

# TWO CHILEAN SHIPS AND THEIR CONTRIBUTIONS TO THE CARTOGRAPHY OF GALAPAGOS

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## SUMMARY

In the early years of Chile and Ecuador's military alliance, the Chilean Navy made two official visits to the Galapagos Islands. The first took place in 1887, when the steam corvette *Chacabuco*, captain Federico Chaigneau, visited one island (San Cristóbal) for six days (20–26 November). The second was in 1910 when the naval-training steamship *General Baquedano*, captain Arturo Acevedo, explored five islands (San Cristóbal, Floreana, Isabela, Santiago, Santa Cruz) for 24 days (25 March to 17 April). The visits were to enable Chile to learn about its ally's most remote territory, as well as hydrographic surveying expeditions, to improve navigational knowledge. Reports of the visits, written by the ships' captains, were published in the Chilean naval journal and the hydrographical results were sent to the UK Hydrographic Office, where they were incorporated into the British Admiralty's sailing directions for South America and nautical charts of Galapagos. As a result of this international cooperation, navigational safety was improved and nine place names were added to the Galapagos map: Punta Chacabuco (on San Cristóbal); Bahía Cartago, Bahía Isabel and Bahía (Puerto) Villamil (Isabela); Bahía Baquedano and Puerto Núñez (Santa Cruz); Isla Baltra and its northwestern cove, Caleta Birs (now Caleta Aeolian); Canal Ilabaca (now Itabaca) between Santa Cruz and Baltra. Here I provide a description of the ships, a summary of the captains' accounts, and a discussion of their surveys, the observations they made at the highland settlement of Progreso on San Cristóbal, and the introduced plants and animals they recorded, which include three first records for Galapagos (Pineapple *Ananas comosus*, Mango *Mangifera indica*, Giant Granadilla *Passiflora quadrangularis*) and confirm an earlier, since overlooked, record of Grapes *Vitis vinifera* on San Cristóbal. I also provide an analysis of the new place names, the origins of which have long been a mystery. I suggest that Baltra was named after the *General Baquedano's* Lieutenant Humberto Baltra Opazo, in charge of surveying the northern coast of Santa Cruz, Canal de Itabaca (originally Ilabaca) was named after Julio Ilabaca León, an officer-in-training on the *General Baquedano*, and Puerto Núñez, which was originally applied to what is now Academy Bay (site of modern day Puerto Ayora) rather than the bay further east on Santa Cruz as it does today, honours Miguel Núñez, "jefe territorial" of the archipelago in 1910.

## RESUMEN

**Dos naves chilenas y sus contribuciones a la cartografía de Galápagos.** En los primeros años de la alianza militar entre Chile y Ecuador, la Armada chilena realizó dos visitas oficiales a las islas Galápagos. La primera tuvo lugar en 1887, cuando la corbeta a vapor *Chacabuco* (capitán Federico Chaigneau) visitó una sola isla (San Cristóbal) por seis días (20–26 noviembre). La segunda ocurrió en 1910 cuando el vapor escuela naval *General Baquedano* (capitán Arturo Acevedo) exploró cinco islas (San Cristóbal, Floreana, Isabela, Santiago, Santa Cruz) durante 24 días (25 marzo al 17 abril). Estas visitas procuraban a Chile la oportunidad de estudiar el territorio más remoto de su aliado, a la vez que realizar expediciones para mejorar el conocimiento hidrográfico. Los reportes de estas visitas compilados por los sendos capitanes fueron publicados en la revista naval de Chile, y los resultados hidrográficos fueron enviados a la Oficina Hidrográfica británica, donde fueron incorporados a las directivas de navegación para América del Sur y las cartas náuticas de Galápagos publicadas por el Almirantazgo británico. Como resultado de esta cooperación internacional, la seguridad de tránsito marítimo mejoró y los nombres de nueve lugares fueron añadidos al mapa de Galápagos: Punta Chacabuco (en San Cristóbal); Bahía Cartago, Bahía Isabel y Bahía (Puerto) Villamil (Isabela); Bahía Baquedano y Puerto Núñez (Santa Cruz); Isla Baltra y su caleta noroccidental, Caleta Birs (hoy Caleta Aeolian); Canal Ilabaca (hoy Itabaca) entre Santa Cruz y Baltra. Aquí proporciono una descripción de las naves, un sumario de los reportes de los capitanes, y un recuento de sus investigaciones, las observaciones que realizaron en el asentamiento Progreso de la parte alta de San Cristóbal, y las plantas y animales introducidos que registraron, los cuales incluyen los primeros registros en Galápagos de tres especies (Piña *Ananas comosus*, Mango *Mangifera indica*, Badea *Passiflora quadrangularis*) y confirman un registro previo y pasado por alto de Uva *Vitis vinifera* en San Cristóbal. Además, proporciono un análisis de los nuevos nombres geográficos, cuyos orígenes han permanecido un misterio por largo tiempo. Sugiero que Baltra fue nombrado en honor al Teniente Humberto Baltra Opazo del

*General Baquedano*, a cargo del levantamiento de la costa norte de Santa Cruz; el Canal de Itabaca (originalmente Ilabaca) fue nombrado en honor a Julio Ilabaca León, Guarda marina de segunda en el *General Baquedano*; y Puerto Núñez (nombre originalmente aplicado a lo conocido hoy como Bahía Academia, sitio de asentamiento actual de Puerto Ayora, en lugar del de la bahía más al este en Santa Cruz, como se aplica hoy) fue nombrado en honor de Miguel Núñez, jefe territorial del archipiélago en 1910.

## INTRODUCTION

As a direct consequence of the War of the Pacific (1879–84), a conflict fought largely at sea between Chile on one side and Peru and Bolivia on the other, Chile and Ecuador began developing a military alliance against their common neighbour and territorial foe, Peru. This alliance continues today and is considered one of the closest in South America. The military cooperation between the victorious Chile, re-established as the dominant naval power on the west coast of South America, and Ecuador, which had been neutral in the War of the Pacific but had its own history of border disputes with Peru, aimed to strengthen defences on either side of Peru. The cooperation included bilateral education programmes, with Ecuadorian students trained in Chile's Naval Academy at Valparaíso and Chilean naval instructors sent to teach at the military school in Quito, Ecuador, the donation of surplus arms and ammunitions to Ecuador, and general assistance with national defence (Burr 1955). It was in this context that the Chilean Navy made two visits to the Galapagos Islands, one with the steam corvette *Chacabuco* in 1887 and the other with the steamship *General Baquedano* in 1910. The voyages were naval training excursions, but were also scouting missions to allow Chile to learn about the productions and geography of Ecuador's offshore territory, and hydrographic surveying expeditions to improve navigational knowledge about the area. Chile alone of the two countries had a naval hydrographic department at the time (Gorziglia 1994).

Despite the political significance of the visits, the voyages are barely mentioned in history books. Most references to the *Chacabuco* focus on its early hydrographic explorations of southern Chile and its participation in the War of the Pacific, while the *General Baquedano* is best known for its annual investigative expeditions to Easter Island (Rapa Nui) and its naval-training voyages to port cities around the world. In Galapagos the ships are remembered in two place names, Punta Chacabuco on Isla San Cristóbal, and Bahía Baquedano on Isla Santa Cruz, but there has been little understanding of when or why the ships visited Galapagos, where they went or what they accomplished. Bognoly & Espinosa (1905) and Slevin (1959) briefly mentioned the *Chacabuco's* visit in their respective histories of Galapagos, and Woram (2021a) noted the *General Baquedano*, but none provides an account of the ships' movements or activities, while Slevin (1959) incorrectly identified the *Chacabuco's* captain as "Francisco Vidal Gormaz" and the year of the ship's visit as "1837".

The dearth of information about the visits might suggest they were unremarkable, perhaps politically symbolic but not otherwise meaningful, or poorly documented, but this was not the case. Detailed reports, documenting the places explored, the activities performed and observations made, were written by the ships' captains at the conclusion of the expeditions, and published as three lengthy articles in Chile's naval journal, *Anuario Hidrográfico de la Marina de Chile*. Extracts from the account of the *Chacabuco's* voyage, written in Feb 1888 by Captain Juan Federico Chaigneau (1849–1918), were published in 1890, as a quote within an article about the Galapagos Islands written by Francisco Vidal Gormaz (1837–1907), founding director (1874–91) of the Hydrographic Office of the Chilean Navy (Vidal Gormaz 1890). Chaigneau's full report, which includes an account of the *Chacabuco's* visit to Panama (before Galapagos), and Tahiti (after), was published later (Chaigneau 1894). The account of the *General Baquedano's* voyage, written by Captain Arturo Acevedo Lay (1873–1939) in May 1910, was published after he, too, became director of Chile's Hydrographic Office (Acevedo 1918).

The hydrographic results of the voyages were also published in England, after the Chilean Hydrographic Office sent copies of the captains' reports and the charts and tables of hydrographical data constructed during the voyages to the United Kingdom Hydrographic Office (UKHO). It is not clear when exactly these documents were received, but the *Chacabuco's* hydrography was incorporated into UK navigational aids by 1894 (within six years of the completion of that voyage) and the *General Baquedano's* from 1911 (the year after its Galapagos visit). Chile sent these results in recognition of the value of "international cooperation in the field of hydrography" for safe navigation, a transformative idea that had been promoted during the inaugural International Maritime Conference of 1889, which stressed the need for standardized "nautical charts and ancillary publications" that could be used by "mariners of all nationalities" (Kappor 1976). At the time the UKHO was the dominant provider of navigational aids for mariners worldwide, producing up-to-date charts and pilot guides for all regions of the world, and it was the main organization creating maps and sailing directions for the Galapagos. These were based on the ground-breaking survey of the archipelago conducted for the British Admiralty in 1835 by Captain FitzRoy and the surveyors of HMS *Beagle*, during Charles Darwin's famous visit to the archipelago, and they reflect a much longer history of English dominance in the cartography of the

islands, pre-dating the UKHO's formation in 1795. Many of the island names on FitzRoy's chart had been introduced in 1684 by the English buccaneer Ambrose Cowley, while others were designated in 1793–4 by Royal Navy Captain James Colnett, who also made the first recognisable chart of the archipelago (Grant 2017, Woram 2021b). At various times between the 16th and 19th centuries, other countries (e.g. Spain, France and the United States of America) had mapped or published navigational information about the islands, but by the time of the Chilean visits, no country had come close to matching the quantity and quality of navigational material provided by the U.K. Although Chile's hydrographic department, established in 1874, had surveying and cartographical expertise, it only printed charts and aids for its own territories, while Ecuador did not have a cartographic or hydrographic service until Isidro Ayora (President of Ecuador 1926–1931), took the initiative to establish a national mapping agency, the Instituto Geográfico Militar, in 1928 (Capelo 2010), and Alfredo Baquerizo Moreno, during his third term as President (1931–2) founded a hydrographic department, the Instituto Oceanográfico de la Armada (INOCAR), in 1932 (Anon. 1997).

The UKHO worked pertinent information from the Chilean documents into its charts of Galapagos: c. 1894 the *Chacabuco's* survey was incorporated into Admiralty Chart 1376 (*Anchorage in the Galápagos Islands*, first published 1887, revised periodically until 1941), and c. 1920 the *Baquedano's* contributions were added to Admiralty Chart 1375 (*Galapagos Islands Surveyed by Capt. Robt. Fitz Roy R.N. and the Officers of H.M.S. Beagle, 1836*, first published 1841 and periodically updated until 2011: A.-M. Fitzsimmons pers. comm.). For many years, these two charts were by far the best Galapagos maps and nautical charts available internationally, and remained so until the U.S.A. and Ecuador launched naval and aerial mapping campaigns and began producing new aeronautical charts of the archipelago in the 1940s and 1980s respectively. In 1899 the United States Hydrographic Office (USHO: established 1866) began issuing its own chart of Galapagos, Chart 1798 (*Galapagos Archipelago*), which was used by and updated from early 20th century American visitors (e.g. the California Academy of Sciences expedition of 1905–6), but until the 1950s it was a copy of British Admiralty Chart 1375 and a slightly less accurate one.

The Chileans' information was also incorporated into *South America Pilot*, the British Admiralty's main multi-part publication of sailing directions and navigational information for South America, which was updated every few years with information acquired primarily from British surveys but also from hydrographic offices elsewhere. Galapagos was initially addressed in Part 2 (also known as NP-6), a volume that was originally compiled by FitzRoy, with Captain P.P. King of HMS *Adventure* (Fitzroy & King 1860), then republished with changes (UKHO 1895, 1905), and with a 1911 supplement to the 1905 edition (UKHO 1911). Later, the archipelago was addressed in Part 3 (NP-7) (e.g. UKHO 1915, 1927, 1941). The first issue to refer (indirectly) to results from the *Chacabuco* was UKHO (1895), in a footnote referencing Chart 1376, which included survey data from the *Chacabuco*, while the first issue to incorporate results from the *General Baquedano* was UKHO (1911). For many years, *South America Pilot* was the primary source of navigational information for the region, and was the model for similar guides produced in other countries. For example, in 1890 the USHO began producing its own versions of *South America Pilot*, based largely on and generally printed a year after the UKHO's issues, with Galapagos first addressed in volume "H.O. No. 89" (USHO 1890, 1896, 1905) and later in "H.O. No. 174" (e.g. USHO 1916, 1928).

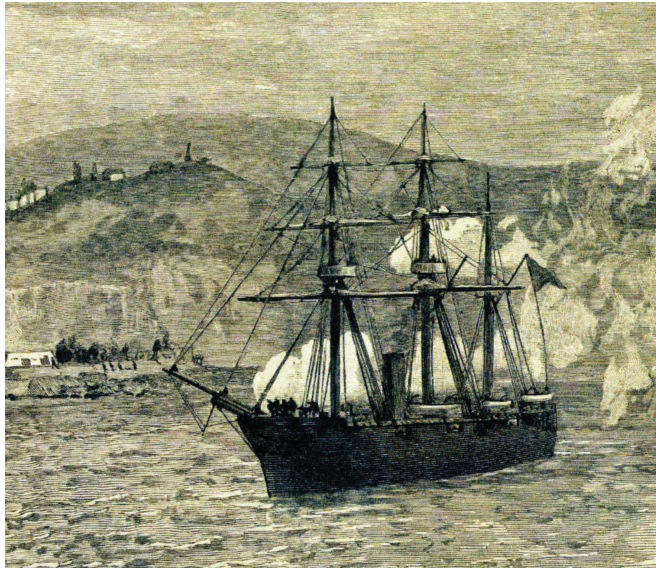
The Chileans' results were given international importance by their incorporation into the British Admiralty's publications, far greater than if Chile had shared them with only Ecuador. Paradoxically, this meant that Chile never received proper recognition for contributing to the hydrography and cartography of Galapagos and its harbours, for even though the Chilean Hydrographic Office is listed as a source in the foreword to *South America Pilot*, the surveyors of the *Chacabuco* and *General Baquedano* are not credited in the Galapagos section and maps. With the exception of Chacabuco Point and Baquedano Bay, it is not obvious that they named, surveyed, charted or described any places in Galapagos at all. Only by analyzing various editions of charts 1375 and 1376 and *South America Pilot* in the context of Chaigneau's and Acevedo's published articles does the extent of their contributions become clear.

Here I provide a description of the ships, a summary of the captains' narratives, a discussion of some of their observations, and an analysis of their hydrographic, cartographic and nomenclatural contributions which are their enduring legacy. Unless otherwise indicated, all quotes are from Chaigneau (1894) and Acevedo (1918), translated from Spanish.

## THE SHIPS, THEIR VOYAGES AND OBSERVATIONS

### Chacabuco

The *Chacabuco* was a 66 x 10 m steam corvette of 1101 ton (1119 t) displacement, one of two identical ships (with the *O'Higgins*: Fig. 1) built for the Chilean Navy in London, England, in 1866 (Brassey 1882, Viel 1887, Vargas Cariola & Silva Vargas 2019). Initially used for hydrographic expeditions to southern Chile and then for fighting in the War of the Pacific, the *Chacabuco* served as a naval ship from 1868 to 1890, after which it was converted into a pontoon, and then scrapped in 1909. It was the second of four successive Chilean naval vessels named *Chacabuco* after the 1817 Battle of Chacabuco, during the War of Independence from Spain.



**Figure 1.** The *Chacabuco*'s twin, the *O'Higgins*, at Valparaíso, Chile, in 1891 (Wells 1891).

the lamp was situated not 92 m above sea level (as published in the memo) or “302 ft” (as incorrectly described by Edwards 1887), but rather 12 m above sea level and 9 m from the ground. It stood on a wooden tripod-like structure and was lit every night, even at full moon, with the white beam reaching “8 to 10 miles” in clear weather (cf. “4 miles” in Edwards 1887 and Vidal Gormaz 1887). Nearby stood a small shed for storing products for export to Guayaquil, namely tortoise oil, sugar cane spirit, bacalao (grouper), and orchilla lichen (*Roccella gracilis*), as well as “cal de piedra” (quicklime) which Chaigneau explained was made by firing a “whitish rock” (presumably tectonically-uplifted or storm-loosened calcareous material from the sea floor), that existed near the shore, in an oven constructed there, and which was used in sugar refining. Following a path that led inland from the beach, Chaigneau and the officers hiked to Progreso, at c. “200 m” elevation, where they found a small sugar mill with an alembic still, plantations of sugarcane (*Saccharum officinarum*) and a hacienda. There they met Lieutenant Colonel Pedro Jaramillo, the first “jefe territorial” (army governor) of Galapagos, who told them that the proprietor of Progreso and owner of the hacienda and sugar mill, Manuel Julián Cobos, was away on one of the other islands collecting orchilla lichen, which produced a dye that fetched “good prices in Europe” and was one of Cobos’s principle exports and sources of income. From Jaramillo, Chaigneau learned there were 140 inhabitants (including 20 women) on the island, most of whom worked for Cobos, and that they lived on the meat of the wild cattle they hunted and on the crops they cultivated, including coffee (*Coffea* sp.), “plátanos” (plantains *Musa* sp.), sweet potatoes (*Ipomoea batatas*), cassava (*Manihot esculenta*), potatoes (*Solanum tuberosum*), “frejoles” (beans Fabaceae), “melones” (melons *Cucumis melo*), and pineapple (*Ananas comosus*), the last constituting the first record of pineapples growing in Galapagos (cf. Lundh 2006). There were a few horses used for transport, and feral dogs, goats and donkeys. Although the island clearly had a favourable climate with sufficient rain for a variety of crops, freshwater for the settlement, obtained from nearby springs and gullies, was often scarce, allegedly due to the large quantities consumed by the cattle, and the porous nature of the soil. The amount of arable land on the island was also limited, the lowlands being too dry and rocky for cultivation and producing only cactus, dry shrubs and a native cotton (“algodoncillo”). Having just spent ten days (22 Oct to 1 Nov) at Panama studying the construction of the Panama canal, Chaigneau thought that Galapagos, due to its geographical location, could potentially take on great importance once this artery was opened, as long as a coal depot for steam ships could be established in the islands. This was an idea that had been raised by the British over 40 years earlier when the steamship HMStr *Cormorant* made its pioneering visit (Grant 2024). Chaigneau did not believe, however, that an agricultural colony of any great importance could ever be sustained on Chatham.

### General Baquedano

The *General Baquedano* (Fig. 2: sometimes spelled *Jeneral Baquedano* and often abbreviated to *Baquedano*) was a 73 x 14 m steam corvette of 2500 tons (2540 t), built by Armstrong Whitworth in Elswick, England in 1898 and launched in 1899 (Office of Naval Intelligence 1900). It was named after the Chilean military general Manuel Jesús Baquedano González (1823–97) and was the second of four Chilean naval vessels to bear his name. The ship was used by the Chilean Naval School as a training and expedition vessel from 1899 to 1935, conducting annual visits to Easter Island

The *Chacabuco* visited Galapagos for six days (20–26 Nov) in 1887, during a 4.5 month (4 Oct 1887 to 23 Feb 1888) naval training and fact-gathering voyage that also stopped at Panama and Tahiti. Just one Galapagos island was visited, Chatham (San Cristóbal), where the ship anchored in “puerto Chico” (also known as Wreck Bay and, since 1917, as Puerto Baquerizo Moreno: Latorre 1999) and a hydrographical survey of the bay was conducted, as a training exercise and to add to the chart of the same bay that had been made by the Italian ship *Vettor Pisani* in Mar 1884. Time was also spent unsuccessfully attempting to retrieve the *Chacabuco*'s port anchor chain, which was lost in 80 m of water when a corroded link broke. On shore the officers explored the vicinity of Puerto Chico and the highland settlement of Progreso, collecting specimens of common native plants, seeds from some of the crops grown, and information on the inhabitants, their occupations and constructions. Chaigneau began by examining the lighthouse that stood at the back of the landing beach, which had been erected earlier that year or in late 1886, and which he had read about in a recent naval memo (Vidal Gormaz 1887). He found that



Figure 2. The corvette *General Baquedano* c. 1916 (from León León 1920).

(Rapa Nui, annexed by Chile in 1888), as well as longer voyages to more distant parts. It was scrapped in 1959 (Conrich & Mückler 2016).

The *General Baquedano*'s visit to Galapagos in 1910 followed the ship's mission to return to Guayaquil several Ecuadorian students who had been studying at Chile's Naval Academy but had been recalled in the face of rising tensions with Peru, and to help deliver ammunitions from the Chilean government. This move incensed Peru and almost sparked a war that was avoided through international arbitration (Anon. 1923). At Guayaquil the ship was given an "extraordinary" welcome, with the men aboard returning the "fraternal greeting" in equally brotherly spirit, "the entire crew feel[ing] an intense joy to see the always victorious flags of Ecuador and Chile linked" (Anon. 1910). The ship then spent 24 days (25 Mar to 17 Apr) in the Galapagos (Fig. 3), visiting five islands

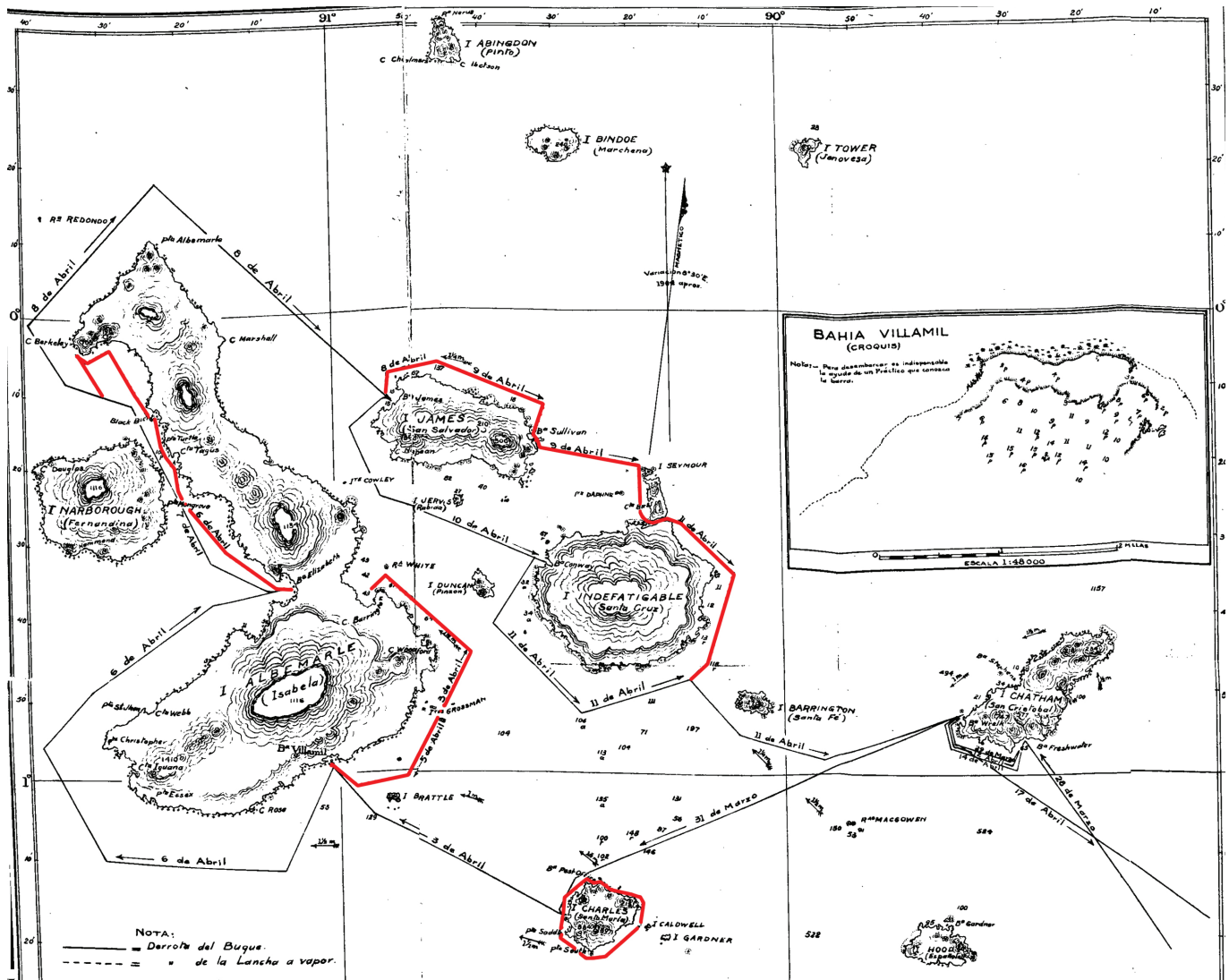


Figure 3. Map of the Galapagos Islands showing the *General Baquedano*'s route through the archipelago (solid line), and that of its steam launch (dotted line, here traced over in solid red for improved clarity), with inset chart of Bahía Villamil constructed during the voyage (from Acevedo 1918).

(San Cristóbal, Floreana, Isabela, Santiago, Santa Cruz), and stopping at seven anchorages: Wreck Bay, Black Beach, Puerto Villamil, Isabel Bay (within Elizabeth Bay), James Bay, Conway Bay, and Academy Bay (which Acevedo referred to as Puerto Núñez). It also sent a small steam launch and landing skiff to examine Cartago Bay, Tagus Cove and Banks Bay (Isabela), Sullivan Bay (Santiago), the northern coast of Santa Cruz, and the Seymour Isles (Baltra, North Seymour and Mosquera). Hydrographical surveys, involving triangulations and soundings, were conducted at most of these places, and charts were made of some of the bays.

The ship's first stop, after leaving the continent on 17 Mar and traveling by steam when close to shore and by sail in the open ocean, was Freshwater Bay, San Cristóbal, where it anchored for two days (26–28 Mar) and took aboard 160 tons of freshwater. It then moved to “puerto Wreck” (Wreck Bay), anchoring just north of Punta Lido and remaining there for another two days (29–31 Mar). On land, Captain Acevedo met Miguel Núñez, administrator of the colony and its sugar operation and “jefe territorial of the archipelago”. Acevedo explained the goals of the voyage, to visit “all the principal islands of the archipelago” in order to carry out a program of instruction for the midshipmen on the ship, and invited Núñez to join the *Baquedano* on its tour of the islands. Núñez accepted and brought with him “Tomás Leveck” (elsewhere spelled Thomas Levick, also known as “Johnson of London”: Grant & Estes 2015), retired captain of the settlement's schooner *Manuel J. Cobos*, whom Núñez insisted was “the only person on San Cristóbal who can provide information on the navigation in these islands” having lived in Galapagos for “more than 40 years”, and two “vaqueanos” (*sic*, baquianos or local guides) who were also long-term residents, and knew “all the islands”.

The *Baquedano's* next stop was Black Beach (now also known as Puerto Velasco Ibarra), Floreana, from 31 Mar to 3 Apr, where most of the ship's complement (“100 sailors” divided into small groups, under the command of officers), was given leave to explore the highlands, while a few men circumnavigated the island in the steam launch. Floreana was not then inhabited but the men could see ample evidence of previous occupation: lemon and orange trees growing around the highland pond, wild cattle, pigs and donkeys. Acevedo was informed that Floreana's most recent inhabitant, Antonio Gil, had lived on the island for four years and raised a large number of cattle for their hides, but that he had since moved the industry to Isabela. With Núñez's permission a calf (one of more than 1000 head of cattle reportedly still on the island) and a pig (even more numerous than the cattle) were killed for a roast on shore. Two men got temporarily lost in the interior, which delayed the ship's planned departure from the island by a day.

The next anchorage was Puerto Villamil, Isabela, 3–5 Apr. Acevedo described the approach to the landing beach, where there was a wooden dock for embarking animals, as very tricky, and warned that “in no case should it be attempted without a knowledgeable pilot”. He also noted that the NW point of the bay projected much further out than was shown on “the English map 1375” (*i.e.* British Admiralty Chart 1375, *Galapagos Islands Surveyed by Capt. Robt. Fitz Roy R.N. and the Officers of H.M.S. Beagle, 1836*). He consequently ordered the bay to be surveyed by the *Baquedano's* naval students under their instructor, First Lieutenant Alejandro García, and attached the resulting chart, triangulation and sounding data to his official report. These items were not included in Acevedo's published article, but that did include a map of the *Baquedano's* route through islands, and a small inset sketch of “Bahía Villamil” (Fig. 3). At midday on 3 Apr, Second Lieutenant Isidoro Becerra left in the steam launch to explore Cartago Bay on the east side of the Perry Isthmus, landing at four different places and discovering that the verge of mangroves along the entire coast within the bay, obscuring the open expanse of lava behind, was never more than 150 m thick. After sounding the bay he returned to the *Baquedano* on the morning of 5 Apr.

Leaving Puerto Villamil that same evening, the *Baquedano* then headed to the western side of the Perry Isthmus where it anchored in “bahía Isabel” (the inner reaches of Elizabeth Bay), at 15h30 on 6 Apr, a “half mile from the larger of the two islets that exist in the NE part of the bay” (now called the Mariela Islets), where it remained until 11h15 on 7 Apr. García was tasked with making a quick chart of Bahía Isabel, which was attached to Acevedo's report (but not published), and with examining the land, which was found to be similar to Cartago Bay, consisting of fields of lava obscured by stretches of mangrove forest. Lieutenant Guillermo Vargas Chacón and Lieutenant Federico Wilson were sent in the steam launch to explore Tagus Cove and Banks Bay. Levick informed Acevedo that the mangrove-lined inlets close to the *Baquedano's* anchorage extended far inland, “almost to Cartago Bay” (an exaggeration) and were navigable by small boat at high tide, that a small water seep existed just south of Tagus Cove but had not produced much water since a “yankee” had attempted to enlarge it with dynamite two years earlier, and that there was a cove, north of Tagus Cove and “punta Tortuga”, where small vessels could anchor in front of a mangrove thicket and land on a black sand beach (today called Playa Tortuga Negra). He assured the captain there were no more coves or harbours of any practical significance elsewhere on Isabela but that ships could anchor at a point (probably that now known as Punta Alfaro) facing Cowley Islet, where tortoises had been taken “in 1870” from the flanks of Cowley (now known as Alcedo) Volcano (Heller 1903).

After leaving Elizabeth Bay and navigating northward between Fernandina and Isabela Islands, the *Baquedano* picked up the steam launch off Cape Berkeley just after sunset. The ship's progress, which was already slow in order to conserve coal, was further impeded when it rounded Albemarle Point (the northern extreme of Isabela) and encountered a strong current flowing towards the northwest, away from their next destination, James Bay, Santiago, which was

consequently not reached until 18h20 on 8 Apr. Anchoring in the northern part of the bay, off the beach now known as Espumilla, the *Baquedano* remained there until 2h00 on 10 Apr. Shore parties were landed on 9 Apr, but no efforts were made to penetrate far inland, there being insufficient time to cut trails through the thick vegetation. The bay was calm during their brief visit, but Levick informed Acevedo that the area was often plagued by strong winds and heavy surf which could make landing impossible. He further explained that the beach was a favourite nesting place for turtles but that the eggs were devoured by the numerous wild pigs that lived on the island. The pigs, he warned, were also very dangerous to humans; the “vaqueanos” knew of several men who had been badly bitten by boars while they were collecting orchilla on the island in years past. No pigs were seen by the Chileans, but, perhaps alarmed by the vaqueanos’ tales, they were quick to shoot a feral donkey that approached as if, they thought, to charge them. From James Bay, Second Lieutenants Isidoro Becerra and Humberto Baltra were dispatched in the steam launch to explore the lands around “puerto Sullivan [sic]” on Santiago, then to proceed “to the north part of Indefatigable to make a quick chart of the bay located to the west of the Seymour isles” and then to make another chart of a bay that Acevedo (1918) referred to as “puerto Núñez”, on the southern side of Santa Cruz, which was also to be the point of rendezvous with the *Baquedano*.

The ship then continued to Conway Bay, Santa Cruz, where it anchored at 10h30 on 10 Apr. Acevedo wrote that the bay was calm and spacious, and would make a good port if only freshwater, which their local guides insisted was abundant in the highlands of Santa Cruz, could somehow be brought down to the coast. On the morning of 11 Apr the *Baquedano* continued southward, arriving at the bay that Acevedo (1918) called “puerto Núñez” at 10h30. The steam launch, however, was late, and therefore out of time to survey it, as originally planned. Acevedo had to content himself with describing the harbour from what he could see and what Levick told him. His description of vertical black cliffs, a vegetated islet in the eastern part of the entrance to the bay (clearly the islet now known as Caamaño), a small inlet in the furthest reaches of the bay where freshwater could be obtained from a small crack, of rough seas at the western point of the bay and of a long sandy beach (now known as Playa Tortuga) further westward of this point, all indicates that the name Puerto Núñez referred to the bay now called Academy Bay, and not the large bay further east, as it does today.

Becerra and Baltra provided Acevedo with their report, dismissing Sullivan Bay as having little to offer except a place to anchor, but being more positive about “the bay to the west of the Seymour isles, on Indefatigable island, [which] offers a good anchorage, even though somewhat deep”. This bay ended up bearing the *Baquedano*’s name. The men had also explored the channel between “Islote Baltra” and Santa Cruz and found it passable by small vessels, but only at high tide when soundings > 4.5 m could be measured. They warned that the tidal range seemed to be amplified within the strait, and that great care had to be taken at low tide to avoid becoming grounded on numerous rocks and shallows. Nonetheless they had successfully navigated the canal in the steam launch, and it had taken “12 miles” off the safer route around the north of the Seymour isles.

After hoisting aboard the steam launch and skiff off Puerto Núñez, the ship returned to San Cristóbal, anchoring off Punta Lido on the night of 11 Apr. The next morning it moved to Freshwater Bay where two days (12–14 April) were spent attempting to take on freshwater, under incessantly windy conditions. The ship then returned to Wreck Bay where 100 m<sup>3</sup> of firewood were purchased in lieu of coal, and loaded aboard over three days (14–17 Apr). During this time the midshipmen, under the direction of Lieutenant García, were tasked with sounding and surveying Wreck Bay, using triangulation and astronomical observations to determine location. The officers also explored on shore. Acevedo noted that a 200 m wooden landing dock had been constructed sometime between Chaigneau’s visit in 1887 and the assassination of Manuel J. Cobos (and jefe territorial Leonardo Reina) in 1904, with a Decauville rail line that ran from it to some bodegas at the back of the beach. The lighthouse was still there, next to the hut that was now inhabited by Levick, and near the landing dock was a small patch of calcareous rocks on shore, where lime was still being produced for the sugar refinery. Following the path to Progreso, which Acevedo described as being inland at c. 7 km and at an elevation of c. 288 m, Acevedo found another Decauville railway stretching 5 km between the sugar plantations that Cobos had established in 1881 and the steam-operated factory that he had built in 1889 to replace the original animal-powered mill that Chaigneau had seen in 1887. A “5 mile” (c. 8 km) aqueduct of galvanized iron had also been installed to carry water to the factory, as the nearby springs yielded insufficient for its operation. Acevedo learned that the sugar factory, which was then owned by Cobos’s brother-in-law Rogelio Alvarado (Latorre 1999), though Acevedo makes no mention of this, operated year-round and (supposedly) produced up to 30,000 quintals (3000 tonnes) of refined sugar and 14,400 litres of cane spirit annually. The population of Progreso had more than tripled since Chaigneau’s visit 23 years earlier: 480 people now lived on the island, including 60 women and 40 children, of whom 206 people worked at the factory. The island also supported 800 head of cattle, about 100 horses, and feral and domestic donkeys but reportedly few, if any, pigs, although pigs had been said to be “in great numbers” on the island in 1875 (Cookson 1875). About 220,000 coffee plants had been planted during Cobos’s reign and were producing 3000 quintals (300 tonnes) of coffee beans per year. Acevedo also recorded the following crops on the island: sugarcane, maize (*Zea mais*), potatoes, sweet potatoes, cassava, beans, pumpkins (*Cucurbita* sp.), oranges (*Citrus* sp.),

figs (*Ficus carica*), guavas (*Psidium guajava*), “ciruelas” (probably Hog Plum *Spondias purpurea*), melons, plantains, pineapples, grapes (*Vitis vinifera*), badeas (Giant Granadilla *Passiflora quadrangularis*) and mangos (*Mangifera indica*). The last two plants in this list are first records for Galapagos; they were next recorded growing on Santa Cruz in the 1930s (Lundh 2006). Grapes had previously been reported by Serra (1886), growing at Progreso in 1884, but this record (as well as Acevedo’s) seems to have been subsequently overlooked (e.g. Lundh 2006). Acevedo also noted a large number of introduced “jarcia manila” plants from which the labourers made “a fine-looking rigging rope” called “enequen” (henequén). Although jarcia manila refers to sisal *Agave sisalana* and henequén to *A. fourcroydes*, the plants were probably *Furcraea hexapetala*, as already recorded, along with its use for rope, in 1906 (Stewart 1911: “*F. cubensis*”). Acevedo believed the fibres could “be a material for industrial exploitation”, to replace orchilla, which was no longer collected because commercial quantities could no longer be found due to overharvesting and because a cheaper, synthetic dye had undercut the industry. He was even more optimistic about the fishing industry, which he thought held great potential, as the groupers and lobsters in the archipelago were exceptionally large and abundant and the prices in the markets of Ecuador were high. He realized, however, that there would be significant challenges in establishing a profitable fishing venture, as it would require adequate vessels, initial capital, a regular steamship service, and improved communications on the mainland.

### VALUE OF THE CHILEAN RESULTS

The visits of the *Chacabuco* and the *General Baquedano* to the archipelago are of interest for what they tell us about the early years of the settlement of Progreso on San Cristóbal, and for the results of their hydrographic surveys, which not only improved navigational knowledge but also added names to the Galapagos map.

Although much has been written about Progreso, its founder Manuel Julian Cobos, his sugar refinery and his despotic rule over his workers until his assassination (e.g. Bognoly & Espinosa 1905, Latorre 1991, 1999, Woram 2005, Hennessy 2019), the Chilean reports, written when the settlement was about 12 and 35 years old respectively (Cookson 1875), provide interesting details with regard to the settlement’s installations, the size of its human population, the variety of crops grown and the kinds and numbers of domestic animals raised there, all useful for understanding how the island and its fauna and flora have changed as a result of human impact. The reports include the first records of three introduced crop plants, all still cultivated in the islands, and useful confirmation of the abundance and spread of other cultivated plants and domestic animals. They illustrate the shift in the Galapagos economy between 1887 when it was based largely on indigenous natural resources (mainly orchilla lichen, also tortoise oil), with some dependence on agricultural products (e.g. sugarcane), and 1910 when it had become based almost exclusively on introduced agriculture, principally sugarcane (for spirit) and coffee on San Cristóbal, and cattle for hides on Isabela. As noted by Acevedo (1918), the change was partially driven by the development of synthetic aniline dyes in the 1890s and the decline of the oil market, but it was also largely a consequence of over-harvesting. The lichen had suffered four decades of intensive collecting by José Valdizán, Manuel J. Cobos, José Monroy and the employees of their Orchillera Company, founded in the late 1850s (Cookson 1875), while the tortoises had a much longer history of hunting by pirates, whalers, colonists and scientific collectors, and predation by introduced mammals (Townsend 1926, Grant & Estes 2009, Gibbs *et al.* 2021). The tortoise oil that Captain Chaigneau found in the bodega at Wreck Bay in 1887, ready to be exported to Guayaquil, would not have been locally sourced, for the tortoise population that once occupied southern San Cristóbal was almost certainly extirpated in the 1840s (Wood 1847, Grant & Estes 2009, Grant 2024). Instead it probably came from the tortoises on Isabela and Santa Cruz Islands, which, due to their large size, were prized for their oil, and unlike most other tortoise populations in the archipelago were still “not rare” by the end of the century (Cookson 1875, Heller 1903, Townsend 1926). However by 1910 even they had almost disappeared, according to Acevedo, and only a few small individuals were being sold on the mainland, at a very high price due to their scarcity. Acevedo attributed their demise to the constant persecution exacted upon them by humans for meat and oil, but also on “the incessant, deadly war” inflicted on the young tortoises by feral dogs, “in great numbers” on some of the islands. He believed the dogs would eventually cause their extinction, except on Santiago where there were no dogs and where tortoises could still be found in the highlands. Although Acevedo gave the impression that the tortoises were no longer exploited for profit on a significant scale, and that the only natural resources being collected were sulphur (from Isabela), salt (on Santiago and “other islands”), and calcareous rock from Wreck Bay, it is clear from subsequent reports that tortoises on Isabela were still being killed for oil throughout the first half of the 20th century (Gibbs *et al.* 2021).

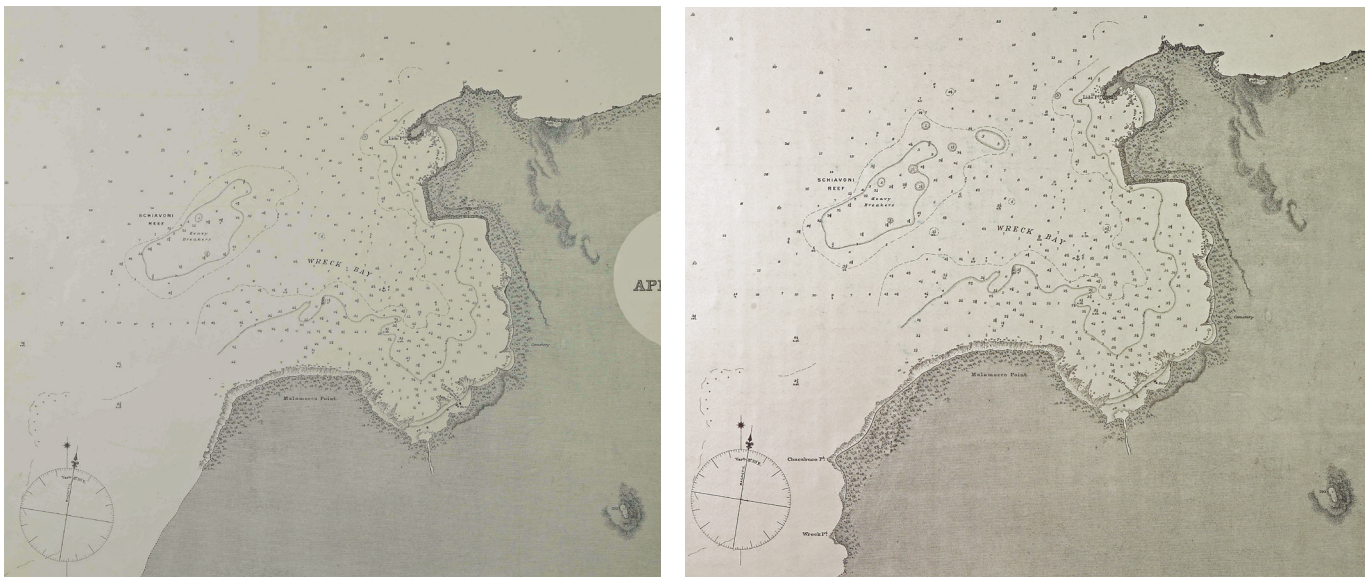
The hydrographic surveys conducted by the *Chacabuco* and the *General Baquedano* were naval training exercises supervised by trained hydrographers. One of them, Federico Chaigneau, had specialized in that field early in his career (Figuerola 1888), and two others, the *Baquedano*’s captain Acevedo and naval instructor Alejandro García Castelblanco (1881–1938) later became directors of Chile’s Hydrographic Office. Thanks to the UKHO and its broad dissemination of the Chilean information, the surveys resulted in several improvements to navigational knowledge and safety in the

islands. The *Chacabuco's* survey of Wreck Bay was especially useful, for the bay was, at the time, the only inhabited port in the archipelago and the point of entry for most ships (merchant, naval and scientific) navigating through Galapagos, and certainly for all those needing to provision. With an extensive reef at its entrance it was a hazardous place for ships. Named by James Colnett after the remains of a shipwreck were found there by his crew in 1793, it has been the site of several other wrecks and groundings since (Grant 2017, Woram 2021c). A chart of Wreck Bay, based on surveys by HMS *Pandora* in 1847 and the Italian corvette *Vettor Pisani* in 1884 (Serra 1886), had been published on Admiralty Chart 1376 in Oct 1887 but the *Chacabuco* improved on this by revealing additional shallows around Schiavoni reef and extending the coastline survey south of Malamocco Point (Fig. 4).

Although the *General Baquedano's* survey did not result in any coastlines being altered on the British maps, its navigational contributions were extensive. Thanks to the pilotage of Levick, who had lived and worked as a captain in the islands for 42 years (Grant & Estes 2015) and directed the ship and its steam launch to what he knew as the best anchorages in the central archipelago, twelve bays and coastal areas were examined by the *General Baquedano's* surveyors. Six of these were already well known to the UKHO: anchorage charts of Wreck Bay, Black Beach, Tagus Cove, James Bay, Sullivan Bay and Conway Bay had already been published as insets on Charts 1375 and 1376 and had been identified and described in *South America Pilot*. However the remaining six sites, *i.e.* Bahía Villamil, Bahía Isabel (*sensu* the innermost part of Elizabeth Bay), Bahía Cartago, Baquedano Bay, Canal Itabaca and Puerto Núñez (meaning Academy Bay) were new to the British Admiralty in that, although their coastlines were delineated on Chart 1375, the harbours and channel had not been identified by name, nor described in any UKHO publication. The additions to *South America Pilot* and Chart 1375 represented a significant increase in the number of harbours and coastal areas in the archipelago which mariners could identify by name and navigate with some prior knowledge. Three of the areas identified by the *Baquedano* are today among the most populated and frequently visited areas in Galapagos, and became that way within just a few decades of the Chileans' visit: Puerto Villamil, inhabited for about 15 years, had never been charted; "puerto Núñez" (Academy Bay), was colonized by 1926, with the settlement then named Puerto Ayora after President Isidro Ayora (Pan American Union 1927); and Baltra Island was first occupied in 1942, by the U.S. military.

### THE CHILEANS' LEGACY OF PLACE NAMES

The hydrographic information contributed by the *Chacabuco* and the *General Baquedano* was novel and useful, but has largely been superseded by more accurate survey. Their more lasting contribution is the nine place names that were added to the Galapagos map as a consequence of their visits, all but one of which are still in use today: Punta Chacabuco, Bahía Baquedano, Isla Baltra, Canal Itabaca, Caleta Birs (now known as Aeolian Cove), Puerto Núñez, Bahía Cartago, Bahía Isabel and Puerto Villamil. Four of the names are clearly Chilean: Point Chacabuco and Baquedano Bay were named, probably by the UKHO, after the Chilean ships, while Baltra Island and Canal Itabaca were named



**Figure 4.** Wreck Bay, San Cristóbal, from two copies of Admiralty Chart 1376 in the Archives of UKHO: copy OCB 1376-B2 of the first edition published in Oct 1887 (left), and copy OCB 1376-B4 with corrections to May 1894 (right), showing modifications to Schiavoni Reef and the addition of coastal details south of Malamocco Point, including the labels Chacabuco Point and Wreck Point.

by and after men on board the *General Baquedano*. Puerto Núñez, Bahía Cartago and Caleta Birs may also have been named by the *General Baquedano*'s men, but they could, alternatively, have been local names that might never have made it onto an official map of Galapagos had it not been for the Chileans recording them and introducing them to the UKHO. Puerto and Bahía Villamil, and Bahía Isabel, were pre-existing, published, names that were, nevertheless, first brought to the attention of the UKHO by the *General Baquedano*'s report (Table 1).

**Table 1.** Place names added to the Galapagos map as a result of the surveying voyages of the *Chacabuco* in 1887 and the *General Baquedano* in 1910.

English (Spanish) name	First added to a UKHO publication	First known publication	Named after	Named by (approx. date)
<b>Names of Chilean derivation:</b>				
Chacabuco Point (Punta Chacabuco)	1894	Admiralty Chart 1376 (1894 ed.)	Ship <i>Chacabuco</i>	UKHO 1894
Baquedano Bay (Bahía Baquedano)	1911	UKHO (1911)	Ship <i>General Baquedano</i>	UKHO 1911
Baltra Island (Isla Baltra)	1911	UKHO (1911)	Humberto Baltra	Acevedo? 1910
Ilabaca/Itabaca Channel (Canal de Ilabaca/Itabaca)	1911	UKHO (1911)	Julio Ilabaca	Acevedo? 1910
<b>Names of unknown origin, either pre-existing names learned by Acevedo or new names provided by him:</b>				
Birs Cove (Caleta Birs)	1911	UKHO (1911)	?	Acevedo? 1910
Port Nuñez (Puerto Núñez)	1911	UKHO (1911)	Miguel Núñez	Acevedo? 1910
Cartago Bay (Bahía Cartago)	1911	UKHO (1911)	?	Acevedo? 1910
<b>Pre-existing published names learned by Acevedo and provided to UKHO by Chile's hydrographic office:</b>				
Port Villamil (Puerto Villamil)	1911	Bognoly & Espinosa (1905)	José Villamil	Gil 1893
Isabel Bay (Bahía Isabel)	1911	Villavicencio (1858a, 1858b)	Santa Isabel?	?

Apart from Point Chacabuco, clearly associated with the voyage of that ship, the other eight place-names were either coined by or brought to the attention of the UKHO by the *General Baquedano*. The UKHO published all eight for the first time in 1911 (UKHO 1911) with descriptions matching in wording or detail those written by Acevedo or shown on his route map (Fig. 3), thus leaving little doubt that they were obtained from the captain's original report and the sketch charts produced under his watch. Several of the names ("Baltra I & Puerto Nuñez", "Bahía Cartago", "Isabel Bay", "Port Villamil", "Anchorage [on] Indefatigable") are also mentioned in hand-written notes in the margins of one of the UKHO's surviving copies of UKHO (1905) (copy SAR1-6-1), as places to be added to the next edition. This corrects the chronology of Woram (2021d) who wrote that the names Baquedano, Baltra, "Ilabaca" and Birs were first published by UKHO (1927), with the handwritten margin notes naming "Baltra I & Puerto Nuñez" appearing on a copy at UKHO of the "1915" edition. All eight names were also added to British Admiralty Chart 1375 sometime between 1920 and 1930 (most likely earlier than later); of the surviving maps in the 1375 series at the UKHO (which are now catalogued with the designation OCB or "Old Copy Bundles"), OCB 1375-B3, bearing "small corrections" added in 1920, 1926 and 1930, and issued in or shortly after 1930, is the oldest version to show the eight names (Fig. 5). If earlier versions were issued, they are no longer held in the UKHO archives. The latest previous version in the archives, OCB 1375-B2 showing corrections to 1887, does not bear the names as it was probably printed *c.* 1904, *i.e.* before the *Baquedano* voyage, as indicated by a titular subheading reading "Magnetic Variation in 1904, nearly stationary".

### Chacabuco Point (Punta Chacabuco)

Situated between Wreck Bay and Wreck Point on San Cristóbal, Chacabuco Point is the only place name to result from the *Chacabuco*'s visit to Galapagos. It clearly honours the ship, but may not have been named by the Chileans, for neither Chaigneau (1894) nor Vidal Gormáz (1890) included it in their respective articles. Instead it was probably given by the British Admiralty when they added the point and its label to Admiralty Chart 1376 (Fig. 4). It was first added to *South America Pilot* in 1941 (UKHO 1941).

### Baquedano Bay (Bahía Baquedano)

Baquedano (misspelled "Barquedano" in UKHO 1911) Bay clearly honours the *General Baquedano* and identifies a bay on the north coast of Santa Cruz. As Acevedo did not name this bay in his published report, the name may have been bestowed by the British Admiralty. However, Acevedo's description of a "bay to the west of the Seymour islets, on Indefatigable island, good anchorage, although somewhat deep, its bottom being clean except at the vertex of the right angle formed by Baltra and Seymour islets with the north coast of Indefatigable island, where there are rocky outcrops" clearly matches that of the "Baquedano Bay" described in UKHO (1915) as "situated on the north coast of



**Figure 5.** The central part of the Galapagos archipelago on copy OCB 1375-B3 of Admiralty Chart 1375, showing corrections to 1930, and bearing the new labels for Baltra Island, Birs Cove, Baquedano Bay, Ilabaca Channel, Port Nunez, Cartago Bay, Isabel Bay and Port Villamil (archives of the UKHO).

Indefatigable island, westward of Baltra island, the southern and larger of the Seymour islands, affords good anchorage abreast of a sandy beach and close southward of Birs cove on the latter island.”

These descriptions indicate that Baquedano Bay referred, at least originally, to the large open bay now known locally as “La Tranca”, at the western entrance to Canal de Itabaca, the channel between Baltra and Santa Cruz Islands (Fig. 6). However there appears to have been some uncertainty at the UKHO as to its exact location or scope, because the position of the “Baquedano B.” label on OCB 1375-B3 suggests that it referred to a bay on Baltra Island (Fig. 6), as does UKHO (1941), which stated that it occupied the “next bight, southward of Birs Cove”, an area today colloquially known as “Salinas” (S. Cruz pers. comm.). A handbook by British Naval Intelligence (Darby 1943), also places “Bahía Baquedana” (*sic*) “on the west coast of Baltra”. Uncovering the original chart of the area made by Lieutenants Baltra and Becerra might resolve this matter, but in any case the above evidence indicates that “Baquedano Bay” did not correspond to Borrero Bay (further west on Santa Cruz), as has been proposed (Woram 2021e).

### Caleta Birs (Birs Cove)

Caleta Birs is the harbour now known as Caleta Aeolian or Aeolian Bay (and also as Bahía Seymour or Seymour Bay) on the northwest side of Baltra Island; today it is an important anchorage for tour vessels connecting with Baltra airport, and the location of the archipelago’s principal fuelling station. Acevedo did not describe this bay in his narrative, but it is labelled on his route map (Fig. 3). The meaning of the name and who assigned it remain unknown. Birs is an uncommon surname found mainly in France, the United Kingdom, Russia, and North America, but it is not a Chilean name, and even though the Chilean Navy was dominated by British, Irish and American officers during the Wars of Independence in the early 19th century, I have found no record of a Birs serving the country. Possibly the label was given by Levick, who was English, or another local of northern origins, for apart from the U.S.

scientific expeditions that visited the island at the turn of the century (the Hopkins Stanford Galapagos Expedition of 1898–9 and the California Academy of Sciences expedition of 1905–6), the Seymour Isles were rarely visited by mariners until William Beebe explored Galapagos, including “Seymour Bay”, in 1923, and wrote a popular book (Beebe 1924) that inspired a succession of private yacht owners to discover for themselves the places that had so enchanted the lyrical author.

The name Aeolian Bay, which has replaced Caleta Birs, appears to have originated in or shortly before 1940. In Apr 1941, Schmitt (1941), who had visited the island three times previously (in 1933–8), and who knew the bay as “Velero Bay” (Schmitt 1935) or “South Seymour Anchorage” (Schmitt 1938), found the name “Aeolian Bay ... cut in stencil fashion on a piece galv[anized] iron, underneath [which was] a sea turtle shell forming a roof over a small 3 x 5 black covered note book in which visitors may write names”. Schmitt recorded one of those names, USS *Lapwing*, Oct 1940; possibly the ship responsible for leaving the artefacts and even for bestowing the name. An alternative origin for the name and perhaps also for some of these objects might have been a visiting yacht from the Aeolian Yacht Club of San Francisco, California.

### Isla Baltra (Baltra Island)

Today home to the archipelago’s busiest airport and an Ecuadorian (formerly U.S.) military base, Baltra was almost certainly named after Lieutenant Humberto Baltra Opazo (1884–1950), the naval officer on board the *General Baquedano* who, with Isidoro Becerra Saavedra (b. 1884), was tasked with surveying “Isote Baltra” (Acevedo 1918). Baltra is a common surname in Chile, though not elsewhere in South America. Humberto, who graduated from Chile’s Naval Academy in 1902 after distinguishing himself as an outstanding naval cadet in 1899 (Merlet Sanhueza 2013) and who later rose to the rank of “capitán de corbeta” (lieutenant commander) (Anon. 1920), appears to have been the only Baltra in the Chilean Navy during the first decade of the 20th century (Artigas 1909).

### Canal de Itabaca (Itabaca Channel)

Between Baltra and Santa Cruz islands, this channel was probably named after Chilean naval officer Julio Ernesto Ilabaca León (b. 1891) (Merino 1919). Itabaca is almost certainly a misspelling because even though “Itabaca channel” appears in UKHO (1911), it was changed to “Ilabaca channel” for the 1915 and 1927 editions and for OCB 1375-B3 (Fig 6). Further, Itabaca does not appear to be a recognized surname anywhere in the world (as far as can be determined from genealogy references such as ancestry.com), whereas Ilabaca is a known surname in Chile and there were two men of this name in the Chilean navy at the time of the *Baquedano*’s visit, Julio and his younger brother Guillermo Antonio (b. 1892) (Artigas 1909, Merlet Sanhueza 2013). A partial ship’s manifest (Anon. 1910) shows that Julio Ilabaca was on the *General Baquedano* for its Galapagos visit, as an officer-in-training (“guarda marina de segunda”). Perhaps the channel was given his name if he assisted Lieutenants Baltra and Becerra in their pioneering survey of it.

The eventual reversion to the misspelling “Itabaca” appears to have been facilitated by the North Americans, with “Canal de Itabaca” appearing in “The Millionth Map of Hispanic America” (American Geographical Society 1927, Platt 1927). Unless it made its own typographical mistake, the American Geographical Society appears to have obtained the misspelt name from UKHO (1911), as the USHO did not name the channel on its publications until 1960, when the Naval Oceanographic Office (the new name for the USHO) added a description of “Canal de Itabaca” to its equivalent of *South America Pilot* (Naval Oceanographic Office 1960). While the UK continued to use “Ilabaca” into the



**Figure 6.** The approximate location of Baquedano Bay: (left) as plotted according to the description in UKHO (1915) and (right) as shown on Admiralty Chart 1375, edition printed sometime after 1930 (copy OCB 1375-B3 in archives of the UKHO).

1950s (e.g. Darby 1943, OCB 1375-B5 with corrections to 1952), U.S. sources adopted “Itabaca” (e.g. Bumstead 1936, Hanson & Raymond 1944, Bowman 1946), with the U.S. government recognizing Itabaca as the “official” name, and Ilabaca as an unapproved variant (U.S. Board on Geographic Names 1957).

### **Puerto Núñez (Port Núñez)**

On Santa Cruz Island, Puerto Núñez was most likely named after San Cristóbal resident Miguel Núñez (b. 1881), administrator of Progreso from 1904 to 1910, jefe territorial of Galapagos from c. 1908 (possibly earlier) until Nov 1910 (Anon. 1904, 1909a, 1911, Núñez 1910), and son of Tácito Núñez (1851–1927), who was jefe territorial in 1900 (Latorre 1999). Although Miguel lived on San Cristóbal, he clearly knew Santa Cruz well for he told Acevedo that he preferred it, with its “natural pastures” and abundance of highland water, over all the other islands, and had asked the Ecuadorian government for 80 ha of its land for himself and his family (Acevedo 1918). In 1910 Santa Cruz was uninhabited but its highlands had been visited by San Cristóbal residents since the 1840s, first from a landing on the west coast. This landing place was known later in the 19th century as Puerto de las Chacras and, since at least the mid-1950s, Whale Bay or Bahía Ballena (Lundh 2004). However, since c. 1870, they had also reached the highlands from a bay in the south, originally known as “Puerto de la Aguada” and “la Aguada de Chávez” (Habel 1868, Slevin 1905, Lundh 2004), and today called Academy Bay (Lundh 2004, Grant & Estes 2015, Grant 2024). This was the bay which Acevedo (1918) referred to as Puerto Núñez, a name that was either told to him by his Galapagos host and shipboard guest Miguel Núñez, or invented by Acevedo to honour Núñez. By 1910 the name Academy Bay had already been given to this bay by the California Academy of Sciences 1905–6 expedition aboard the research vessel *Academy* (Slevin 1905) but it may not have been communicated to local residents and was not published until 1911 (Stewart 1911), so would have been unknown to the Chileans. It was also unknown to the UKHO when “Port Nuñez” was added to UKHO (1911) with descriptors (e.g. freshwater and an islet) drawn from Acevedo’s account, which clearly refer to what is now known as Academy Bay.

Today Puerto Núñez identifies a different bay, on the southeast coast of Santa Cruz, where the modern visitor site El Garrapatero is located. The change appears to have occurred sometime between 1927 and 1941, after the UKHO learned of the precedence of “Academy Bay”, perhaps from the c. 1926 USHO Chart 1798 (Fig. 7). It added that name in UKHO (1941), along with details about its settlement (established 1926) and modified the previous description of Port Nuñez (UKHO 1911, 1915 and 1927) by removing the descriptors (i.e. freshwater and an islet) that applied to Academy Bay.

At this point, Port Nuñez came to designate a bay to the east of Academy Bay, probably because of an earlier misunderstanding. Although Acevedo (1918) had written in his report that Puerto Núñez lay “in the southern part” of the island, UKHO (1911, 1915, 1927) stated that it lay on the southeast side, and Chart OCB 1375-B3 placed the “P. Nunez” label over the southeast extremity of the island (alongside the words “Fresh Water”, which is not found there but at Academy Bay) (Fig. 5). It appears that the UKHO was misled as to the location of Port Nuñez by the combination of Acevedo’s route map (Fig. 3), which shows the track of the Baquedano meeting that of its launch off southeast Santa Cruz, and Acevedo’s (1918) comment that the two vessels met “in front of” Puerto Núñez. The UKHO’s confusion, which was also hinted at in a hand-written note “Academy Bay – query position” in the margin of the UKHO’s archived copy of UKHO (1927), nevertheless made it easy for UKHO to add the Academy Bay label in its correct place on later versions of Chart 1375 (e.g. OCB 1375-B4 with corrections to 1948), without having to remove or shift the P. Nuñez label from its position in the southeast. The words “Fresh Water” were also retained next to the P. Nuñez label on OCB 1375-B4, but this was clearly an oversight, given the removal of these words from UKHO (1941).

### **Bahía Cartago (Cartago Bay)**

Cartago Bay, on the east coast of Isabela, has origins that remain a mystery. In 1909, the USS *Yorktown* surveyed and charted the bay as a prospective coaling station and, finding it “hitherto unnamed”, called it “Cruiser Bay” (Anon. 1909b), though the Chileans would have been unaware of this. We do not know whether the name Cartago was a pre-existing local one or was given by the Chileans, but it was they who introduced it to the UKHO, which published it (UKHO 1911) and added it to Admiralty Chart OCB 1375-B3 (Fig. 5). Cartago Bay was then added to the USHO’s Chart 1798 sometime before 1926 (Fig. 7: Townsend 1926) and was described in USHO (1928), as “Cartago (Cruiser) Bay”.

### **Bahía Isabel (Isabel Bay)**

Bahía Isabel refers to Elizabeth Bay (Bahía Elizabeth) or a part of it, on the western side of the Perry Isthmus, Isabela Island. The name Elizabeth Bay dates from the 17th century (Hack 1687, Moll 1699) and appears to honour Lady Elizabeth Cavendish (1654–1734), wife of Christopher Monck, 2nd Duke of Albemarle, for whom Albemarle Island (now Isabela Island) was named. Bahía Isabel is a literal translation of Elizabeth Bay, but probably derives at least in part from “Isla Santa Isabel”, a name given to Albemarle Island by the Spaniards sometime before 1748 (Fuente 1748). Elizabeth Bay was already well known to the UKHO before the *General Baquedano*’s visit: it is named in Fitzroy & King



### Puerto Villamil

Puerto Villamil on Isabela is a tribute to José Villamil, the first Governor of Galapagos. The name was given by Antonio Gil, when he moved from Floreana to Isabela in 1893, and was already published (Bognoly & Espinosa 1905) and in common usage (e.g. by the California Academy expedition of 1905–6) by the time of the *General Baquedano's* visit. However, the surveyors of the *General Baquedano* made the first known chart of “Bahía Villamil” (Fig. 3), and Captain Acevedo and the Chilean Hydrographic Department brought the name to the attention of the UKHO. UKHO (1905) had mentioned an unidentified “Settlement — on the southern shore of Albemarle” but the name “Port Villamil” was first incorporated into the 1911 edition.

The nine names added to the Galapagos map as a result of the surveys by the *Chacabuco* and *General Baquedano* were the first new Galapagos place names endowed since 1892, when Ecuador, by official decree, changed the name of the archipelago to “Archipiélago de Colón” (in commemoration of the 400th anniversary of the arrival of Christopher Columbus in the Americas) and gave new Spanish names to 13 of the major islands. The decree also stated that all future names given to islets, rocks, points and bays in the archipelago should commemorate notable people in the history of Ecuador, a request that was clearly not honoured by the Chileans and the UKHO. The Chileans were not ignorant of Ecuador’s wishes, for the decree was discussed by Acevedo (1918) and had been by Vidal Gormaz (1890), who transcribed it as written on 8 Aug 1890 and a list of objections to it by A. Flores (the Ecuadorian Minister of Instructions in Quito). One of Flores’s principal points, to which Vidal Gormaz (1890) and Acevedo (1918) fully adhered, was that changing familiar island and other place names would cause widespread confusion. Acevedo pointed out the history of disorientation arising from the names introduced by Cowley and Torres in the 17th and 18th centuries respectively, until clarity had been achieved with the publication of “the English chart No. 1375”, which incorporated Cowley’s names and others introduced by James Colnett in 1793–4 (Grant 2017). In his report, Acevedo used both Spanish and English names of the principal islands he visited, but mostly the latter, pointing out that the map of Archipiélago de Colón, which the Ministry of Instructions was to have printed in Europe with the names specified in the decree, had “not yet been ordered”. Nevertheless, the decree’s Spanish names for the 13 islands had been incorporated into Chart 1375 and UKHO (1905) by the time the *General Baquedano* visited Galapagos (they are shown on OCB 1375-B2, produced in or after 1904).

Despite the non-Ecuadorian origins of most of the nine names associated with the Chilean voyages, they should not be assumed to be a slight to Ecuador. As mentioned earlier, the two names honouring the Chilean ships (*Chacabuco* Point and *Baquedano* Bay) were probably not coined by the Chileans themselves, but by the British Admiralty. Those aside, the Chilean surveyors would for practical reasons have had to identify the places they examined as they went along, by either recording existing local names or providing new names of their own. They may not have thought, at the time, that the names they used would ever be incorporated into an official map. For instance, the two places that clearly reference Chilean men, *Baltra* Island and *Canal Itabaca*, do not honour illustrious people in Chile’s history, nor even senior officers on the ship. Instead they refer to naval officers of quite low rank. In contrast, one of the names given by the Chileans and another recent one recorded by Acevedo (1918) do celebrate Ecuadorian officials: *Puerto Núñez* and *Puerto Villamil*. Along with “*Santo Tomás*” on Isabela (honouring Bishop Tomás de Berlanga who discovered Galapagos in 1535), which was named by Antonio Gil at the same time as *Puerto Villamil*, these were the first Galapagos place names bestowed after the 1892 decree, which celebrate notable figures in Ecuadorian history. Today there are many more, but all came later.

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