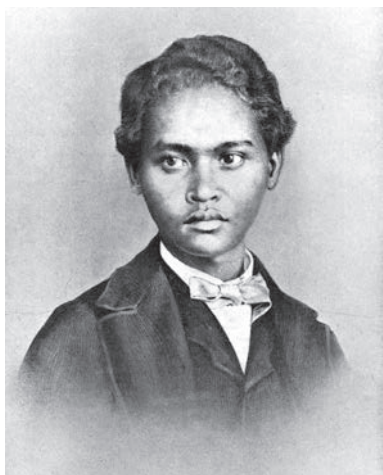


FIG. 3. Ali, the only one of Wallace's assistants known to have been photographed. (Source: Wallace 1905)



FIG. 4. A Dyak of Borneo. (Source: Bickmore 1869)

¹¹ Wallace (1855b: 203).

¹² Karl Ludwig von Blume (1796–1862), a German-born Dutch botanist based in Java. Pierre-Médard Diard (1794–1863) French naturalist who collected in Southeast Asia. Wallace (1855a: 98).

¹³ Wallace (1905: 1, 354).

¹⁴ *Ibid.*: 382.

Wallace's recollection from so many years later was incorrect or incomplete. Ali is first mentioned in Wallace's surviving voyage manuscripts (*Journal 1*) on Lombok in June 1856. In his *Malay Archipelago* Wallace described Ali accompanying him in December 1855 during the stay at Serambu hill to collect insects and plants.¹⁵ But this was written almost fourteen years after the events, so we should not rely on it entirely. We cannot be sure exactly when Ali joined Wallace's service. Boatmen would have been hired to transport Wallace up and down the Santubong River and to the other spots in Sarawak that he visited. In *Notebook 2/3*, Wallace mentions receiving 'about 10 species more [mammals] from 'Peter'', who does not appear elsewhere.¹⁶ Gerrell M. Drawhorn has suggested (personal communication) that 'Peter' may have been the Chief Constable Joseph 'Peter' Middleton.

In March 1855, Wallace and Allen travelled by boat to a new coal works on a tributary of the Sadong River called Si Munjon. They would remain there collecting for eight months. About 100 Chinese and indigenous Dyak labourers were working under the direction of an English mining engineer named Robert Coulson. Wallace had a bamboo house built as his residence. Here for the first time he began to make large-scale use of local people. He offered the resident workmen and local Dyaks 'a cent each for all insects that were brought me, [thus] I obtained from the Dyaks and the Chinamen many fine locusts and Phasmidæ, as well as numbers of handsome beetles'.¹⁷ Some of these insects are detailed in his *Notebook 4* as 'Dyak. & Chinese [collections]'.¹⁸ One of Wallace's notebooks reveals that he also received insects from Dyaks while at 'Sadong', presumably Si Munjon.¹⁹ It is impossible to know how many people might have contributed in this way. Out of the population of 100-odd workmen, perhaps a conservative estimate would be that about a dozen earned extra cash in this way.

To feed his household, Wallace planted a garden and kept animals. As he wrote to his sister in June 1855, 'I am now obliged to keep pigs & fowls, or we should get nothing to eat. I have 3 pigs now & a China boy to attend to them, who also assists in skinning 'orang-utans''.²⁰ The term 'boy' often meant servant, not child.

A Danish merchant, Ludvig Verner Helms, was based in Kuching and in charge of the mining operations. He befriended Wallace and made occasional visits to Si Munjon when Wallace was there. He later recalled that he forwarded boxes back to Kuching for Wallace.

One of Wallace's famous discoveries, Wallace's flying frog, was made by one of the Chinese workmen. Along with the frog, Wallace received a report of its extraordinary behaviour that he included in the *Malay Archipelago*: 'He assured me that he had seen it come down, in a slanting direction, from a high tree, as if it flew.'²¹ Wallace seems not to have kept the specimen, but he made a

¹⁵ Wallace (1869a: 1, 132).

¹⁶ Ibid.: 37b.

¹⁷ Ibid.: 57.

¹⁸ *Notebook 4*, p. 2b (Linnean Society of London, MS180): April 1855: '10 new [species] Dyak. & Chinese coll.n.s'. See also *Notebook 2/3*, p. 59 and 62 with specimens marked 'Chinese'. Natural History Museum, London, Z MSS 89 O WAL.

¹⁹ *Notebook 2/3*, p. 20. Natural History Museum, London, Z MSS 89 O WAL.

²⁰ Wallace to F. Sims, 25 June 1855, in van Wyhe and Rookmaaker (2013a: 46).

²¹ Wallace (1869a: 1, 59).

watercolour sketch of it. On the back of this sketch is a heretofore unnoticed remark: 'Descended from a high tree as if flying? ... It also inflates its body.'²²

'An old man', 'old Dyak chiefs' and the Orang Kaya (headman) of the Balow Dyaks gave Wallace information about different types of orangutans and told him that they had no predators except perhaps crocodiles and pythons, and he reproduced these reports in the *Malay Archipelago*.²³ Throughout Wallace's accounts of his collecting of orangutans at Si Munjon are references to Chinese, Malays and Dyaks who provided assistance. They told him when they spotted

orangutans in the forest and took him to the spot, and sometimes accompanied him during his hunts. For example, 'I was called by a Chinaman to shoot a mias [orangutan]' or 'some Dyaks saw another Mias near the same place, and came to tell me'. On another occasion he recorded encountering an orangutan while 'I was out shooting with two Dyaks'.²⁴ When he killed one that remained stuck high in a tree, he summoned 'two Chinamen with axes to cut down the tree', while on another occasion, 'two Malays, on the offer of a dollar, climbed the tree, and let down the dried remains [of a dead orangutan]'.²⁵ All of these accounts seem to indicate the involvement of about 63 people. Dyaks supplied Wallace with several orangutans and one skull, and Coulson provided at least one specimen.

In August Wallace 'determined to take a trip up a branch of the Simūnjon River to Semābang' to a Dyak village which promised to be good collecting ground. He made the journey in a small narrow boat and 'I only took with me a Chinese boy as a servant'. He does not refer to the number of boatmen, but there were probably at least four. One of these, 'a Malay', accompanied Wallace during his collecting forays during the week he stayed at Semabang. A similar excursion to Menyille would have required a further four boatmen.

At the end of November Wallace left the mines by boat in the direction of the sources of the Sadong River in order to cross the watershed and return to Kuching

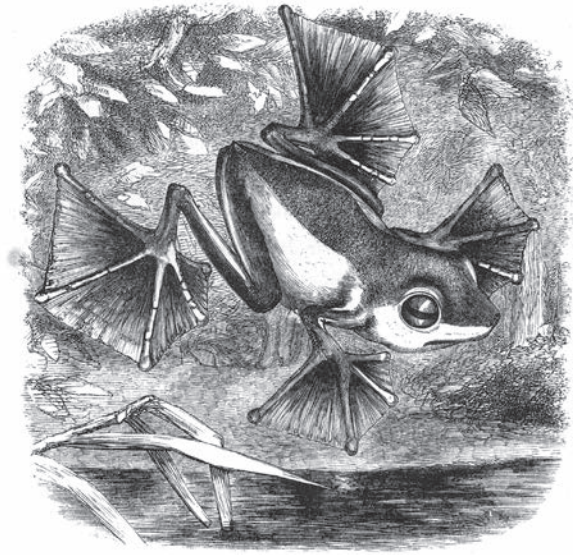


FIG. 5. 'Wallace's Flying frog' (*Rhacophorus nigropalmatus*) discovered by a Chinese workman who gave it to Wallace along with a description of its astonishing ability to glide. (Source: Wallace 1869a)

²² Natural History Museum (London) WP19/4.

²³ *Notebook 4*, pp. 7, 9 (Linnean Society of London, MS180) and van Wyhe (2015: 128).

²⁴ Wallace (1869a: 1, 63).

²⁵ *Ibid.*: 80.

via the Sarawak valley. He travelled light and took only one servant at the upriver village of Jahi: 'a Malay lad named Bujon, who knew the language of the Sádong Dyaks, with whom he had traded'.²⁶ Their 'heavy boat' might have been handled by six boatmen. As the river narrowed the heavy boat was sent back and they proceeded in a smaller one, which probably had at least two boatmen. When they reached the village of Tabokan 'about twenty boys' carried his baggage up to a lodging house. The next morning Wallace and his team proceeded upriver in 'a boat about thirty feet long, and only twenty-eight inches wide' which would have had around five boatmen. At the village of Borotoi another boat with a different crew took him on to Budw. From there he proceeded overland to Senankan with perhaps two porters carrying his baggage. From Senankan perhaps another five Dyaks accompanied him across the Senna. From there Wallace travelled down the Sarawak River to Kuching with the help of three Dyaks and a Malay.²⁷

Those who provided Wallace with accommodation at all of these locations are not counted since it would be impossible to know if he owed his accommodation to one person or twenty, especially in Dyak villages with their distinctive longhouses. But even without his lodgings, Wallace benefited from the help of some 200 people in Borneo.

Bali and Lombok (c.14)

After returning to Singapore, Wallace journeyed next by ship in May 1856 to Bali and Lombok. Charles Allen had left his employ and remained in Sarawak. At first Wallace imagined he would 'now try & teach a China boy to collect & pin insects'.²⁸ Instead, Wallace took with him Ali and a Portuguese bird-skinner from Malacca named Manuel Fernandez. Bali was a short two-day visit but they stayed in Lombok from June to August 1856. Wallace did not mention any local collecting assistants or porters in Lombok, and though he made more than one journey in a narrow outrigger from Ampanam to Labuan Tring, a journey of about 30 km for which boatmen were presumably hired to do the rowing. Wallace stayed in the house of a trader named Inchi Daud.

Macassar (c.35)

In early September Wallace and Ali arrived at the Dutch port of Macassar on Celebes. In addition to Ali, Wallace mentions hiring two other servants for a short period before engaging Baderoon, 'a Macassar lad', to cook and shoot. In his journal Wallace noted of Baderoon:

as he has no wife & has been used to a roving life having been several voyages in proas to N. Australia after tripang, I am in hopes I may keep him'.²⁹ He was 'a pretty good boy, but a desperate gambler. Under pretence of buying a house for his mother, and clothes for himself, he had received

²⁶ Ibid.: 101, but in Wallace (1857a: 194) it is stated that Bujon was met at the village of Jahi. Some boatmen are implied in this journey.

²⁷ Wallace (1857a).

²⁸ Wallace to Frances Sims, 20 February [1856], in van Wyhe and Rookmaaker (2013a: 18).

²⁹ *Journal 1*, p. 55. Linnean Society of London MS178a.



FIG. 6. Natives of Aru shooting the Great Bird of Paradise (Source: Wallace 1869a)



FIG. 7. Papuans pushing a dugout canoe at Dorey. (Source: Raffray 1878)

four months' wages about a week before we sailed [for Aru], and in a day or two gambled away every dollar of it. He had come on board with no clothes, no betel, or tobacco, or salt fish, all which necessary articles I was obliged to send Ali to buy for him.³⁰

Wallace estimated Baderoon to be about sixteen. Another boy was 'a little rascal of 12–14 called Baso who can speak a little Malay & whose duty is to carry my gun or insect net when I go out, & to make himself generally useful at home'.³¹ While staying at a village outside Macassar, Wallace made an offer to the local children. If they would 'bring me shells & insects they might also get a good many doits ... a dozen or more children came in one after another bringing me numbers of a small helix, which though all of one species I purchased & they went away well satisfied each with a few coppers'. In the end Wallace described receiving 'beetles & shells that my little corps of collectors now daily brought me'.³² Wallace also mentions a 'a few men' as porters back to Mamajam, the house lent to him by the Dutch trader Willem Mesman. During Wallace's stay and after leaving Celebes, Mesman provided Wallace with additional insects. Wallace also noted: 'Before I could move to any more promising district it was necessary to obtain permission from the Rajah of Goa, whose territories approach to within two miles of the town

³⁰ van Wyhe (2015, 547).

³¹ Wallace (1869a: 2, 164); *Journal 1*, 56. Linnean Society of London MS178a, and Wallace (1869a: 1, 336–7).

³² *Journal 1*, p. 72 (Linnean Society of London MS178a). 'a dozen children' Wallace (1869a: 1, 347). See for example '39. *Catadromus tenebrioides* (from native)' *Notebook 2/3*, p. 90 Macassar. Linnean Society of London, MS180.

of Macassar.’ This was immediately granted and a messenger carried the letter.³³ The Sultan arranged a house for Wallace further inland, and a few men later carried his things back to the house lent by Mesman.

Voyage to Ke and Aru (c.30)

In mid-December 1856 Wallace and his team of Ali, Baderoon and Baso prepared for their greatest voyage yet. Wallace wrote to his agent Samuel Stevens in London ‘I take three lads [Ali, Baderoon and Baso] with me, two of whom can shoot and skin birds.’³⁴ They left Celebes as passengers on a native sailing vessel called a prau bound for Ke and the Aru islands, a voyage of 1,000 miles. The vessel was owned and captained by a half-Dutch-half-Javanese trader named Abraham van Waasbergen. In his journal Wallace noted: ‘Our crew consists of 30 men, most if not all Bugis Macassars & men from Salayer & Boutong.’³⁵ He described their appearance and crew positions in greater detail in the *Malay Archipelago*:

They were mostly young, and were short, broad-faced, good-humoured looking fellows. Their dress consisted generally of a pair of trousers only, when at work, and a handkerchief twisted round the head, to which in the evening they would add a thin cotton jacket. Four of the elder men were ‘jurumudis,’ or steersmen, who had to squat (two at a time) in the little steerage ..., changing every six hours. Then there was an old man, the ‘juragan,’ or captain, but who was really what we should call the first mate; he occupied the other half of the little house on deck.³⁶

Ke (c.15)

Wallace and his team collected for a week at Ke. Wallace wrote that he ‘persuaded some of the natives to seek insects for me & after the first day had more than I wanted of two or three species, one of them however a most brilliant & finely coloured new buprestis.’³⁷ ‘The coleoptera though proportionately less abundant were very interesting & of these I owed all my finest things to the natives.’³⁸ During his inland collecting excursion, Wallace followed local ‘little naked guides’,³⁹ and men would have rowed him along with his team and boxes to and from the prau.

Aru (c.57)

On his very first walk at Dobbo, at the Aru islands, Wallace recorded that ‘a little native imp was our guide, seduced by the gift of a German knife, value three-halfpence, and my Macassar boy Baderoon brought his chopper to clear the path

³³ Wallace (1869a: 1, 335). Abdul Kadir Muhammad Aidid (1825–93) was Sultan, not Rajah.

³⁴ Wallace to Stevens, 1 December 1856, in van Wyhe and Rookmaaker (2013a: 116).

³⁵ *Journal 1*, p. 90. Linnean Society of London MS178a.

³⁶ Wallace (1869a: 2, 163-4).

³⁷ *Journal 1*, p. 110. Linnean Society of London MS178a.

³⁸ *Ibid.*: 115.

³⁹ Wallace (1869a: 2, 182).



FIG. 8. Dobbo in the Trading Season. The artist has imaginatively placed an idealized caricature of Wallace in the middle of the racially diverse population of the village. (Source: Wallace 1869a)

if necessary'.⁴⁰ Once again Wallace employed local people to bring him specimens, writing in his journal: 'From the natives I have obtained a few very fine insects & some pretty land shells.'⁴¹ Natives also provided him with extensive information about the nesting and other behaviour of the birds.⁴²

Of the natives, Wallace wrote: 'In the evening near a dozen specimens of fine large longicorn beetles were brought me, & what was better a specimen of the beautiful & rare ground thrush *Brachyurus macklotti*, hitherto only known from New Guinea',⁴³ and 'they bring me numbers of small birds'.⁴⁴ The collecting lists for insects in his *Notebook 2* mention several species as coming 'from natives' or 'from native'.⁴⁵ On 11 February Wallace seems to have engaged an assistant called Mayai, who was recorded on 15, 22, 24 and 25 February as 'idle',⁴⁶ which may mean Mayai was not working on those days, or that Wallace was annoyed to be paying for work when none was being done. Wallace noted that: 'Some natives of Kobror ... brought me a couple of birds some shells & insects shewing that the report of me & my doings had reached their country'.⁴⁷ The Dutch administration also sent

⁴⁰ Ibid.: 198.

⁴¹ *Journal 1*, p. 126. Linnean Society of London MS178a.

⁴² See for example *Notebook 4*, p. 72. Linnean Society of London, MS180.

⁴³ *Journal 2*, p. 23. Linnean Society of London MS178b.

⁴⁴ Ibid.: 25.

⁴⁵ *Notebook 2/3*, pp. 95, 105. Natural History Museum, London, Z MSS 89 O WAL.

⁴⁶ *Notebook 4*, p. 45b-47b. Linnean Society of London, MS180.

⁴⁷ *Journal 2*, p. 57. Linnean Society of London MS178b.

'orders to the Native chiefs at Aru to give me their assistance'.⁴⁸

Wallace had travelled to Aru primarily to acquire Birds of Paradise. In the interior he received a great deal of information from 'the people who are accustomed to shoot the Paradise Birds'.⁴⁹ In fact he may have derived far more information from the natives than from his own observations, since the sources for his writings about Aru are somewhat unclear. It was a difficult region for travel, and eventually he took up residence in the interior with a local family in their hut on stilts. Eight years later the naturalist Hermann von Rosenberg stayed in the same house and named the owner as Kamis.⁵⁰ Wallace and his team could not find the famous birds, but then, as he recalled in the *Malay Archipelago*, 'I was beginning to despair, my boy Baderoon returned one day with a specimen which repaid me for months of delay and expectation.' It was their first specimen of the exquisite King Bird of Paradise. As Wallace mused over the small specimen: 'Thus one of my objects in coming to the far East was accomplished.'⁵¹ However, in his journal he wrote at the time: 'my boy Baderoon brought home a Great Paradise bird, the long plumes of which were just growing but the fine metallic plumage of the neck was in full perfection. Even in this immature condition it is a glorious bird. He reports the forest full of them & gives great hopes of soon getting fine specimens.'⁵²

Wallace employed boatmen and pilots for trips around and within Aru, and he recorded receiving information on animal distribution from 'an intelligent Ceramese trader'.⁵³ Other men are recorded as servants, boatmen and pilots, including the Orang-Kaya of Wamma, who piloted a boat and acted as an interpreter. One of the assistants Wallace brought with him from Celebes was left behind in Aru, when Baderoon quit after Wallace scolded him for laziness.

[He] asked for his wages & left me. Since then he has been constantly gambling. At first he had some luck & Ali told me he had got plenty of money & had been buying ornaments, but he afterwards lost everything ran into debt, & has now become the temporary slave of the woman who has paid the amount for him. Every cent of his 3 months advance he lost before starting so he will now most likely stay here, the year round & if as very probable he gets deeper into debt may remain a slave for life. He was a quick & active lad when he pleased but his idleness & incorrigible propensity to gambling made me not very sorry to part with him.⁵⁴

Wallace later recalled during a talk he gave in Britain in 1867 that the 'Macassar boy I took to Aru spent all his wages in advance, and remained behind a slave for a gambling debt'.⁵⁵

⁴⁸ *Journal 1*, p. 137. Linnean Society of London MS178a.

⁴⁹ *Journal 2*, p. 2. Linnean Society of London MS178b.

⁵⁰ Von Rosenberg (1878, p. 332).

⁵¹ Wallace (1869a: 2, 221-3).

⁵² *Journal 2*, p. 25. Linnean Society of London MS178b.

⁵³ Wallace (1857b: 415).

⁵⁴ *Journal 2*, p. 81. Linnean Society of London MS178b. See this recounted in different words in Wallace (1869a: 2, 279).

⁵⁵ Wallace 'On the Races of Man in the Malay Archipelago' [1867]. Natural History Museum, London, WP9/2/3.

Macassar (c.23)

After returning to Macassar on the same vessel, Wallace had his things carried back to the same house lent by Mesman. He then made a boat journey to the district of Maros (or Máros) with two new servants 'utterly ignorant of everything' because Ali had fallen ill and remained in town. Later in his journal Wallace referred to a third individual: 'I obtained a guide from a neighbouring village, & taking one of my men with me (the other two staying to guard the house).⁵⁶ One of the three may have been Ali, if he had returned after falling ill in Macassar. Wallace had a house built for himself. Here, too, natives provided specimens like the 'fine new *Cetonia*, from native',⁵⁷ and Wallace mentions ten porters.

Wallace's assistants were certainly not passive collecting drones. They were often intelligent young men who used their experience and wits to find new sources for the things that so interested their enthusiastic employer. Wallace wrote to Stevens about how one of these, presumably Ali, had set him on a whole new source of insects and reflections:

My lad brought me one day a fine large *Nitidula* which he had found in an over-ripe jack fruit (*Artocarpus* sp.); this set me to searching these fruits, of which there were a number about in various stages of decay, and I soon found that I had made a discovery,—*Staphylinidæ*, large and



FIG. 9. 'Ejecting an Intruder', a python from the house on Amboyna. The artist has imaginatively placed an idealized caricature of Wallace, with gun, amongst the local people. (Source: Wallace 1869a)

⁵⁶ *Journal 2*, p. 101. Linnean Society of London MS178b.

⁵⁷ *Notebook 4*, p. 41b. Linnean Society of London, MS180.

small, Nitidulæ, Histers, Onthophagi, actually swarmed on them: every morning, for some weeks, I searched these rotten fruits, and always with more or less success; I placed ripe ones on the fruit here and there, which I visited once a day, and from some of them got even Carabidæ; in all I found not much short of one hundred species of Coleoptera on the fruit, including most that I had before found in dung, so that it seems probable that, in tropical countries, the large fleshy fruits in a state of decay and putrescence are the true stations of many of the Carpophagous and Necrophagous Coleoptera, a fact of some importance, as explaining the presence of Onthophagi, &c. in places where there are no ruminating animals...⁵⁸

Amboyna (c.19)

In December 1858 Wallace was on the island of Amboyna. Two European naturalists, Dr. Otto G. J. Mohnike and Dr. Carl Ludwig Doleschall, assisted him with information and he was given 146 butterflies from Doleschall's collection.⁵⁹ These men used government officials and native collectors on a massive scale to compile their own collections. Wallace and 'my boys' obtained 'a boat & some men' to reach a new plantation in a remote part of the island.⁶⁰ The people of Amboyna were predominantly Christian and so were Wallace's assistants, as is apparent from their names. On 19 December Wallace recorded that 'Johan. left.', presumably referring to someone employed as a collecting assistant.⁶¹ As usual, 'natives' provided Wallace with information about animals. In a notebook passage, Wallace wrote at unusual length about the behaviour of a large scarab beetle, later adding the words 'natives say No!'⁶² It was during a collecting trip on Amboyna that a famous incident occurred when Wallace noticed a giant python curled up in the rafters of his hut just above his head.

I called to my two boys who were skinning birds below and said, 'Here's a big snake in the roof'; but as soon as I had shown it to them they rushed out of the house and begged me to come out directly. Finding they were too much afraid to do anything, we called some of the labourers in the plantation, and soon had half a dozen men in consultation outside. One of these, a native of Bouru, where there are a great many snakes, said he would get him out, and proceeded to work in a businesslike manner.⁶³

In subsequent visits to Amboyna Wallace acquired further assistants to travel to Ceram. He described them: 'I had two Amboynese, named Petrus Rehatta, and Mesach Matakana; the latter of whom had two brothers, named respectively Shadrach and Abednego.'⁶⁴ The original Shadrach, Meshach and Abednego were,

⁵⁸ Wallace to Stevens, 20 December 1857, in van Wyhe and Rookmaaker (2013a: 136–7).

⁵⁹ *Notebook 2/3*, p. 175. Natural History Museum, London, Z MSS 89 O WAL.

⁶⁰ *Journal 2*, p. 126. Linnean Society of London MS178b.

⁶¹ *Notebook 4*, p. 52b. Linnean Society of London, MS180.

⁶² *Notebook 2/3*, p. 110. Natural History Museum, London, Z MSS 89 O WAL.

⁶³ Wallace (1869a: 1, 466–7).

⁶⁴ *Ibid.*: 476.

of course, the three Hebrews thrown into the fiery furnace in the well-known story in the book of Daniel.

Ternate (c.7)

Wallace first arrived at Ternate on 8 January 1858 and after that came and went several times. Men would have rowed him ashore from the steamer and porters would have carried his baggage. He carried letters of introduction to the wealthy local merchant Maarten Dirk van Duivenbode, who helped him rent a house from a Chinese landlord, and the Dutch Resident, Casparus Bosscher, provided letters to obtain the use of houses on Gilolo and Batchian. Wallace did little collecting on Ternate itself, using it primarily as a base from which to collect in the surrounding region.

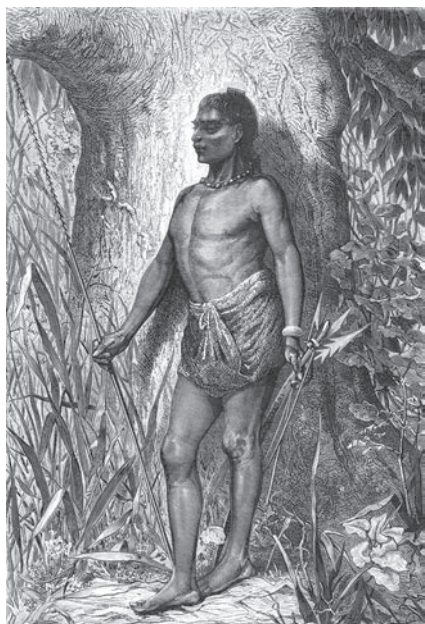


FIG. 10. An Alfuoro man from Dodinga, Gilolo. (Source: Raffray 1878)



FIG. 11. A Dodinga river boat. (Source: Raffray 1878)

Gilolo, (c.31)

Wallace's first trip to Gilolo took place around 19 February 1858, shortly after his famous natural selection epiphany on neighbouring Ternate, on a boat provided by the brother of his Chinese landlord with a crew of slaves, 'mostly papuans'.⁶⁵ Wallace later hired another boat and two men to take him to the village of Dodinga. Wallace's 'hunters' later procured birds, and at the village of Sahoe: 'I

⁶⁵ van Wyhe and Rookmaaker (2012). For the actual dates Wallace spent on Gilolo during his first visit see van Wyhe (2013, 202–4) and van Wyhe (2015, 11, note 21).

succeeded in getting the natives to bring me some land shells.⁶⁶ He hired another boat to take him back to Ternate. On subsequent visits, Wallace mentioned hiring fourteen rowers. Two of Wallace's hunters, including Ali and Allen, made further independent collecting trips to Gilolo on Wallace's behalf. The number of boat journeys this required is unknown. When Wallace returned briefly to Ternate from Menado in September 1859 he noted in his journal that he packed up his remaining things, including 'a nice collection of birds brought by my two boys from E. Gilolo, one of whom was Ali.⁶⁷ They collected more than 100 birds.

Dorey, New Guinea (c.42)

One of Wallace's principle destinations was Dorey, New Guinea, where the French naturalist René Primevere Lesson had procured many valuable Birds of Paradise in the 1820s. Wallace took four servants with him: Ali as 'headman', Lahagi 'a steady middle-aged man, to cut timber and assist me in insect-collecting', Loisa 'a Javanese cook' and Jumaat 'a Ternate lad'.⁶⁸ They travelled on a Ternate trading schooner, and at Dorey, Wallace 'made arrangements with some of the native chiefs to give me men to cut wood &c.⁶⁹ He built a house 'with the assistance of a dozen papuans',⁷⁰ and Papuans also acted as porters, receiving 'knives and choppers' in payment. Wallace, taking an 'interpreter', paid the chief of an Arfak village above Dorey with 'cloth knives & beads' to 'send some hunters after birds for me'. Wallace recorded that 'The natives bring me little', although specimens in his *Notebook 2/3* bear notes such as 'from natives' or 'brought by native on a leaf'.⁷¹ Wallace also hired, according to his journal, 'a boat & 6 men to take two of my boys to Amberbaki',⁷² but a few years later he wrote in an article, 'I sent my two best men with ten natives and a large stock of goods to stay there a fortnight'.⁷³ Obviously the contemporary document should be preferred. Jumaat died at Dorey of dysentery, the only one of Wallace's assistants known to have died in his service.

In all, Dorey was a great disappointment to Wallace as it did not produce the specimens he had hoped for and it was not a pleasant stay. Writing to Stevens to explain the paucity of Birds of Paradise in his collection, Wallace noted: 'I have not got many, as my boys had to shoot them all themselves; I got nothing from the natives at Dorey.'⁷⁴

Kaióa Islands and Batchian (c.39)

In October 1858 Wallace hired a boat in Ternate 'from a Chinaman named Lau Keng Tong, for five guilders a month'.⁷⁵ This is the only Chinese whose name

⁶⁶ Wallace (1869a: 2, 19).

⁶⁷ *Journal 3*, p. 161. Linnean Society of London MS178c.

⁶⁸ Wallace (1869a: 2, 299).

⁶⁹ *Journal 3*, p. 6. Linnean Society of London MS178c.

⁷⁰ *Ibid.*: 7.

⁷¹ *Notebook 2/3*, pp. 155, 164, 170-1. Natural History Museum, London, Z MSS 89 O WAL. And *Notebook 4*, p. 58b. Linnean Society of London, MS180.

⁷² *Journal 3*, p. 20. Linnean Society of London MS178c.

⁷³ Wallace (1862a: 155).

⁷⁴ Wallace to Stevens, 2 September 1858, in van Wyhe and Rookmaaker (2013a: 169).

⁷⁵ Wallace (1869a: 2, 23-4).

Wallace ever seems to have recorded (at least in documents that survive). His team consisted of Ali, Lahi 'a native of Gilolo, who could speak Malay, as woodcutter and general assistant', Garo 'a boy who was to act as cook' and Latchi, a Papuan slave who served as the pilot.⁷⁶ Wallace took a letter of introduction to the Sultan of Batchian, who gave him eight men to carry 'all my stores & furniture'.⁷⁷ As often happened, local headmen provided him with accommodation. For one little excursion he took 'a couple of boys as guides'. It was on this island that Ali procured Wallace's first specimen of a new species of Bird of Paradise that was later named Wallace's Standardwing. In a notebook Wallace recorded receiving a beetle an inch and a half long 'from native'.⁷⁸ Wallace and his team took a passage on a government outrigger called a coracora with twenty rowers to return to Ternate.

West Timor (c.12)

Wallace collected around Coupang in west Timor in May 1859, hiring a 'large dug-out boat with outriggers' and men to take him to the nearby island of Semaou for a few days. He apparently visited Timor alone as no assistants are mentioned, although he presumably used porters and guides.

Menado (c.50)

Wallace collected near Menado in the north of Celebes in June and September 1859. He hired a bullock cart to carry his bags uphill and the next day he had '10 men carrying my baggage'. A guide took him to the famous waterfall of Tondano and he crossed the lake in a boat. Elsewhere he mentioned 'one of my servants, a native of Menado, assured me the bird [The Citrine Lorikeet] was found there'.⁷⁹ His *Notebook 4* states that 'Thomas began shooting (25 cent a day)'.⁸⁰ Wallace also mentioned taking two hunters to the village of Lotta in the mountains. At 'Langowan ... I made arrangements for a man to shoot & for a guide to accompany me to the forest'.⁸¹ In the *Malay Archipelago* Wallace noted 'I at length obtained a man to shoot for me, he was not good for much,



A man from Langowan, Celebes, procured Wallace the White-Bellied Imperial-Pigeon (*Ducula forsteni*) which he 'had long been seeking after'. (Source: Knip 1838)

⁷⁶ Ibid.: 24.

⁷⁷ *Journal 3*, p. 71. Linnean Society of London MS178c.

⁷⁸ *Notebook 4*, p. 61b. Linnean Society of London, MS180.

⁷⁹ Wallace (1862b: 337).

⁸⁰ [1859 August] *Notebook 4*, p. 63b. Linnean Society of London, MS180. The wages Wallace paid his assistants is discussed in van Wyhe and Drawhorn (2015).

⁸¹ *Journal 3*, p. 140. Linnean Society of London MS178c.

and seldom brought me more than one bird a day. The best thing he shot was the large and rare fruit-pigeon peculiar to Northern Celebes (*Carpophaga forsteni*), which I had long been seeking after.⁸² At the village of Panghu: 'The natives brought me daily a few insects obtained from the saguerus palm & among them were some very nice ones. – Two little boys also were very expert with the blowpipe & shot on most days some small birds among which were some of the loveliest honey suckers I had ever seen.'⁸³

After returning to the town of Menado, Wallace reports hiring '2 new men for Lempias', and says 'the men who carried my baggage the first stage were Banteks'.⁸⁴ Wallace asked around for the skulls of the large endemic mammals, the babirusa and the sapi utan. Local people eventually supplied him with 'several'.⁸⁵ At Licoupang Wallace was assisted by W. C. F. Goldman who took him on a hunting trip to find the rare brush turkey or maleo. They were accompanied by 'the Mayor or head man of Licoupang with a dozen hunters & near 20 dogs',⁸⁶ and travelled partly by boat. For his final return to town, Wallace rode a horse and sent 'my baggage & two sick men round by sea'.⁸⁷ How many boatmen and other helpers might there have been? Perhaps eight. One of the assistants mentioned



FIG. 12. Sago-washing in Ceram. Wallace and his team often subsisted on sago cakes and other sago products. (Source: Wallace 1869a)

⁸² Wallace (1869a: 1, 409). The White-Bellied Imperial-Pigeon (*Ducula forsteni*).

⁸³ *Journal* 3, p. 148. Linnean Society of London MS178c.

⁸⁴ *Ibid.*: 149.

⁸⁵ *Ibid.*: 150.

⁸⁶ *Ibid.*: 151.

⁸⁷ *Ibid.*: 161.

above apparently left Celebes with Wallace, as we learn in the *Malay Archipelago*, in connection with his preparations for exploring Ceram and Waigiou, 'a very quiet and industrious lad named Cornelius, whom I had brought from Menado'.⁸⁸

Ceram (c.38)

From 31 October to 28 December 1859 and again from 26 February to 4 April 1860, Wallace and his team visited Ceram, where he paid off 20 boatmen and hired 6 porters. He employed 'a lad from Awaiya who was accustomed to catch butterflies for me'.⁸⁹ Another excursion included two men and six porters. During his stay, Wallace was delighted to procure the Long-armed Chafer Beetle from natives. 'This extraordinary insect is rarely or never captured except when it comes to drink the sap of the sugar palms, where it is found by the natives when they go early in the morning to take away the bamboos which have been filled during the night. For some time one or two [insects] were brought me every day'.⁹⁰ He had with him 'my two Amboyna hunters', viz. Rehatta and Matakana.⁹¹ For the time being Ali stayed on Ternate, where he had married, but he remained in Wallace's employ and made his own collecting trips for 'two or three months each in the northern peninsula' of Gilolo, an area Wallace never visited.⁹² How many people assisted Ali during his travels to Gilolo cannot be determined.

Goram voyage (c.308)

Wallace's complex series of boat voyages along the southeast coast of Ceram and amongst the Goram islands and back involved many boats and crews, sometimes with as men as 60 men serving as rowers on a boat. A careful count, including the men hired to prepare the small prau Wallace purchased at Manowolko, comes to just over 300 men.



FIG. 13. The Long-armed Chafer Beetle (the largest in the figure) given to Wallace by natives of Ceram. (Source: Wallace 1869a)



FIG. 14. Skull of a Babirusa, provided by natives of Bouru to Wallace. (Source: Wallace 1869a)

⁸⁸ Wallace (1869a: 1, 476).

⁸⁹ Wallace (1869a: 2, 81).

⁹⁰ Wallace (1869a: 1, 474–5).

⁹¹ *Ibid.*: 81.

⁹² *Ibid.*: 2, 15.

Ceram, Waigiou, Ternate (c.47)

Waigiou would be Wallace's second most remote destination, after New Guinea itself. When he had arrived at Wahai on the north coast of Ceram his crew deserted him in the night. He acquired four men at Wahai as boat crew, including a Papuan, a Malay, and an 'old pilot' who seems later to be referred to as 'my old Bugis steersman'.⁹³ Unusually, Wallace named one of the men: 'Hoi, the Wahai man'.⁹⁴ The party left Ceram on 17 June 1860. During this eventful voyage 'the two best men, a Papuan and a Malay' were unavoidably left stranded on a small island. One of these men was the only one on board who was familiar with Waigiou. When Wallace first reached the island he hired two men to help with the boat as well as guides. When they were setting off, another headman with 'several extra men' found their boat and escorted them to their destination of Muka, where Wallace immediately 'engaged a small boat and three natives' to rescue his stranded crew. Settling in for collecting, 'half-a-dozen men' helped him build a house. He took a boat to Bessir, where he paid 'several' local men to procure the Red Bird of Paradise for him. The first man to take up Wallace's offer was paid with a 'handkerchief & a string of beads'.⁹⁵ At least 13 such birds are listed in Wallace's notebook as coming from a 'native'.⁹⁶ On the return voyage Wallace procured 'ten rowers' and four other men from Gani to assist in returning to Ternate, where they arrived after an arduous and unlucky voyage on 5 November.

Delli, Timor (c.20)

On 2 January 1861 Wallace travelled, unusually, alone to his next collecting destination, Delli (Dili) in East Timor. Ali remained behind in Ternate with his



FIG. 15. Wallace seated under a tiny house at Bessir, Waigiou, lent to him by the local chief. A man is cooking in the foreground. (Source: Wallace 1869a)



FIG. 16. A canoe for sailing from Dorey to Amberbaki. Wallace sent two of his assistants in one of these to find Birds of Paradise. (Source: Raffray 1878)

⁹³ Wallace (1869a: 2, 382).

⁹⁴ *Ibid.*: 340.

⁹⁵ *Journal* 4, p. 102. Linnean Society of London MS178d.

⁹⁶ See *Notebook* 2/3, p. 86b. Natural History Museum, London, Z MSS 89 O WAL.

wife. During the 108 days in East Timor, Wallace seems to have employed no collecting assistants and mentions only having his baggage taken from the ship to his accommodation, for which we might estimate five men were involved, both going and coming. He travelled with the engineer F. F. Geach on pack horses and mentions 'At some of these places the baggage had to be unloaded, at others it was knocked off', suggesting the involvement of other men.⁹⁷

Bouru, (c.36)

Wallace travelled next to Bouru, again on the Dutch mail steamer. There is nothing in his *Journal 4* or the *Malay Archipelago* to explain why he suddenly used the plural 'we arrived at Cayeli harbour in Bouru', but later it becomes clear that Ali was again with him.⁹⁸ As so often, the first place he arrived, Cayeli, was not a good collecting ground, so Wallace made enquiries about the surrounding countryside. He hoped to find more productive ground: 'as the pilot was going a short journey to the Eastward to a village on the coast where he said there was dry ground hills & forest I sent my boy Ali with him to explore & report on the capabilities of the district'.⁹⁹

During their two-month stay on the island, Wallace was assisted by a local rajah and sixteen rowers; Alfuros carried his baggage and he paid two men to make a clearing in the forest which produced many good insects for his collection. He acquired information from the 'natives' about birds in the Sula islands and recorded the details in a notebook.¹⁰⁰ This visit may have inspired him to send Charles Allen there later. Native hunters also provided him with the skull of a babirusa.

Java (c.78)

Wallace's next collecting location was Java, and he arrived at Surabaya on the mail steamer with Ali and another hunter on 16 July 1861. He hired men and horses to take him and his baggage along the good roads to his first collecting stop, where a chief lent him a house. Wallace returned to Surabaya via boat, and then went by the next steamer to Batavia, where he hired 'coolies to carry my baggage and a horse for myself, both to be changed every six or seven miles'.¹⁰¹ He stayed at Modjokerto with an English tobacco planter named Alfred Alexander Ball and his Dutch wife Ferdinanda.

During their stay at Megamendong Wallace wrote some telegraphic records in his notebook which mention the names of three assistants. On 30 September 1861 he noted 'Sadian left p.m. to be at Buitenzorg on 10th'.¹⁰² Why? Presumably Sadian was sent back to get something. Perhaps it was for supplies or mail since the arrival date was worth noting. On 11 October Wallace wrote, 'Adis left' and on the

⁹⁷ Wallace (1869a: 1, 297).

⁹⁸ *Journal 4*, pp. 148, 152. Linnean Society of London MS178d.

⁹⁹ *Ibid.*: 151–2.

¹⁰⁰ *Notebook 5*, p. e. Natural History Museum (London) Z MSS 89 O WAL.

¹⁰¹ Wallace (1869a: 1, 175).

¹⁰² *Notebook 5*, p. 64. Natural History Museum (London) Z MSS 89 O WAL.

22nd 'Adis returned'.¹⁰³ On the 15th what seems to be another assistant is named, but his name, possibly Jurus, is not clearly legible.¹⁰⁴

In the *Malay Archipelago* Wallace recalled that 'one day a boy brought me a butterfly' in Java.¹⁰⁵ This was the strange Calliper butterfly which he illustrated with a woodcut in the *Malay Archipelago*. He engaged two coolies to take his things to the summit of the Pangerango and Gedeh mountains. Wallace tried another collecting location a

few miles north of Toego, but found the area was not worth his time, Wallace and his team returned to Batavia, and they departed by steamer on 1 November 1861.



FIG. 17. Calliper butterfly (*Polyura kadenii*) given to Wallace by a boy in Java. (Source: Wallace 1869a)

Sumatra (c.24)

Wallace, Ali and Sadian arrived in Sumatra on 8 November 1861. Boats took them upriver to Palembang, and another day's boat journey further upstream brought them to a good road leading inland. The collecting was not good and the people of the village of Lorok told Wallace that the landscape was the same for a great distance in all directions. He eventually met a 'more intelligent' man who told him where there was still forest, and he moved on to more profitable ground.

At Moera Dua, about fifty miles southeast of Palembang, Wallace made his next-to-last collecting stop. It was here that he mentioned Sadian for the last time: '26 [Nov.] Sadian – am. to Palem.'¹⁰⁶ This brief entry may be highly significant because Wallace later noted: 'I received information, when in the interior of Sumatra, that there were two live *Paradise Birds* in Singapore. I immediately determined to come & enquire about them & accordingly proceeded to [Singapore] a full month earlier than I had intended.'¹⁰⁷ The Zoological Society of London had made the lucrative offer of buying live birds and paying for a first-class P&O ticket home if Wallace could procure some, and offer that was worth a veritable fortune.¹⁰⁸

But how could Wallace have received this information in the interior of Sumatra? It may have been brought as far as Palembang by Wallace's friend George Rappa Junior, and Sadian could have brought the news back with him

¹⁰³ Ibid.: 67, 68.

¹⁰⁴ Ibid.: 67.

¹⁰⁵ Wallace (1869a: 1, 177).

¹⁰⁶ *Notebook* 5, p. 76. Natural History Museum (London) Z MSS 89 O WAL.

¹⁰⁷ Wallace to P. L. Sclater, 7 Feb. 1862, in van Wyhe and Rookmaaker (2013a: 279). For further detail on this episode see van Wyhe (2013: 299).

¹⁰⁸ For this episode see van Wyhe (2013, 299).

from Palembang. In any case, on 6 December Wallace abruptly ended his eight long years of collecting and the team proceeded back to Palembang and then to Singapore. Wallace succeeded in purchasing the birds in Singapore and brought them safely to England.

On the return boat journey to Palembang there was a brief stop during which a female hornbill was discovered in a nest in a tree. Wallace 'offered a rupee to any one who would go up and get out the bird'. Eventually the bird and its chick were brought to him and these were illustrated with a woodcut in the *Malay Archipelago*. Wallace had already received additional detailed information on the nesting behaviour of the Great Hornbill from 'my hunter', which he recorded in a notebook.¹⁰⁹



FIG. 18. Great Hornbill mother and chick procured for Wallace by men in Sumatra. (Source: Wallace 1869a)

Penang, (c.1)

As Wallace was returning to Britain aboard the P&O steamer *Emeu*, the first stop after leaving Singapore was Penang. Here Wallace acquired his last specimens in the Malay archipelago: 'The small collection [of longhorn beetles] from Penang consists of a few insects given me by Mr. [James] Lamb on my way home, and of a few more collected by a native sent there by a friend.'¹¹⁰

Sub-contractors

Wallace did not confine himself to his own team of assistants. He also employed a number of sub-contractors to collect on his behalf and increase the size and range of his collections. By far the most significant of these was Charles Allen.

Charles Allen (c.73)

Allen worked for Wallace again from January 1860 till February 1862, when he was paid per specimen plus expenses.¹¹¹ He led his own independent expeditions and would have used many collecting assistants and other helpers, all of whom directly or indirectly contributed to Wallace's collection. Allen and his team visited Amboyna, Ceram, Mysol, Gilolo, Morotai, New Guinea, Bouru, the Sula islands, Macassar and Borneo (Coti), and collected mammals, birds, eggs, beetles, butterflies and land shells. Because we have no letters or notebooks from Allen, the number of those who helped him is impossible to work out fully, but there is some evidence in Wallace's accounts for Allen's journeys at the back of *Notebook 5*.

¹⁰⁹ *Notebook 5*, p. 69. Natural History Museum (London) Z MSS 89 O WAL.

¹¹⁰ Wallace (1869b: 691).

¹¹¹ The most detailed account of Allen's time in Southeast Asia is Rookmaaker and van Wyhe (2012). That publication includes an account of Allen's life and the details of itinerary, collections and accounts to be found in Wallace's *Notebook 5*.

When Allen and his team set off for Mysol in February 1860 his assistants consisted of 'An Amboyna Christian named Theodorus Matakana, who had been some time with me [Wallace] and had learnt to skin birds very well ... as well as ... Cornelius [from Menado?].¹¹² On the expedition to Salwatty and New Guinea, Wallace noted: '[Allen] went in the small prau I had fitted up at Goram, and through the kind assistance of the Dutch Resident at Ternate, a lieutenant and two soldiers were sent by the Sultan of Tidore to accompany and protect him, and to assist him in getting men and in visiting the interior.'¹¹³

Wallace recorded costs for the passages to Wahai, Mysol (and return), Waygamah, Ternate and Mayoli (and return). The assistants and helpers enumerated in Wallace's accounts include: Theodorus, Assan, Gurulampoko, Amessi, a Tidore Lieutenant, Salisi, Jemuti, and a 'Shooter 8 months'. There are further helpers: 'Men helping load &c', 'guide to Sorong', '1 [sarong] to interpreter' and finally, at Coti 'Servant, coolies'.¹¹⁴

Allen and his team collected 28,438 specimens during these expeditions.¹¹⁵ However, Allen fell seriously ill at Coti so did no collecting there. Wallace later reported that Allen secured 86 *species* (not specimens) of birds on Flores and Solor.¹¹⁶ He paid Allen f.559.67 (florins) for the 'Flores Collections'.¹¹⁷

Accounts for the Sula Islands show that Allen earned f.419.97 for a collection that included 353 birds, 1,377 insects and 35 land shells, a total of 1,765 specimens. The Flores and Solor collection brought in considerably more, so by assuming the same value per specimen ratio one might calculate that the Flores and Solor collection may have amounted to something like 2,400 specimens. This would bring the total collection for Allen and his team to 30,000.

One more estimate needs to be attempted. Allen originally worked for Wallace as a collecting assistant from April 1854 to around January 1856, but it is impossible to know how many specimens he collected during that time because his collections were almost always integrated into Wallace's. A very rough approximation might be arrived at if we consider that Allen and his team collected about 2,500 specimens a month during 1860–2. Assuming that they collected equally, one-third of this would be 833 specimens a month or about 27 per day, and on that basis during the 22 months that Allen was with Wallace at the start of the voyage, of which approximately 665 days may have been collecting time, he could have contributed as many as 18,000 specimens. Adding this number to the 1860–2 total gives figure of 48,000 for Allen and his assistants.

Frederick A. Geach (c.2) and E. Benjamin (c.1)

Wallace also engaged his friend Frederick F. Geach, who remained in the region after Wallace returned to England. Wallace recorded accounts for what he called 'the Penang Collections Partnership' with Geach in *Notebook 5* which covers April–

¹¹² Wallace (1869a: 1, 476).

¹¹³ Wallace (1869a: 2, 421).

¹¹⁴ *Notebook 5*, p. 31b. Natural History Museum (London) Z MSS 89 O WAL.

¹¹⁵ Rookmaaker and van Wyhe (2012: 32).

¹¹⁶ Wallace (1863).

¹¹⁷ *Notebook 5*, p. 41b. Natural History Museum (London) Z MSS 89 O WAL.

October 1862. Geach was an engineer and with no claim to being a naturalist. He seems to have purchased prepared natural history specimens in Penang and Malacca and shipped them to Wallace to label and sell. The two men then split the profits. One of these specimens, recently nicknamed 'Wallace's mystery flycatcher', now resides in the Lee Kong Chian Natural History Museum in Singapore and was the subject of a paper uncovering its peculiar history.¹¹⁸ Geach employed at least one person, apparently as a collector, recorded only with 'Jacobs wages' six dollars.¹¹⁹ This sum would have paid for the services of a hunter for one month.

A final collector in Wallace's *Notebook 5* appears somewhat surprisingly in 1866, four years after Wallace's return home. The entries for 'E. Benjamin's Collections' consist of a few lines regarding shipping charges at Batavia, Singapore and London. The last entry, dated March 1866, reads: 'Received of S. Stevens Balance due on Ceram Coll. £21.19s.3d.'¹²⁰ Benjamin has not been identified, and there is no evidence of how many individuals might have assisted Benjamin's collections.

The size of Geach and Benjamin's collections is unknown. It is also unknown if Wallace added these specimens to the total figure of specimens in the *Malay Archipelago*. His extant notebooks contain records for just under half of the number of species collected.



FIG. 19. The makeshift hut of French naturalist A. M. J. Raffray at Gilolo. Wallace often stayed in such accommodation. From (*Source: Raffray 1878*)

¹¹⁸ See van Wyhe and Rookmaaker (2013b).

¹¹⁹ *Notebook 5*, p. 43b. Natural History Museum (London) Z MSS 89 O WAL.

¹²⁰ *Ibid.*: 50b.

Conclusion

Wallace owed a vast debt to local residents in the various places he visited to make collections, where a wide range of people provided information about habitats, transported his team and his specimens, served as guides and cooks and rowers, built houses, and otherwise provided services essential to the collecting process. The cooperation of a multitude of people who could have understood little about his wish to collect seemingly worthless dead animals testifies to their amiability and to his ability to live and work in many different cultures. In the course of his voyage, Wallace collected vocabularies of ‘fifty-seven distinct languages’ from local informants, something he seldom mentioned during the voyage.¹²¹

The Earl of Cranbrook and Adrian Marshall recognized the importance of personality, but added that ‘his position was enhanced by the standing he gained by the recommendations of people in authority at all levels, from Governor to local ruler or head man.’¹²² Wallace received permission to travel and collect in territories ruled by the Sultan of Goa, the Rajah and Gusti Gede Oka of Lombok and the Sultan of Batchian, while the Sultan of Tidore provided him with accommodation. These and other leading figures called on men subordinate to them to render assistance.

However, the primary factor that allowed Wallace to employ or enlist so much assistance was, unsurprisingly, money. Wallace was a man of modest means, but by the standards of the Malay Archipelago he was immensely wealthy, able to afford guns, horses, and numerous servants, and enjoy the lifestyle of a wealthy gentleman. In the region the buying power of the money at his disposal was so great that he could employ large numbers of people for what were to him tiny sums.

Europeans, both foreign- and locally-born, have often received mention in previous accounts of Wallace, so I have said little about them here. Nevertheless, a brief summary will help complete the picture of the extent to which Wallace benefited from the help of others during his voyage. Although by no means exhaustive, this list contains many newly identified individuals whose names have never appeared in the literature on Wallace, and many more officials, officers and merchants might be added.

Singapore: Rev. Anatole Mauduit, George Garden Nicol, John Jarvie, Reginald Salmond Sheriss Padday, Mark Moss, William Waterworth,

Malacca: Father Pierre Favre, Ilay Ferrier, George Rappa Junior,

Sarawak/Borneo: Sir James Brooke, Spenser St. John, Capt. John Brooke, Charles Anthoni Johnson Brooke, Robert Coulson, Ludvig Verner Helms, Joseph ‘Peter’ Middleton,

Lombok: Joseph Carter, John George Clunies-Ross,

Macassar: Cornelis Albert de Brauw, Willem Leendert Mesman, Jacob David Matthijs Mesman, Dirk Francois Schaap, J. Grudelbach, P.C. Wijnmalen, Dr J.R.A. Bauer,

Menado: Wilhelm Christiaan François Goldman, Robert Tower, L. D. W. A. van Renesse van Duivenbode, Johannes Wilhelmus Neys, Charles

¹²¹ See for example Wallace (1869a: 2, 76, 90, 470).

¹²² Cranbrook and Marshall (2014).

Ferdinand Bendsneijder, Johan Samuel van den Broek, Wilhelm Christiaan François Goldman,

Ternate: Johann Alexander Jungmichel, Maarten Dirk van Duivenbode, Casparus Bosscher, Petrus van der Crab,

Dorey: Hermann von Rosenberg, Capt. Georg Roijer, Dr Johan Hendrik Croockewit, Captain Edwards,

Mansinam, near Dorey: Carl Wilhelm Ottow, Wilhelmine Auguste (nee Letz) Ottow, Auguste Ottow and Johann Gottlob Geissler,

Batchian: Otto Fredrik Ulrich Jacobus Huguenin, S. Schreuder,

Ceram: Carl Benjamin Hermann von Rosenberg, Marinus Cornelis Barthold van der Beek, Willem Antonie Duvelaar van Campen,

Amboyna: Otto Gottlieb Johan Mohnike, Carl Ludwig Doleschall, Carel Frederik Goldman, Dirk Samuel Hoedt, Willem Antonie Duvelaar van Campen,

Delli: Manuel de Saldanha da Gama, Alfred Edward Hart, Frederick F. Geach,

Coupang: Dr Joachim Wilhelm Erdmann Arndt, Capt. Thomas Cochrane Drijdsdale,

Bouru: G.J.P. Canela, J. Theodorus, Albert Godlieb Schmidhamer,

Java: Alfred Alexander Ball, Ferdinanda Dominica Lobry Ball, Walter Bentley Woodbury, Henry James Woodbury, Alexander Hadeway, James Page,

Penang: James Lamb.

The people who helped Wallace, which this article has attempted to rescue from obscurity, total around 1,200 individuals, including people who worked for the subcontractors. More than thirty were full-time collectors. To this count must be added more than 100 Europeans who assisted him. Thus, at a minimum, 1,300 people, mostly residents of what is now Indonesia, helped Wallace achieve his great work of natural history, and given the incompleteness of the written record the true number could easily be more than twice this number. In any case, Wallace was not alone.

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