

William Robert Broughton's Voyage of Discovery to the North Pacific and Expedition of the Strait of Tartary / Mamiya Strait

Gaston R. DEMARÉE¹, Yoshio TAGAMI² and Patrick BEILLEVAIRE³

¹Royal Meteorological Institute of Belgium, Brussels, Belgium

²Faculty of Human Development, University of Toyama, Toyama, Japan

³French National Center for Scientific Research, UMR CCJ-EHESS, Paris, France

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Abstract

In the years 1795-1798, the British sloop *Discovery* made a voyage of exploration to the North-West Pacific, the Kurile Islands, the Strait of Tartary / Mamiya Strait and the Japanese, Korean and Chinese coastal areas. The underlying motives of the voyage were geographical survey, putting up settlements, claiming territories, and the long-wished opening of trade with Japan. Nautical and meteorological observations during the voyage are provided on a daily time scale. The sailing through the Strait of Tartary deals with the question of the insularity of Sakhalin / Karafuto which was questioned already by La Pérouse. For this review paper the authors have been mainly guided by Andrew David's annotated version of *William Robert Broughton's Voyage of Discovery to the North Pacific 1795-1798* (David, 2010).

Key words: William Robert Broughton, *Discovery*, Strait of Tartary, Mamiya Strait, meteorology

1. William Robert Broughton

1.1 His personal life

William Robert Broughton was born on 22 March 1762 as the son of Charles Broughton, a gentleman of Hammersmith in the county of Middlesex, and of Anne Elisabeth de Hertoghe. Broughton married his cousin, Jemima Broughton, on 26 November 1802. They had three daughters and one son, William, born on 23 October 1804 at Doddington Hall, Cheshire, who also had a distinguished career in the Navy (Marshall, 1835). On 12 March 1821, having retired to Florence, Captain William Robert Broughton had an angina attack and died two days later. He was buried in the English burial ground in Leghorn (Livorno), Italy (Anonymous, 1821).



Fig. 1 Portrait of William Robert Broughton by an unidentified artist.

1.2 His naval career

William Robert Broughton started his naval career as a Captain's Servant on the *Katherine* in May 1774, then being a midshipman on the *Falcon*, the *Harlem*, the *Eagle* successively, and a master's mate on the *Superb* from December 1778 to January 1782. He became a Lieutenant in January 1782 on the *Burford*. When the *Burford* was paid off in July 1784, Broughton did not serve for almost 4 years. He resumed as a Lieutenant on the *Orestes* and served in the British Channel and in the Mediterranean (June 1788-May 1790), moving to HMS *Victory* in May 1790.

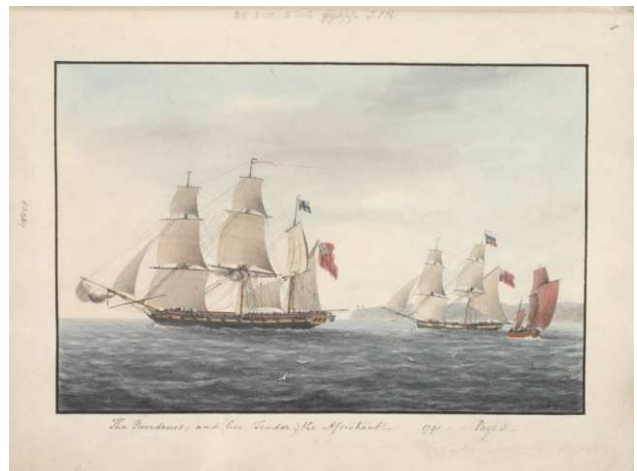


Fig. 2 The H.M.S. *Providence* and (her Tender) the *Assistance* by George Tobin, c. 1791. Mitchell Library, State Library of New South Wales.

Broughton was given command of the brig *Chatham* in December 1790 and was asked to accompany George Vancouver in his exploration of the North-West Pacific. After his arrival in North America in 1792, Broughton charted a group of islands in the Queen Charlotte Sound and explored the lower stretches of the Columbia River in the present-day States of Oregon and Washington. Vancouver sent Broughton back to England via Mexico and the Atlantic, bearing dispatches and requesting instructions (Vancouver, 1797; Lamb, 1984).

Broughton was appointed in command of the *Providence* on 3 October 1793 which took him in a ‘*Voyage to remote Parts*’ (Broughton, 1804). Later on, he served as captain and commanding officer on various ships in the Napoleonic Wars (1803-1815). He became Appointed Companion of the Order of the Bath on 4 June 1815 and Appointed Colonel of Marines on 12 August 1819.

2. William Robert Broughton’s Voyage

2.1 *The Voyage of the Providence from England to Macau*

The *Providence*, a Royal Navy sloop, mounting 12 guns, weighing about 406 tons, purchased from the stocks at Blackwell Yard from John Perry on 23 April 1791, was high suitable for distant voyaging (see Three Decks, *Providence*). On 2 October 1794, she was put under the command of William Robert Broughton who states: ‘I received my orders, which were secret’. Following his narrative, on 15 February 1795 ‘The whole fleet was under way’ under a favorable north wind. On Thursday 5 March 1795, ‘Early in the morning, saw the Canary Islands’, and on 5 May, ‘the weather prevented our reaching the entrance of Rio Janeiro harbor’. The *Providence* then crossed the South Atlantic Ocean and the Indian Ocean and ‘moored in Sydney Cove’ in Australia on 18 August. On 29 November 1795, she anchored at Matavai Bay [Tahiti], reached Owhyhee [Hawai’i] in January 1796, and anchored on 15 March 1796 ‘In the Entrance of Nootka Sound [on the west coast of Vancouver Island, in the Pacific Northwest], under Light Breezes and Cloudy weather with slight Showers of Hail. The whole Country was cover’d with Snow presenting a most dreary Aspect.’

As ‘several Letters dated in March 1795 inform’d [Broughton] of Captain Vancouver having sail’d for England’, he made his way south and entered Monterey Bay, Mexico, on 6 June 1796, where he received a cold reception. He therefore decided to survey the coast of Asia from Sakhalin to the Yangtze River in the hope of opening trade with Japan (King, 1997, 2010). On 20 June he departed from Monterey [Mexico], bound for Hawai’i in order to rate his chronometers. On 31 July, he left Hawai’i. ‘At daylight on 7 September we descry’d the Land of Japan’, Broughton writes. ‘Sailing to the north near Port Nambu [Miyako-wan]’, he then reached

Uchiura-wan, named by him Volcano Bay, on Ezo [Hokkaidō]. He anchored in Endermo [Muroran-kō] where he found the Ainu and the Japanese friendly and helpful.

Broughton left Endermo on 1 October sailing to the north towards the Kurile Islands. These islands had already been explored by Europeans like Maarten Gerritszoon de Vries on the *Castricum* in 1643 (Leupe, 1858), Spanberg on the *Arkhangel Mikael* in 1739 (Muller, 1766), and in the aftermath of Cook’s third voyage (1776-1779). On 5 October, Broughton notes: ‘At Sunset, we passed two Islands near the Main [Habomai islands]’ and on the 7th [we] went NNW through the Passage of the Kunashiro-suidō [Yekateriny Strait] separating Kunashiri-tō and Etorofu-tō. On 16 October, Broughton reached the Island of Marukan [Ostrov Simushir] where ‘The settlement of the Russians’, known from Cook’s third voyage, was ‘found abandoned; but they cou’d not learn from the Natives at what period. ... I did not propose this Year to go further to the North owing to the advanced State of the Season.’

Broughton hence set course to the southwest and successively reached the southeastern extremity of Honshū and the islands of Edo-wan on 10 November, Okinawa on 1 December, and the east coast of Taiwan on 6 December. He eventually dropped anchor on 12 December 1796 in Macao ‘having been two Years from England without any communication.’ (Broughton, 1804; Hoare, 2000; David, 2010).

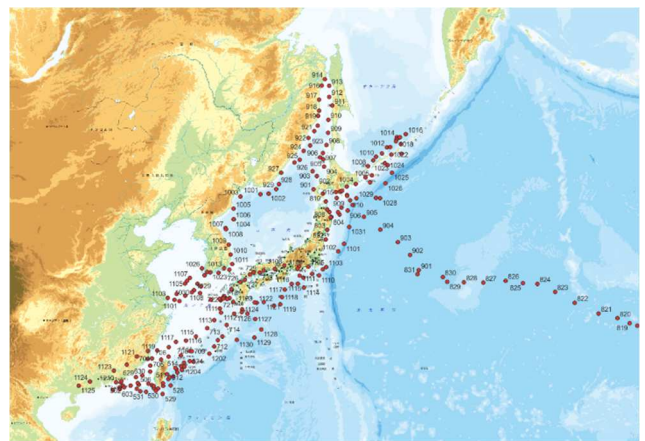


Fig. 3 Voyage of the *Providence* across the Pacific Ocean, to Japan, the Kurile Islands, Macau and again the Ryūkyū Islands with the wreckage of the *Providence*, and the continuation on the schooner to Japan, the Strait of Tartary / Mamiya Strait and return along the coast of Siberia, Korea and China to Macau and thence to England.

2.2 *Second expedition to the North and return to England*

Broughton ‘hearing there was a Small Vessel for sale’ bought, on 29 December 1796, the 87-ton registered

schooner *Prince William Henry* ‘as an Assistant in surveying’ but mainly to reduce the risk of navigating with a single vessel in uncharted waters. On 11 April 1797, they ‘got under weigh’ voyaging again to the north. By the end of April, ‘our People being afflicted with a Dysentery which we cou’d only attribute to the Hazey and Foggy weather’, meteorological conditions being thought to be responsible in the context of the integrated 18th century Hippocratic hypothesis on medicine, climate and environment. ‘We lost the whole of our Pigs ... they were equally with ourselves troubled with the Dysentery.’ (Demarée, 1996)

In the evening of 17 May 1797, the *Providence* ‘Struck upon a Reef of Coral Rocks’ north of Ikema-jima, near Miyako-jima. She was completely wrecked, but the full crew could be conveyed to the schooner. However almost all of the equipment was lost. The schooner anchored at Miyako-jima where the inhabitants were very helpful. After being well supplied, Broughton decided to sail the schooner back to Macau. As he planned to continue the survey to the north on the schooner with a limited crew, he made the necessary arrangements for the transfer of the discharged personnel to England. On 15 June, ‘we sail’d a second time in the prosecution of the voyage’ with ‘a prospect of acquiring geographical knowledge of the Tartarean & Corean coasts’.

Broughton sighted the Pescadores Islands, west of Formosa [Taiwan], on 30 June, and, rounding the northernmost point of Taiwan, reached Okinawa-guntō on 8 July. He dropped anchor at Naha-kō, Okinawa, on 10 July, where provisions and water were readily sent off to the schooner. ‘Our Friends did not seem to wish we shou’d go onshore’, he notices then. Setting course north and passing along the east coast of Honshū, he reached once again Muroan-kō, Hokkaidō, on 12 August, where ‘[the crew] immediately commenced [the] necessary operations of refitting the Vessel & preparing for Sea.’ The schooner raised the anchor on 23 August, approached Hakodate-wan on the 30th and Matsumae, on the west coast of Hokkaidō, the next day: ‘The town was ascending gradually up the Rising grounds Interspers’d with Trees & Gardens. ... The superior Houses were decorated by long pieces of color’d Cloths ...’. Broughton, who frequently refers to La Pérouse’s voyage in July 1787, was able to go eight miles farther than him in the Strait of Tartary. He then sailed southwards along the Asian continent. After sighting the island of Tsushima (situated between South Korea and Japan) and calling in Busan Harbor for a week, he steered the schooner through the Korean archipelago and along the Chinese coast, finally reaching Macau on 27 November 1797. (Broughton, 1804; Hoare, 2000, David, 2010)

3. Nautical, astronomical and meteorological Observations

The book published by W.R. Broughton in 1804 contains as Appendix No. I the ‘TABLES of the ROUTE of the PROVIDENCE and her Tender, the Variation of the Compass, and the State of the Barometer and Thermometer, during the Voyage from the Sandwich Islands, July 31st 1796, till our last Arrival at Macau, November 27th 1797.’ Fragments of these meteorological observations are given in Kubota *et al.* (2018a, 2018b). However, the nautical and astronomical observations mentioned as Latitude observ’d or indifferent, Latitude account, Longitude *ditto* and Longitude within the annotated version of Broughton’s Voyage are used in this paper (David, 2010).

It is known that barometers and thermometers were on board of the *Providence* as the Navy Board instructed to supply Broughton in 1794 with instruments. It is further supposed ‘to note the height of one or more Thermometers placed in the Air, and in the Shade early in the Morning and about the hottest time of the day, and to observe also the height of the Thermometer within the Vessel near the Watches’. Unfortunately, no further information on the thermometric and the atmospheric pressure observations is given. In particular, the double set of thermometric observations remains a problem. A thermometer disappeared when ‘the Ship was lost’, that is, when the *Providence* wrecked on a coral reef.

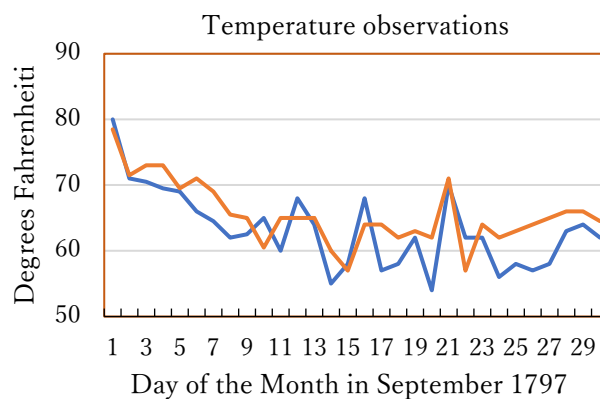


Fig. 4 Graph of both unspecified sets of temperature observations in the Strait of Tartary / Mamiya Strait in September 1797.

A graph of both sets of daily temperature observations carried out when sailing through the Strait of Tartary in September 1797 is shown in Fig. 4. In these days, the schooner sailed on through Tsugaru-kaikyō on 30 August and viewed the town of Matsumae, Hokkaidō, on the next day, while on 15 September the latitude of 51° 45' 7" N was reached. The temperature difference equals 13,055°C for a difference of 10,108-degree latitude providing a decrease of 1,29°C per unit degree latitude.

4. The question of the insularity of Sakhalin

The insularity of Sakhalin / Karafuto remained an unsolved question until the mid-19th century. Jean François de La Pérouse, William Robert Broughton and Adam Johann von Krusenstern had already sailed into the Strait of Tartary, but without traversing it (Boyle, 2018). La Pérouse and Broughton approached the Strait from the south while Krusenstern approached it from the Sea of Okhotsk. The question was solved by the Japanese explorer Rinzō Mamiya (1775-1844) in 1808-1809 (see Figure 5) who confirmed the insularity of Sakhalin (Stone, 1996; McVey, 2022). The information was kept secret by the Japanese and later on by the Russians but Philip Franz von Siebold (1796-1866) mentioned the name of Mamiya Strait and published a map in his book “*Nippon*” in The Netherlands, although the deliveries of any topographical and hydrological data to foreign countries had been prohibited by the Shogunate (Siebold, von, 1832-). That knowledge proved to be primordial to the Russians in the Far-Eastern developments of the Crimean War (1853-1856). After the defeat of the British and French fleets at Petropavlovsk, Kamchatka, in August-September 1854, the allies thought to have trapped the Russians in the Strait of Tartary in May 1855: ‘However, the Russians passed through the Strait and entered the Amur River, much to the deep embarrassment of the British and the fury of the press’ (Stephan, 1969; Beillevoire *et al.*, 2018).

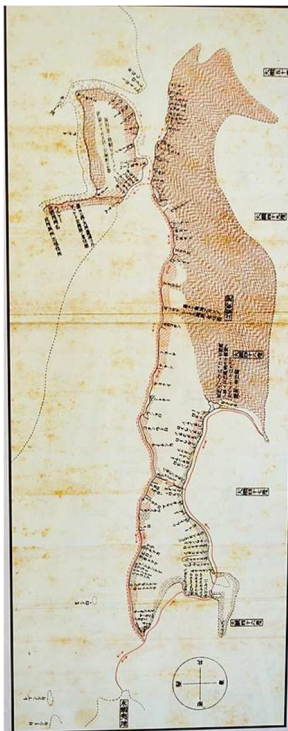


Fig. 5 Map of Sakhalin and Lower Amur, compiled by Rinzō Mamiya in 1808-1809 (Mamiya Rinzō, courtesy of Wikipedia).

On 9 July 1787, the latitude of La Pérouse’s vessel in the Strait of Tartary was 48° 15’ N. On 12 July, La Pérouse and Langle accompanied by several others landed on Sakhalin and met a group of native people. The offering of presents led to friendly interactions: ‘We contrived at length to make them understand that we wished them to delineate their country, and that of the Manchous. One of the old men then rose, and with his pike traced the coast of Tartary to the west, running nearly north to south. Opposite this, to the east, he drew his own island, in the same direction, laying his hand upon his breast, to indicate that he just traced his own native country. Between the island and Tartary, he left a strait; and turning to our vessels, which lay in sight, he signified by a stroke, that they may pass through it.’ La Pérouse learned also from the natives ‘the breadth and the depth of the strait that separated his own country from Tartary’. (La Pérouse, 1807)

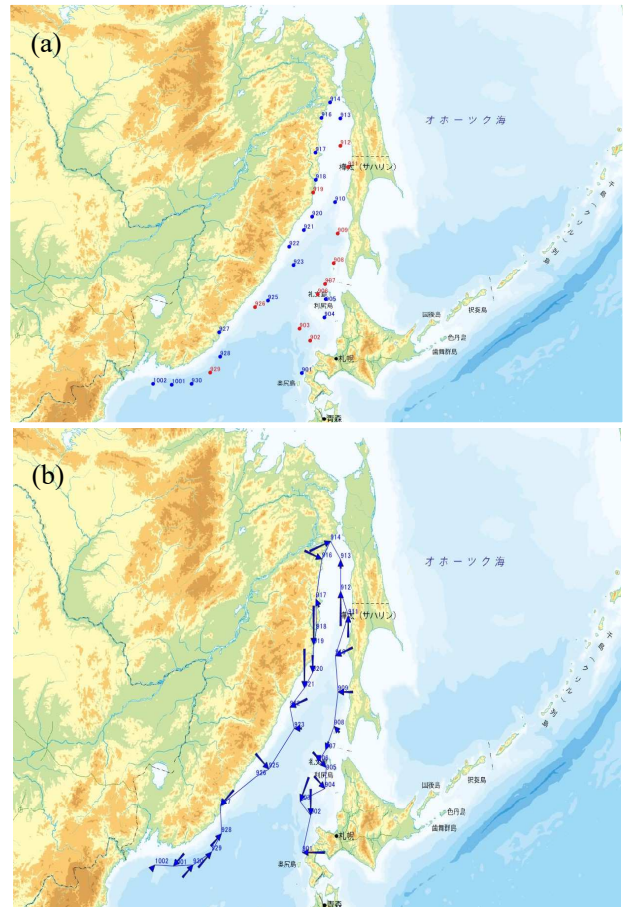


Fig. 6a & 6b. Travel of the schooner in July 1797 in the Strait of Tartary / Mamiya Strait. The dots indicate the location of the vessel. The accounted latitude and the accounted longitude are shown in red dots while the accounted latitude and longitude by watch are shown in blue dots. Also, winds are shown by the wind force in the afternoon and wind direction in the afternoon.

On 20 July 1787, 'Being obliged to keep one coast or the other, I had preferred that of the island, to ensure not missing the strait, if one existed to the east; which required extreme attention, on account of the fogs, which left us very short intervals of clear weather. ... The channel begins to narrow in the parallel of 50°, and had not thenceforward above twelve or thirteen leagues in breadth.' On the 23 July 1787, the latitude observation gave 50° 54' N and La Pérouse thought he 'was too far advanced not to wish to reconnoitre this strait, and to know whether it was passable; though [he] began to fear it was not, as the depth of the water diminished very fast as [they] proceeded north, and the land of Sagaleen island [Sakhalin] consisted no longer of anything but downs, inundated with water, and almost level with the sea, like sand-banks.' At the end of July 1787, La Pérouse 'having found the impossibility of getting out of this channel to the north', and taking into account navigational and meteorological difficulties, decided instead to follow the coast of Tartary southwards. (Broughton, 1807).

On Thursday 14 September 1797, on the schooner, Broughton writes: 'In crossing over and as we approach'd the west Shore, our soundings decreas'd to 9 fathoms. No Land from N. 15° E. to N. 53° E., but from thence a continuation of very low Hummocks just appearing above the Horizon. The Master [William Chapman] was sent to make further Remarks to the North.' On Friday 15 September, 'At Dark, the Master return'd who reported having found round the nearest point, which bore N 10° E from us, a Bay [Bukhta Sushcheva] leading to the Westward ... The Master gave it as his Opinion the passage through seemd pretty evident. The observ'd latitude made 51° 45' 7" N'. On Saturday 16 September, 'from the Masthead we plainly discern'd very low Land extending over the NE of the Bay. ... and we were fully satisfied there was no opening to the Sea in the direction the Master suppos'd.' (Broughton, 2010, p. 172-173) However, a hesitating Broughton's took the following decision: 'as the Master had represented the bay unfavourable, even supposing we could get there, which I deemed from the shallow water leading to it impracticable, without great risk of the vessel... induced to me to lose no more time, as the equinoxes were approaching, to proceed to the southward.' (Broughton, 1804, p. 302)

Adam Johann von Krusenstern did interpret that La Pérouse 'very rightly concluded that either Sachalin was connected with Tartary, or that the channel which separates the two countries must be very narrow, and at utmost only a few feet in depth. ... Our observations, which were carried out one hundred miles more to the north, leave no doubt upon the subject ... We already found a considerable difference in the weight of water ... and finally when close to the channel that separates Sachalin to the northward of the Amur from Tartary, the

water drawn up the ship's side was perfectly sweet. When Krusenstern read Broughton's book on his arrival in China, he found his ideas upon the junction of Sachalin with Tartary well founded and concluded: 'What therefore, since La Pérouse, has been called a channel, must now take a new name, and be known as the gulf of Tartary'. (von Krusenstern, 1813)

Gennady Ivanovich Nevelskoy (1813-1876), in command of the Amur Expedition (1849-1855), explored the Sea of Okhotsk, the outlet of the Amur River area and Sakhalin. He definitely proved the insularity of Sakhalin showing that it is a strait connected to the Amur estuary by a narrow section. The northernmost narrowest section is known as the Strait of Nevelskoy in honor of Captain Nevelskoy (Samochwalow, 1871; Genady Nevelskoy, Wikipedia).

5. Conclusion

William Robert Broughton's voyage of *Discovery* to the north-east Pacific and to the coastal areas of Japan, Korea, China, the Ryūkyū Islands, the Kurile Islands, Sakhalin and the Strait of Tartary / Mamiya Strait has been a significant contribution to the geographical knowledge of these areas. He follows earlier Dutch, French, Russian and other British navigators in exploring the geography of the Asian continent and the location of numerous islands in that part of the world. The tentative interactions of Broughton with Japan and its inhabitants might be seen in the context of the long-wished desire of opening trade with the Shogun Ruled Japan. At the same time, Broughton expressed his view in the long-lasting question of the insularity of Sakhalin believing, in contrast to his Master, that there was no opening. Rinzō Mamiya discovered the narrow navigable channel in 1808-1809, rediscovered by Nevelskoy in 1849, but that strategical intelligence was kept secret by Japan and the Russia.

Acknowledgements

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Summary in Japanese

和文要約

W. R. Broughton のタートル海峡 / 間宮海峡の探検航海

Gaston R. DEMARÉE¹, 田上善夫²,
Patrick BEILLEVAIRE³

¹ベルギー王立気象研究所, ²富山大学,
³フランス国立科学研究センター

1795年から1798年にかけて、イギリスのスループ船ディスカバリー号は、北西太平洋、千島列島、タートル海峡/間宮海峡、日本、韓国、中国の沿岸地域への探検航海を行った。航海中は毎日定期的に気象観測が行われた。タートル/間宮海峡での航行は、ラ・ペルーズが疑問視していたサハリン/樺太が島かどうかの問題を扱っている。

Correspondence to: G. R. Demarée,
gaston.demaree@meteo.be

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