

# The quest for Alfred Russel Wallace's house on Ternate, Maluku Islands, Indonesia

PAUL WHINCUP<sup>1</sup>

<sup>1</sup>Independent Hydrogeologist, Jakarta, Indonesia

✉ paul.whincup@yahoo.com

## ABSTRACT

Wallace penned his famous essay on the theory of evolution through natural selection while based in Ternate and sent it to Charles Darwin in March 1858 from the house he rented there. Although two houses have at various times been designated by the City of Ternate as the official site of the Wallace House, the first, a traditional house, meets none of the criteria in the descriptions given by Wallace in his book *The Malay Archipelago* including the presence of a deep well. The second site, where the original house had been demolished long ago, fails in one key aspect—the presence of a fort just below it. Even if Wallace's House no longer exists, it is likely that the deep well he described, or remnants of it, would remain thereby allowing the site to be identified with some precision. A hydrogeological census in the general area described by Wallace found several old, deep wells and showed that one site closely matched all of the criteria he mentioned. This is named the Oranje Site and has been formally adopted by the City as the true location of the Wallace House. The City plans to purchase the site and build a replica of the house for use as a museum.

**Keywords:** Alfred Russel Wallace, Ternate house, old deep wells, Fort Oranje

*Manuscript submitted 2 March 2020; accepted 27 April 2020*

## INTRODUCTION

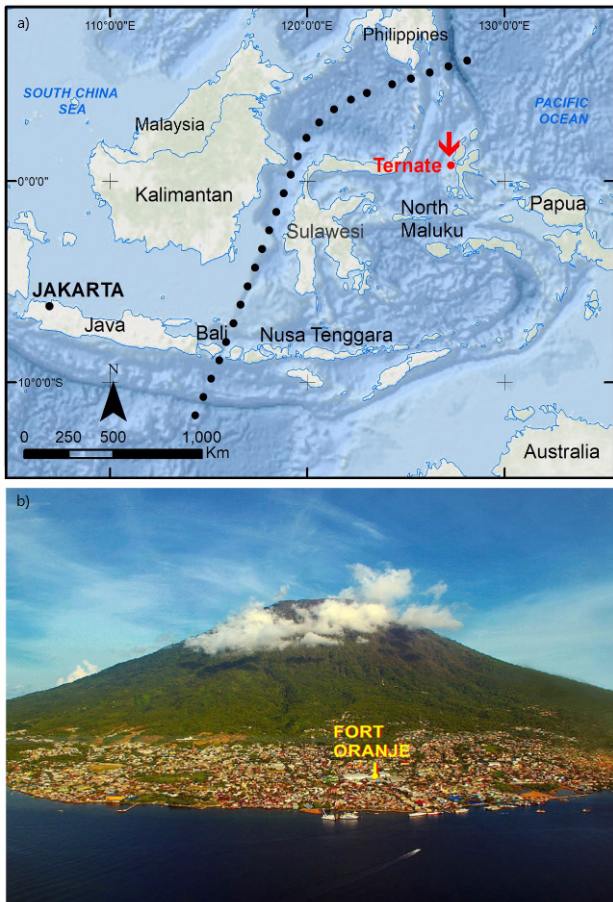
During the second half of his sojourn in the Malay Archipelago, from January 1858, Wallace rented a house for three years in Ternate, a small volcanic island in North Maluku, about 2400 km east-northeast of Jakarta (Fig. 1). It was from this house that he penned his famous 'Ternate Letter' to Charles Darwin with an essay outlining his ideas on 'natural means of selection' (Wallace 1858). It was also here in 1859 (Wallace 1860) that he postulated the divide between Southeastern Asian fauna on the west and Australian fauna on the east, later named the 'Wallace Line' (Fig. 1) by Huxley (1868). In his book, *The Malay Archipelago*, Wallace (1869) provides several clues as to the location of this house, referring to features such as the market, the native quarter and the fort (Fig. 2). The site of this house has raised considerable interest over the years, with the City of Ternate having variously designated two locations as the official site. The first was the Sultan's House, occupied by family members of the Sultan of Ternate. The second, termed the Santiong House, was recognised by the local authorities in 2008, on the 150th anniversary of the despatch of the Ternate Letter, and the street on which it is situated was renamed 'Jalan Alfred Wallace'. In 2010 the name was changed to 'Jalan Juma Puasa' but the adjacent alley, 'Lorong A. Wallace', continues to have wall murals commemorating Wallace. Santiong meets most, but not all, of the points in Wallace's descriptions. It was argued that the true site could probably be identified with some accuracy by the presence of the old deep well. A hydrogeological survey of the area was singularly successful in identifying

several deep wells, one of which is on a site closely matching all of Wallace's descriptions. The land on which it is located is named the Oranje Site. Given continuing advocacy for the Santiong House and some lingering support for the Sultan's House, it was not until September 2019 that the local authorities finally endorsed the Oranje Site as the true position of Wallace's House.

## WALLACE'S CLUES FOR THE HOUSE'S LOCATION

Wallace, in *The Malay Archipelago* (1869, p. 232–234) gives the following clues (in italics), as to the location of his house on Ternate:

- *The house is surrounded by a wilderness of fruit trees. The lower part of the mountain, behind the town of Ternate is almost entirely covered with a forest of fruit trees, and during the season hundreds of men and women, boys and girls, go up every day to bring down the ripe fruit.* This description applies to what is now the suburb of Santiong, which hosts both the Santiong and Oranje Sites.
- *A deep well supplied me with pure cold water.* In all the deep wells the groundwater is 28°C, clear and uncontaminated—not cold, but certainly refreshing in Ternate's tropical environment. The electrical conductivity of the water is 300 µS/cm (drinking water standard is up to 800 µS/cm).
- *Five minutes' walk down the road brought me to the market and the beach.* The market is clearly marked on the Master Plan of Ternate (Reimer c. 1750) and the Map of Ternate (in De Clercq 1890). It is a 595 m walk from the Oranje Site, a shorter walk from



**Figure 1.** a) Location of Ternate showing the Wallace Line (dotted line; image created using ArcGIS® software by Esri with data from Garmin, USGS and NPS); b) Ternate City and Island seen from the east, dominated by the active volcano Mount Gamalama (Google image).

the Santiong House. The beach in front of Fort Oranje, where the present market stands, is on reclaimed land.

- *In the opposite direction there were no more European houses between me and the mountain.* This confirms that Wallace lived near the edge of the European Quarter. The remains of the northern perimeter wall of that neighbourhood exactly matches the position shown by the 'Master Plan of Fort Oranje' (Reimer 1750). De Clercq (1890) noted that the area directly west of Fort Oranje was a military training ground with no houses. Only at the Oranje Site would there have been no European houses between Wallace's house and the mountain. De Clercq (1890, p. 13) also states that 'since the white walls surrounding the compounds suffer much damage from the continuous rains and most of the inhabitants do not want to replace them with hedges—the walls are a real Old Dutch custom'.
- *Just below my house is the fort, built by the Portuguese, below which there is an open space to the beach.* There is no Portuguese fort near the Oranje or Santiong Sites. Fort Oranje, built by the Dutch in 1607, is just below the Oranje Site and fronted what was then the beach. Supporters of the Santiong House

insisted that the remnant walls, which are directly below the Santiong House, were the remains of a Portuguese Fort but it is clear that they are part of the northern boundary wall of the former European Quarter. There is a Portuguese fort, Fort Tolukko, situated north of Fort Oranje. The other Portuguese forts (Kota Janji and Kalamata) are at the southern end of the island, but neither match Wallace's descriptions.

- *Beyond this the native town extends for about a mile to the northeast. About the centre of it is the palace of the Sultan.* The native town is north-northeasterly from both the Oranje and Santiong Sites. The Sultans Palace is about 1.2 km to the north.

Additionally, Wallace (1869, p. 233) presents a floor plan and description of his house with its dimensions. Although not shown, the deep well would have been at the rear of the house. All stone houses in that area were destroyed during the severe earthquake of 1840 (De Clercq 1890, p. 247) and would have had to be rebuilt. It is not known whether the Wallace House was there prior to the earthquake and survived, or if it was reconstructed after 1840.

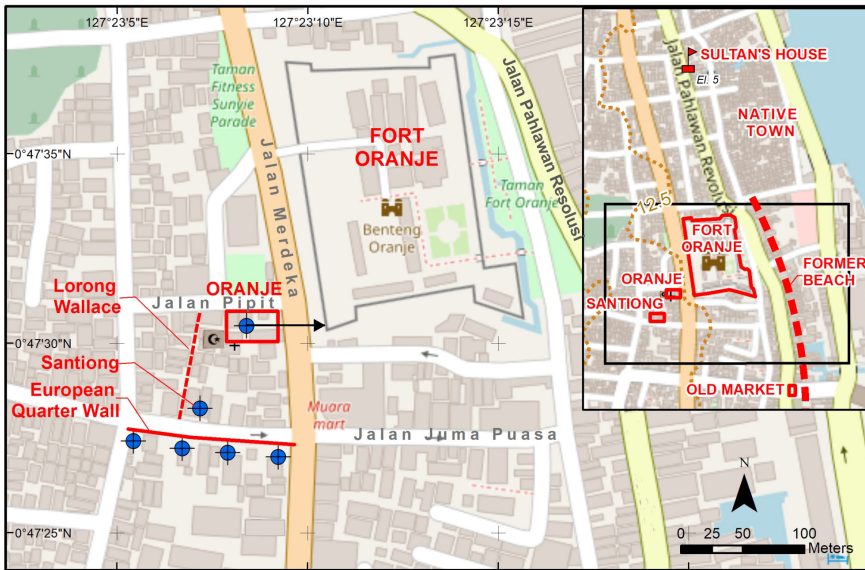
## THE POSSIBLE WALLACE HOUSE SITES

### The Sultan's House

The first reference to this traditional house owned by the Sultan's family is a 1986 photograph reproduced by Gardiner *et al.* (2008, p. 16) showing the house in a rather dilapidated condition. The City of Ternate subsequently renovated the house, which they nominated as the official Wallace House. Although an attractive traditional building that continues to receive visitors, it does not meet any of the Wallace criteria or house dimensions.

### The Santiong House

According to local residents, a Japanese engineer residing at this house during World War 2 described it as having historical importance (inferring it was the "Wallace House"), but the basis for that claim is unclear. However, a Japanese research team led by Akio Niizuma visited the house in 1980 and 1988 and, relying on local knowledge, used the presence of an old deep well to designate it as the Wallace House (Niizuma 1997, p. 230). At the time only one other well was recognised—this may have been at the Sultan's House. Akio Niizuma communicated this finding to Dr Najib, the then owner of the house, and forwarded him a copy of *The Malay Archipelago* inscribed with his name. Dr Najib passed on this inscription thereby allowing Niizuma's Wallace book to be traced. There is no evidence that previous researchers accessed this book. Professor Marzuki Sangkot, a Wallace scholar, and Syamsil Andili, the mayor of Ternate at that time and a Wallace enthusiast, nominated the Santiong House as the Wallace site at the 2008 Wallacea conference in Makassar (Marzuki & Syamsil 2015). A Tempo magazine article (Hidayat & Nurgianto 2017) gives further background on the Santiong House. Its current dimensions include a 10 m frontage to Jalan Juma Puasa by 15 m next to Lorong A Wallace with an open area at the rear, where the well is situated. In that article



**Figure 2.** Features described by Wallace (1869) relative to the location of the house he rented in Ternate (superimposed on Google street view map). Also shown are deep wells (blue circles) identified during well survey; remnant wall at European Quarter; line of sight to Fort Oranje from the Oranje site; and the 12.5 m topographic contour.

Maulana Ibrahim of the Faculty of Architecture, Khairun University, Ternate, disputes the Santiong House as the Wallace House, stating that a traditional house has the dimensions of 8 x 15 m whereas the Wallace House was 12 x 12 m.

## DEEP WELL SURVEY

The hydrogeology of geologically young active volcanoes such as Mount Gamalama is well understood. This volcano dominates the island of Ternate, rising to 1761 m ASL, with uppermost slopes of about 40° and middle slopes of about 26°, the angle of repose for young volcanoclastics. Active volcanoes such as Mount Gamalama are the principal source of water for the majority of Indonesians, either as surface runoff, springs or groundwater. The average annual rainfall at Ternate City is 2160 mm but is probably closer to 4000 mm at the summit of the volcano. On the upper slopes, the water table is over 100 m deep, but as the elevation drops the water table rises towards to the surface—where the gradient flattens the groundwater discharges as springs around the perimeter of the volcano. Discharge from the volcanic aggregate can be as high as 40% of the rainfall as the high porosity and permeability of the volcanoclastics allow high groundwater recharge. The gradient of the water table at lower elevations is relatively steep and sub-parallel to the ground surface thereby allowing depth to the water table to be predicted from the surface elevations. Deep wells (considered to be >10 m) have only been constructed at elevations above 15 m ASL where the water table is about 5 m ASL. All wells dug by hand could only penetrate one or two metres below the water table before the inflow of water became too great for digging to continue. De Clercq (1890, p. 22) mentioned that most residents along the beach front used shallow brackish wells and were reluctant to construct deeper wells further up the hillside because of the cost—this probably would not have been an issue for the owners in the European Quarter. The survey of old deep wells identified six within the area described by Wallace at elevations above 15 m ASL (Fig. 2). Four of these are aligned approximately 32 m apart within the remnant walls marking the northern

boundary of the old European Quarter. The others are at the Santiong House, just to the north of the European Quarter, and at the Oranje Site with the southwestern bastion of Fort Oranje “just below”. All six are over 10 m deep with the water uniformly at 28°C and with low salinity. The old well at the Sultan’s House, predicted to be no more than 2.5 m deep prior to the survey, is shallow with a measured depth of 2.4 m. Unfortunately, investigation of the well at the Santiong House, estimated to be 12 m deep, was prevented by a concrete cover. A small diameter pipe through the cover was too small for the water-level probe but a depth of 14.8 m was measured using a bolt suspended from a string; seemingly, the string coiled when it reached the bottom as a previous owner suggested the true depth is 13 m. Another old well found during the survey directly south on the opposite side of Jalan Juma Puasa at a slightly lower elevation is 11.9 m deep.

## The Oranje Site

Although the deep well at the Oranje Site was covered, the owner opened it for inspection and measurement (Fig. 3a). The walls are composed of volcanic rock bonded with cement-lime (Fig. 3b), similar to the remnants of the European Quarter walls, which date back to about 1750. The walls are closely similar in both design and composition to old shallow wells preserved within Fort Oranje, construction of which commenced in 1607. The well at the Oranje Site is 11.6 m deep, with the water table at 11.0 m. The Oranje Site occupies 850 m<sup>2</sup> with frontages to Jalan Merdeka and Jalan Pipit; the Wallace House would have had three steps leading down from the front veranda to the road, and faced Fort Oranje. Since Wallace’s time the land has been subdivided into two. The part facing Fort Oranje (Fig. 4), which is currently vacant land, formerly supported a house facing east towards the fort according to the present owners. This vacant block covers 420 m<sup>2</sup> and is 17.6 x 24.0 m whereas Wallace’s house was 12 x 12 m. The well is about 10 m west of where the back veranda would have been. No evidence of the original house remains, but it is hoped that the authorities and the owners will permit an archaeological survey.



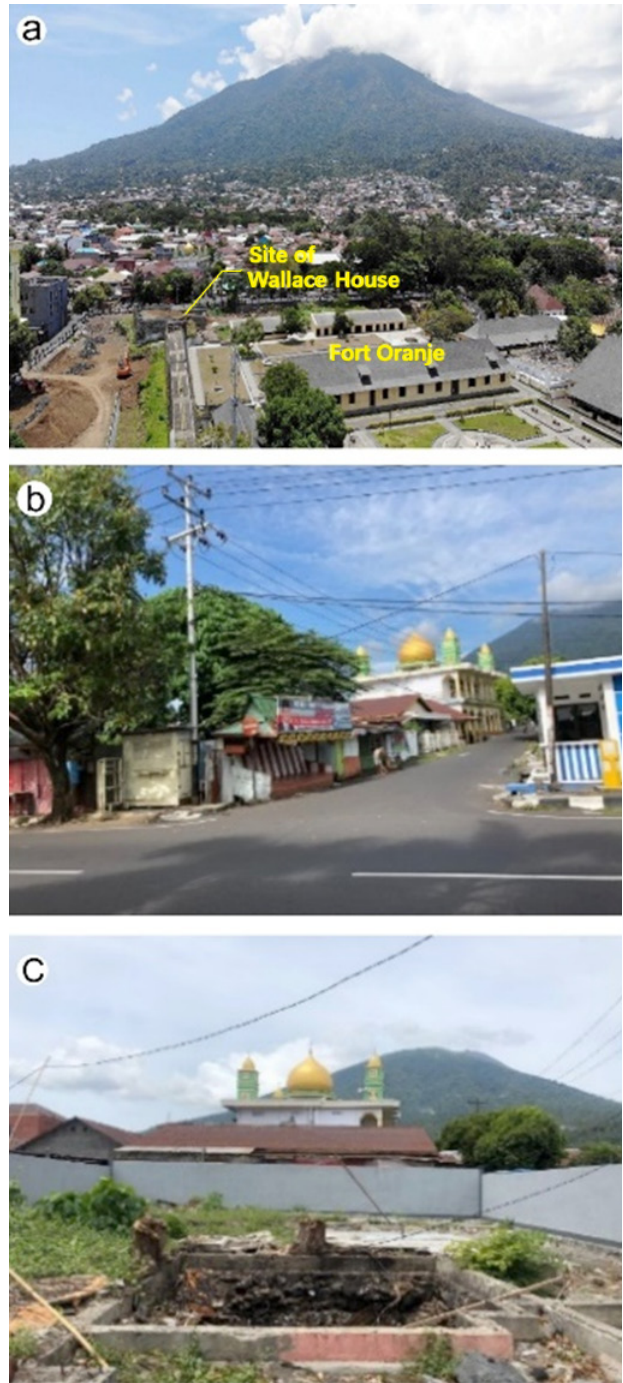
**Figure 3.** a) Covered deep well inside kitchen of house at Oranje Site prior to opening; b) Wall fabric of deep well at Oranje Site (image from Fiffy Sahib).

### DIFFERENTIATION BETWEEN ORANJE AND SANTIONG SITES

George Beccaloni (2012, and in Stammers 2018) recognised the importance of “just below is the fort” while in Ternate acting as adviser during the making of Bill Bailey’s Wallace film, *Jungle Hero*, released in 2013. A line of sight drawn eastwards from the front porch of the “Wallace House” at the Oranje Site (Fig. 5) shows that the southwest bastion of the fort is about 60 m away, which qualifies it as being “just below”. By comparison, the Santiong House faces south away from the fort, which could only have been seen from the back porch at the time of Wallace, and is 135 m from the fort. The dimensions of the Santiong House do not match the Wallace description whereas the Wallace House would comfortably fit at the Oranje Site.

### CONCLUSIONS

When Wallace despatched his ‘Ternate Letter’ to Charles Darwin he probably lived at the Oranje Site. The key



**Figure 4.** a) The site of the Wallace House, looking west across Fort Oranje to Mt. Gamalama; (image from Sinclair Stammers); b) View from Fort Oranje to the Oranje Site, corner of Jalan Merdeka and Jalan Pipit; c) the site in February 2020 after the vacant land had been cleared and boarded; (image from Krithika Varagur).

factor in identifying this site was the discovery of an old deep well. The City of Ternate plans to purchase this site, despite its value having risen considerably since first publicised in late 2019, and then build a replica house conforming to the description and dimensions given by Wallace (1869, p. 313–314) to operate as a museum and biodiversity centre and to help promote tourism.

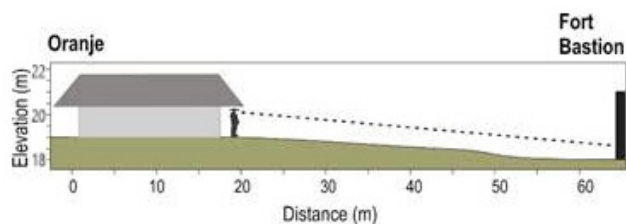


Figure 5. Line of sight to Fort Oranje from Oranje Site.

## ACKNOWLEDGEMENTS

The author thanks George Beccaloni who first recognised that the Santiong House had been incorrectly designated as the Wallace House and who, through ongoing updates to *The Alfred Russel Wallace Website*, has contributed greatly to the success of the project. Thanks are also due to Nicholas Hughes who has provided constant support throughout the duration of this research and David Parry for his expert advice on old maps of Ternate. Fiffy Sahib was the key member of the Ternate team facilitating contacts with the local community; Burhan Abdurrahman, the mayor of Ternate, provided unwavering interest; and Rinto Taib, Head of History and Cultural Heritage in the Department of Culture on Ternate, enthusiastically and willingly shared his substantial historical knowledge of Ternate.

## REFERENCES

- BECCALONI G 2012, Ternate: The Search for Wallace's House, Natural History Museum, London, <https://www.nhm.ac.uk/natureplus/community/wallace100/blog/2012/08.html> (accessed 9 February 2020).
- BECCALONI G 2012, <https://www.youtube.com/watch?v=oQA4pAouVQY&feature=youtuve> (accessed 9 February 2020).
- BECCALONI G, WHINCUP P & AZIZ M 2019, The Location of Alfred Russel Wallace's Legendary House on Ternate Island, Indonesia, <http://wallacefund.info/content/wallaces-ternate-house> (accessed 15 February 2020)
- DE CLERCQ F S A 1890, Bijdragen tot de kennis der Residentie Ternate (Ternate: The Residency and its Sultanate). Leiden, E.J. Brill (edited & annotated English translation by P.M. Taylor, Asian Cultural History Program, Smithsonian Institution, 2018).
- HIDAYAT D & NURGIANTO B 2017, Mencari Tapak Wallace di Ternate (Searching for the Site of the Wallace House in Ternate), *Majalah Tempo, Science and Technology* 1/1, 15 October 2017.
- HUXLEY T H 1868, On the Classification and Distribution of the Alectoromorphae and Heteromorphae. *Proceedings of the Zoological Society of London* 1868, 294–319.
- GARDINER B G, MILNER R & MORRIS M (Eds) 2008, Survival of the Fittest, Celebrating the 150th Anniversary of the Darwin-Wallace theory of evolution: *Journal of the Proceedings Linnean Society of London*, Special Issue 9.
- MARZUKI, S & SYAMSIR A 2015, The Ternate of Alfred Russel Wallace. In: Supriatna, J, Amarasinghe, A A T & Margules, C (Eds). Proceedings of the Second International Conference on Alfred Russel Wallace and the Wallacea, Wakatobi, Indonesia, 10–13 November 2013. *Taprobatica* 7 (3), i-x.
- NIHUMA A 1997, 種の起原をもとめて—ウォーレスの「マレー諸島」探検 (*Seeking the origin of species—Wallace "Malay Archipelago" expedition*). Asahi Shimbun, Tokyo.
- REIMER C F C. 1750, Master Plan of Fort Oranje. Netherlands Military Commission, VEL 1315 III.
- STAMMERS S 2018, Film introduced by George Beccaloni, *The Legendary House of Alfred Russel Wallace on Ternate*, <https://youtu.be/1Mg-6FGQ8HQ> (accessed 23 February 2020).
- WALLACE A R 1858, On the Tendency of Species to Form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection, *Journal of the Proceedings of the Linnean Society*, 171: 141–153, read 1 July 1858.
- WALLACE A R 1860, On the Zoological Geography of the Malay Archipelago, *Journal of the Proceedings of the Linnean Society of London, Zoology*, 4, 172–184, read 3 November 1859.
- WALLACE A R 1869, *The Malay Archipelago: The Land of the Orangutan, and the Bird of Paradise*, first published by Macmillan and Company, London. (The version and page numbers referred to in this paper are from the Periplus Classic Edition of 2008).