

William Dampier Pre-Linnean Explorer, Naturalist, Buccaneer

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The pre-Linnean accomplishments of English navigator William Dampier, regarding exploration, natural history, and physical science, have largely been overshadowed in the historical literature by his reputation as a buccaneer. The multidimensional nature of Dampier’s contributions is remarkable in light of the social context of his time — the decades surrounding the end of the seventeenth century. He published an early hydrographic thesis based solely on his personal observations. He led the first official British voyage of discovery on board H.M.S *Roebuck*. He was the first Englishmen to explore Australia, and made the first substantial botanical collections from that continent. He carefully explored and charted parts of western Australia, New Guinea, the Bismarck Archipelago, and Southeast Asia. He was an accomplished travel writer and was truly empirical in his style, publishing three important books describing his explorations and discoveries. In addition, his work had a strong influence on eighteenth century English literature, regarding the works of Swift, Defoe, and possibly Coleridge.

In a time when many people yearned for authentic first hand accounts of newly discovered regions of the world, few individuals succeeded as well as Captain William Dampier (1651–1715) in providing such information (Fig. 1A). An English navigator of the late seventeenth and early eighteenth centuries, Dampier predated the exploits of James Cook by more than eighty years. He was also an accomplished naturalist and writer, his first book of travels and natural history appeared sixty-one years before publication of Linnaeus’s *Systema Naturae*. He wrote about his observations at the Galapagos Islands, a century and a half before Darwin’s visit. Of additional interest, he found it expedient to periodically join buccaneering and privateering expeditions as a convenient mode of transport, and also possibly as a means to help finance his research.

His research endeavor was truly on a global scale, as Dampier made four major voyages, three of them round the world, mostly under very stressful and often dangerous circumstances (Fig. 2A). His keen interest, determination, and success regarding discovery and exploration are therefore remarkable. Dampier was an excellent navigator and mapmaker. He made major contributions to the exploration of Australia, New Guinea, and parts of Southeast Asia. In addition, he produced a seminal hydrographic treatise of the tropical oceans based on his personal observations, which represents a pioneering effort in the field of physical oceanography, precursory to the accomplishments of the *Challenger* Expedition by more than one hundred and seventy years.

The distinction of Dampier lies not in his reputation as a buccaneer (Fig. 1D), often overstated by some authors, but rather in the scientific and literary merits of his writing, which had a profound impact on eighteenth century English science and literature.

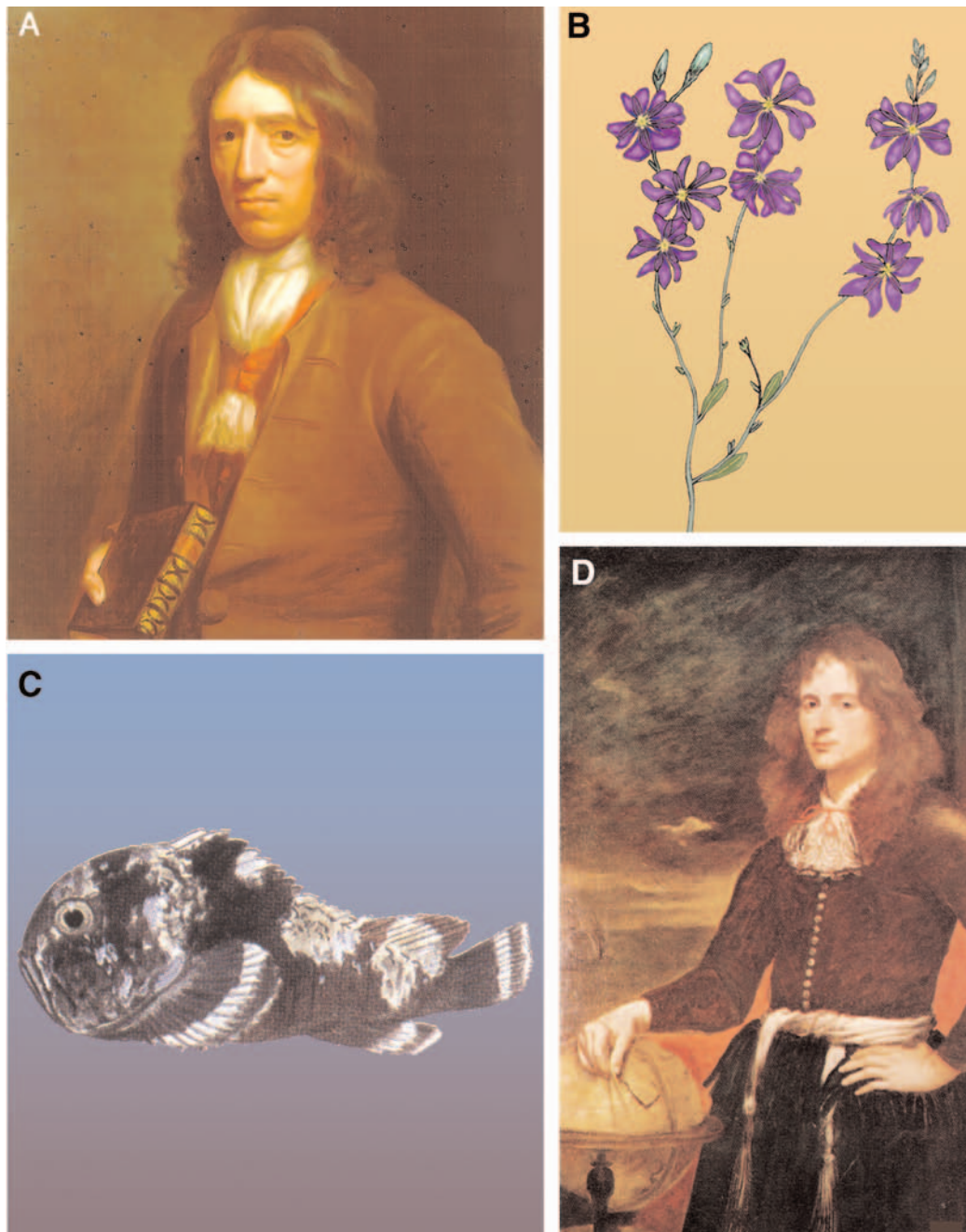


FIGURE 1. A. Portrait of William Dampier by Thomas Murray, painted ca. 1697/98 (by permission of the National Portrait Gallery, London); B–C. Taxa named for Dampier. B. *Dampiera spicigera* Benth. (family Goodeniaceae), type locality: southwestern Western Australia (illustration by G.C. Williams; flowering branch approximately 105 mm in length). C. Dampier Stonefish, *Dampierosa daruma* Whitley, 1932 (family Scorpaenidae); type locality: northwestern Australia; 130 mm maximum length (after Allen 1997: 77, by permission of the Western Australian Museum, Perth, Western Australia). D. Posthumous portrait of William Dampier by William Charles Thomas Dobson, painted ca. 1850; Rex Nan Kivell Collection NK5374 (by permission of the National Library of Australia, Canberra).

By reading Dampier, one gets the distinct impression that here was a man motivated by the thrill of discovery, a man who was not burdened by the constraints of a metaphysical paradigm that hindered other naturalists and scientific writers of his day, and who did not allow the popular paradigm of his time to taint his open-mindedness and objectivity. Here is truly unassuming descriptive natural history and travel writing at its best. This was at a time when, from the Eurocentric perspective, virtually everything outside of Europe was considered new, exotic, and waiting discovery. Referring to Dampier's third book, *A Voyage to New Holland*, Williamson (1939) observes, "The chief interest of Dampier's book is not in the narrative of events, but in the descriptions of lands, seas and weather, of birds and beasts, fishes and plants, the whole range of natural phenomena which the author found so much more to his taste than the characters and actions of his fellow men."

Dampier can readily be included as part of that group of earlier naturalists, including Rondelet and Gesner, that Louis Agassiz (1860) so warmly praised,

It has been a source of constant delight for me, while perusing the works of the earlier naturalists, to sympathize with the genial spirit and the earnestness that pervade their writings, so free from egotism, and animosity against their fellow-students. Their devotion to their studies is equal to the spirit of reverence with which they look upon nature; and it is disgraceful to our age, that we must contrast with such dispositions the ill-will, the jealousies, the quarrels for priority, and the profanation, which pervade the discussions of certain modern authors. Moreover, in a systematic point of view, the great naturalists of the sixteenth century deserve to be studied more fully than they have been thus far . . .

In addition, Gill (1997) states,

. . . he [Dampier] is also one of the very first explorers to be interested in discovery for its own sake - this is clear from the record of his first and most important long voyage round the world. A difficult man: a robber and a scientist; pirate and an explorer; a materialist and a visionary.

EARLY LIFE

Biographies of Dampier, such as Preston and Preston (2004), cover Dampier's adult life, accomplishments, and exploits, but scant records exist pertaining to his childhood. Virtually all that we know of the early life of William Dampier can be found in the first two pages of chapter one of "The Campeachy Voyages," which comprises part two of his second book, *Voyages and Discoveries*. Dampier was probably born in the first half of 1651 (although some authors report 1652 as the year of his birth). He was born at East Coker, near Yeovil, in Somerset, southwestern England. His father was a farmer and died in 1662 when William was around ten years of age, and his mother died in 1668 when he was a teenager. Dampier was first sent to Latin School, as his parents had in mind for him a trade in commercial life, but after their deaths his guardians transferred him to another school to learn arithmetic and writing, which aptly prepared him for a future life of mariner and author. His inclinations at a very early age were to see the world, and he found employment at age eighteen as a shipmaster's apprentice at Weymouth, with a master of a ship that was soon bound for France and later to Newfoundland.

Dampier relates this event,

In this Voyage I spent one *Summer*; but so pinched with the rigour of that cold Climate, that upon my return I was absolutely against going to those parts of the *World*, but went home again to my Friends. Yet going up a while after to *London*, the offer of a *warm Voyage* and a *long* one, both which I always desired, soon carried me to Sea again. For

hearing of an outward-bound East India Man . . . I entered my self aboard, and was employed before the Mast, for which my two former *Voyages* had some way qualified me.” Dampier continues, “We went directly for *Bantam* in the Isle of *Java*, and staying there about two Months, came home again in little more than a Year: touching at *St. Jago* of the *Cape Verd* Islands at our going out, and at *Ascension* in our return. In this *Voyage* I gained more Experience in Navigation, but kept no Journal.

Upon his return to England, the Second Dutch War had broken out, and Dampier soon volunteered to serve in the British Navy on board the *Royal Prince*, commanded by Sir Edward Sprague. Dampier became very ill and was sent to Harwich and later to his brother’s residence to recuperate. At the age of twenty-two, a neighbor, Colonel William Helyar, made an offer to Dampier to manage his plantation in Jamaica. Soon leaving this employment that did not suit him, he chose a job as a woodcutter in the Bay of Compeche, but more importantly, it was during this period (circa 1675-1678) that he began keeping a journal. However, there is some indication that Dampier may have at least been making field notes as early as 1671. Suffice it to say, Dampier began recording his travel observations during his early to mid twenties. Descriptions of these earlier exploits, which took place prior to his first circumglobal voyage, are contained in *Voyages and Discoveries*, his second book. It was in the Caribbean, at the beginning of his twelve-year first voyage around the world, when Dampier began his associations with buccaneers, circa 1679, at the age of twenty-seven.

EXPLORER/MARINER (1679–1711)

Maritime Exploration

The pursuit of scientific exploration and discovery were never the primary or sole motivations for maritime exploration, but rather rode on the coattails of, or served as a source of new information for, commercial or national expansion interests. European exploration was mainly inspired by the military and economic considerations of war and trade (Gill 1997:10–11). After returning home from his fourth and last voyage, which was a privateering expedition, Dampier retired on the proceeds of his books. The vivid published descriptions of the places he had visited, and the flora, fauna and people that he observed, awakened his fellow Englishman to the commercial potential of the western and South Pacific, and served as a catalyst for the later expeditions of Captain James Cook.

The Four Voyages of William Dampier

First Voyage (1679–1691)

Dampier’s first voyage resulted in a circumnavigation of the world that took twelve years, aboard several vessels with buccaneering intentions, and with long sojourns ashore at many locations. Important events include the marooning and later rescue of a Mosquito Indian named William on Juan Fernandez Island in the eastern Pacific, and exploration of the Galápagos Islands, the Philippines, and Southeast Asia. Dampier’s careful journal notes formed the basis of his first book, a best seller at the time, *A New Voyage Round the World*, first published in 1697.

Second Voyage (1699–1701)

This voyage represented perhaps the first official voyage of discovery ordered by the British Admiralty, William Dampier as captain on board the H.M.S. *Roebuck*. The course of the voyage was from England to Australia, New Guinea (Fig. 2B), and the Malay Archipelago via the Cape of Good Hope, and return westward to Ascension Island where the *Roebuck* sank. Dampier made an

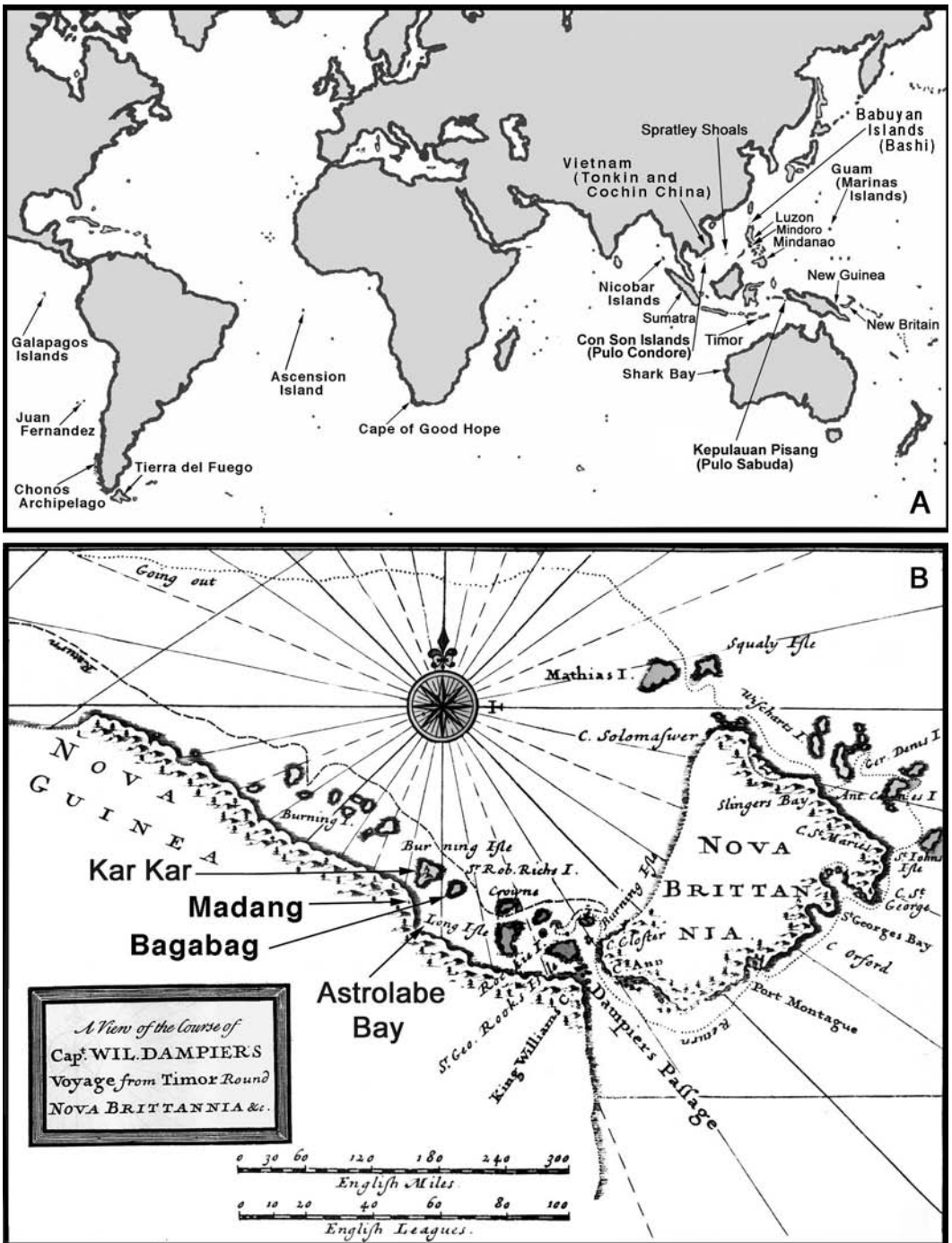


FIGURE 2. A. World map showing noteworthy areas visited by Dampier during his four voyages between 1679 and 1711. B. Dampier's map of northeastern New Guinea and New Britain, published in 1703; present-day names shown in bold by arrows.

early collection of plants from western Australia, discovered New Britain, and wrote his second book from journal entries, *A Voyage to New Holland*. Dampier was court martialled upon his return to England for cruel treatment of an officer and was relieved of ship's command in the British Navy.

Third Voyage (1703–1707)

The third voyage was a difficult privateering venture in which Dampier captained the ship *St. George*. Dampier produced no published description of this circumnavigation of the world, however, an officer, William Funnell, published a book describing the voyage in 1707. Alexander Selkirk, a model for Defoe's Robinson Crusoe, was marooned on Juan Fernandez Island during this voyage.

Fourth Voyage (1708–1711)

Dampier's last voyage was another privateering circumnavigation of the world, but unlike the previous voyage was considered a highly profitable and successful venture. Dampier served as pilot to Captain Woodes Rogers. As with the third voyage, Dampier left no published account, but both Rogers (1712), and Edward Cooke (1712) produced books describing the voyage. Alexander Selkirk was rescued during this voyage and brought safely back to Britain.

DISCOVERIES AND OBSERVATIONS

West Coast of the Americas

Between 1683 and 1686, Dampier acted as navigator during several buccaneering expeditions, which included the west coast of the Americas, between Tierra del Fuego and Mexico, as well as the Juan Fernandez Islands, the Galápagos Islands, Cocos Island, and Tres Marias Islands off of central Mexico. He vividly describes the high Andes as seen from the Pacific (Fig. 3A), providing geographic information of a region virtually off limits to non-Spanish travelers during the period,

All this course of the Land, both in *Chili* and *Peru* is vastly high. . . The Land. . . is of a most prodigious Height. It lies generally in Ridges parallel to the Shore, and 3 or 4 Ridges one with another, each surpassing other in height; and those that are farthest within Land, are much higher than others. They always appear blue when seen at Sea: sometimes they are obscured with Clouds, but not so often as the high Lands in other parts of the World, for here are seldom or never any Rains on these Hills, any more than in the Sea near it; neither are they subject to Fogs. These are the highest Mountains that ever I saw . . . by all likelihood these Ridges of Mountains do run in a continued Chain from one end of *Peru* and *Chili* to the other, all along this South-Sea Coast, called usually the *Andes*, or *Sierra Nevada des Andes*. The excessive Height of these Mountains may possibly be the reason that there are no Rivers of note that fall into these Seas.

Dampier provides some geopolitical insight as to the lack of concise geographic knowledge concerning Baja California (Fig. 3B) during the latter part of the seventeenth century,

This Lake of *California* (for so the Sea, Channel or Streight, between that and the Continent, is called) is but little known to the *Spaniards*, by what I could ever learn; for their Drafts do not agree about it. Some of them do make *California* an Island, but give no manner of account of the Tides flowing in the Lake, or what depth of Water there is, or of the Harbours, Rivers, or Creeks, that border on it; Whereas on the West-side of the Island towards the *Asiatick* Coast, their Pilot-Book gives an account of the Coast from Cape St. *Lucas* to 40 d. North. Some of their Drafts newly made do make California to join to the Main. I do believe that the *Spaniards* do not care to have this Lake discovered,

for fear lest other *European* Nations should get knowledge of it, and by that means visit the Mines of *New Mexico*.

Dampier in the Indo-Pacific

During his four voyages of discovery, Dampier explored many regions of the vast Indian and Pacific Oceans. Included here are parts of the west coast of the Americas, the Juan Fernandez Islands, the Galápagos Archipelago, Guam, the Philippines, New Guinea, the Bismarck Archipelago, Southeast Asia (particularly Vietnam), the Malay Archipelago, and the Nicobar Islands, as well as northwestern Australia. Geographic features named by or for Dampier in Western Australia include Shark Bay, Roebuck Bay, Dampier Land, and the Dampier Archipelago. Dampier's discoveries in Australia and their influence on subsequent British interest in the continent, have been amply treated by several scholars including Pinkerton (1886), Tuckfield (1955), Copley (1966), Marchant (1988), and George (1999).

New Guinea

Dampier's map of 1701 (Fig. 2B), drawn from his original observations made along the north coast of New Guinea and the islands of the Bismarck Archipelago, was without a doubt the most accurate cartographic representation of that region published up to that time, and remained so until the eighteenth and nineteenth century explorations of Antoine de Bougainville, James Cook, Dumont D'Urville, and others.

Dampier's major geographic discoveries were made during his explorations of the coastlines of northwestern Australia, northern New Guinea, and the Bismarck Archipelago, as captain of H.M.S. *Roebuck* in 1699 and 1700. Geographic features discovered and named by or for him in the region include New Britain (he missed the straight between New Ireland and New Britain and therefore considered it as one island), Dampier's Passage separating New Britain from New Guinea, Long and Crown Islands near present-day Madang, Bagabag Island, which he named Sir Robert Rich's Island, and the live volcano of Kar Kar Island (also known as Dampier Island), which Dampier referred to as Burning Island (Fig. 2B).

Excerpts from the written accounts of his discoveries in the Bismarck Archipelago, and along the northern coast of New Guinea near present day Madang are as follows,

As we stood over to the Islands, we look'd out very well to the North, but could see no Land that way; by which I was well assur'd that we were got through, and that this East-Land does not join to *New-Guinea*; therefore I named it *Nova-Britannia*. The North-West Cape, I called Cape *Glocester*. . . and the North-West Mountain, which is very remarkable, I call'd Mount *Glocester*. This Island which I called *Nova-Britannia* . . . is generally high, mountainous Land, mixt with large Valleys; which, as well as the Mountains, appeared very fertile; and in most Places that we saw, the Trees are very large, tall and thick. It is also very well inhabited with strong well-limb'd *Negroes*, whom we found very daring and bold at several Places.

The *Roebuck* was actually attacked by natives in canoes along this coast, now known as the separate island of New Ireland. Dampier was impressed by the boldness and daring of the New Irishmen.

Dampier continues,

The 31st in the Forenoon we shot in between 2 Islands, lying about 4 Leagues asunder; with Intention to pass between them, The Southernmost is a long Island, with a high Hill

at each End; this I named *Long Island*. The Northernmost is a round high Island towering up with several Heads or Tops, something resembling a Crown; this I named *Crown-Isle*, from its Form. Both these Islands appar'd very pleasant, having Spots of green Savannahs mixt among the Wood-land: The Trees appeared very green and flourishing, and some of them looked white and full of Blossoms. We past close by *Crown-Isle*; saw many Coconut Trees on the Bays and the Sides of the Hills; and one Boat was coming off from the Shore, but return'd again.

In the Afternoon, seeing an Island bearing North-West by West, we steer'd away North-West by North. . .the Land of the Main of New Guinea within us to the Southward, appear'd very high. . .we kept on for the Island; which I named Sir R. Rich's Island, known now as Bagabag Island (Fig. 3C). It was pretty high, woody, and mixt with Savannah's...On Tuesday the 2d of April, about 8 in the Morning, we discovered a high peeked Island to the Westward, which seem'd to smook at its Top. The next Day we past by the North-side of the Burning Island [known now as Kar Kar Island, and also as Dampier Island — GCW] and saw a Smoak again at its Top; but the Vent lying on the South-side of the Peek, we could not observe it distinctly, nor see the Fire.

As Dampier continued west along the north coast of New Guinea, he observed the geologically volatile nature of the region,

We afterwards opened 3 more Islands, and some Land to the Southward. . .These Islands are all high, full of fair Trees and Spots of green Savannahs; as well the Burning Isle as the rest; but the Burning Isle was more round and peek'd at Top, very fine Land near the Sea, and for two Thirds up it. We also saw another Isle sending forth a great Smoak at once; but it soon vanished, and we saw it no more. We saw also among these Islands 3 small Vessels with Sails, which the People on *Nova Britannia* seem wholly ignorant of.

Dampier made profiles of the islands off of northern New Guinea that he saw here.

The Philippines

Dampier spent a significant amount of time in the Philippines and provided detailed descriptions of the islands of Luzon (Fig. 3D) (referred by him as “Luconia”), Mindoro, and Mindanao. The accurate and often detailed geographic descriptions made by Dampier in his published accounts gave his writings significant value in the minds of the British Admiralty during the late seventeenth and early eighteenth centuries. A good example is this narrative of the island of Luzon and Manila, from *A New Voyage Round the World*, composed from field notes made in 1687,

This great Island hath abundance of small Keys or Islands lying about it. . . The Body of the Island *Luconia* [Luzon — GCW] is composed of many spacious plain Savannahs, and large Mountains...*Manila* the Chief, or perhaps the only City, lies at the Foot of a Ridge of high Hills, facing upon a spacious Harbour near the S.W. Point of the Island. . . . It is environ'd with a high strong Wall, and very well fortify'd with Forts and Breast-works. The Houses are large, strongly built, and covered with Pan-tile. The Streets are large and pretty regular; with a Parade in the midst, after the *Spanish* Fashion. . .The Harbour is so large, that some Hundreds of Ships may ride here. . .Any Ship in distress may be refreshed and recruited here very conveniently. . .

The Nicobar Islands Incident

The articulate and eloquent nature of Dampier's writing is best observed when he describes deeply felt incidents of his life, those full of emotion and personal reflection. Perhaps no better example of this can be found in his account of a life-threatening crossing between Nicobar and

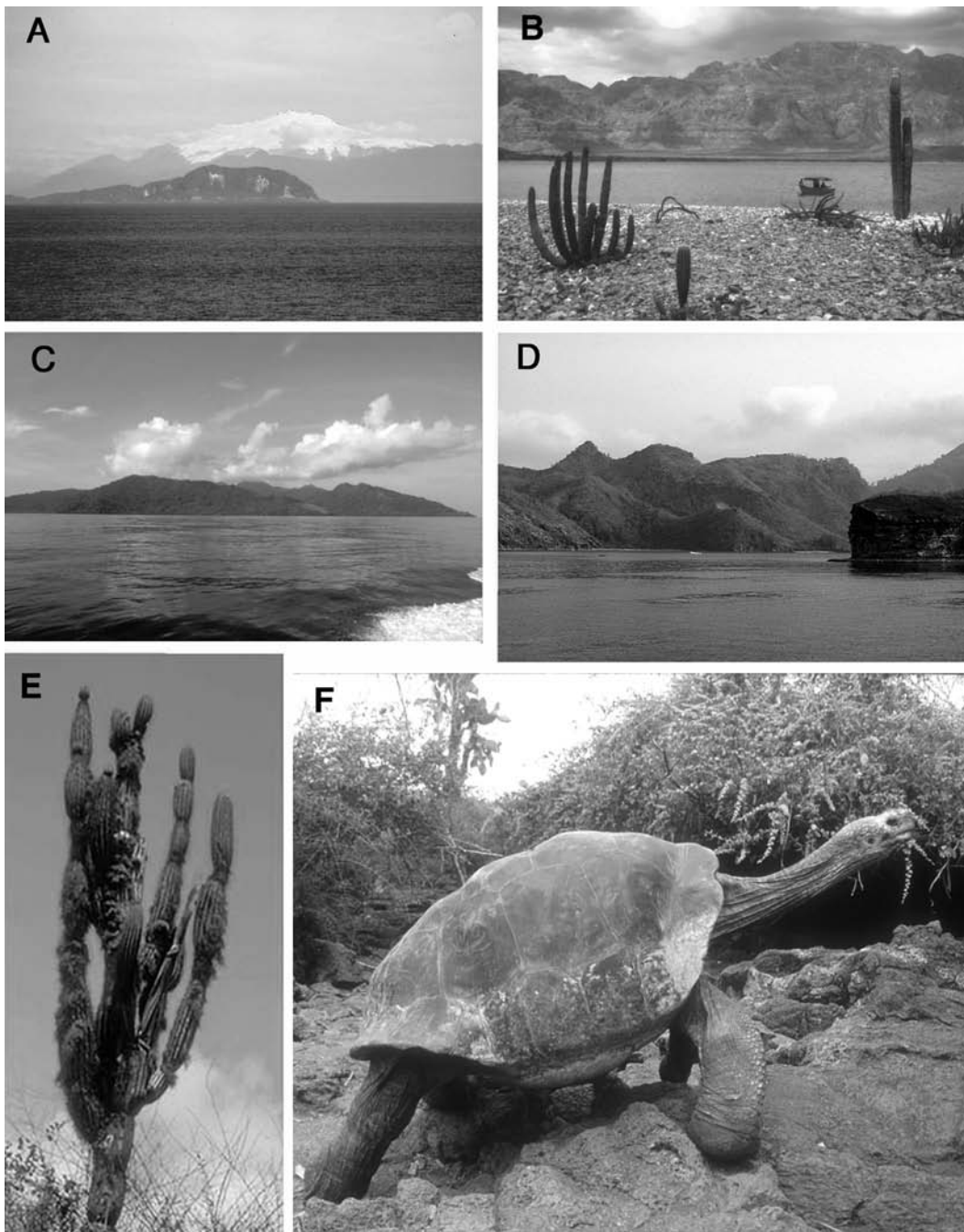


FIGURE 3. Localities of the Pacific Ocean visited and described by Dampier (photographs by G.C. Williams). A. The high Andes Mountains of Chile. B. The Gulf of California, Mexico. C. Bagabag Island, Papua New Guinea (referred to as “Sir Robert Riche’s Island” by Dampier). D. Southwestern Luzon just south of Manila Harbor, Philippines. E. Candelabra cactus, *Jasminocereus thouarsii*, on Santa Cruz Island, Galápagos Archipelago, Ecuador. F. The Galápagos Tortoise, *Geochelone elephantopus*, Darwin Research Station, Santa Cruz Island, Galapagos Islands.

Sumatra in a small open boat, a “Nicobar Canoa,” voluntarily leaving a rebellious crew during a great monsoonal storm, which is contained in *A New Voyage Round the World*.

It was the 15th Day of May 1688, about four a Clock in the Afternoon, when we left Nicobar Island, directing our Course towards Achin, being eight Men of us in Company, viz. three English, four Malayans, who were born at Achin, and the mungrel Portuguese . . . The Evening of this 18th Day was very dismal. The Sky look'd very black, being covered with dark Clouds, the Wind blew hard, and the Seas ran high. The Sea was already roaring in a white Foam about us; a dark Night coming on, and no Land in sight to shelter us, and our little Ark in danger to be swallowed by every Wave; and, what was worst of all, none of us thought our selves prepared for another World. The Reader may better guess than I can express, the Confusion that we were all in. I had been in many imminent Dangers before now, some of which I have already related, but the worst of them all was but a Play-game in comparison with this. I must confess that I was in great Conflicts of Mind at this time. Other Dangers came not upon me with such a leisurely and dreadful Solemnity. A sudden Skirmish or Engagement, or so, was nothing when one's Blood was up, and pushed forwards with eager Expectations. But here I had a lingring View of approaching Death, and little or no hopes of escaping it; and I must confess that my Courage, which I had hitherto kept up, failed me here; and I made very sad Reflections on my former Life, and looked back with Horrour and Detestation on Actions which before I disliked, but now I trembled at the remembrance of. I had long before this repented me of that roving Course of Life, but never with such Concern as now. I did also call to mind the many miraculous Acts of God's Providence towards me in the whole Course of my Life, of which kind I believe few Men have met with the like.

NATURALIST

Dampier's significant pre-Linnean contributions to natural history are honored in the taxa named for him. Included here are the genera *Dampiera* (a genus of approximately 66 species of flowering plants endemic to Australia) (Fig. 1B), *Willdampia* (the spectacular Sturt Pea or Sturt's Desert Pea, an Australian endemic), *Dampia* (an Indo-West Pacific soft coral genus originally described from the Dampier Archipelago), *Dampierosa* (a genus of stonefish endemic to northwestern Australia) (Fig. 1C), and *Pacificorgia dampieri* (a sea fan endemic to the Galápagos Islands).

Drawings of many natural history objects made by Dampier appear in his third book, *A Voyage to New Holland*. These include mollusks, crustaceans, fish, seaweeds, flowering plants, birds, and bats (Fig. 4).

Travel Writer

Dampier obviously had every intention of eventually publishing his field observations, and thus frequent journal entries and the protection of his field notes were of utmost importance to him during his travels.

He states in *Voyages and Discoveries*,

I took care before I left the Ship to provide myself a large Joint of Bambo, which I stopt at both Ends, closing it with Wax, so as to keep out any Water. In this I preserved my Journal and other Writings from being wet, tho' I was often forced to swim.

Several scholars are in agreement regarding the high quality of Dampier's writing. In his biographical sketch of Dampier, Gray (1927) reports,

His [Dampier's] whole time, so far as not interrupted by raids or the quarrels of his rowdy

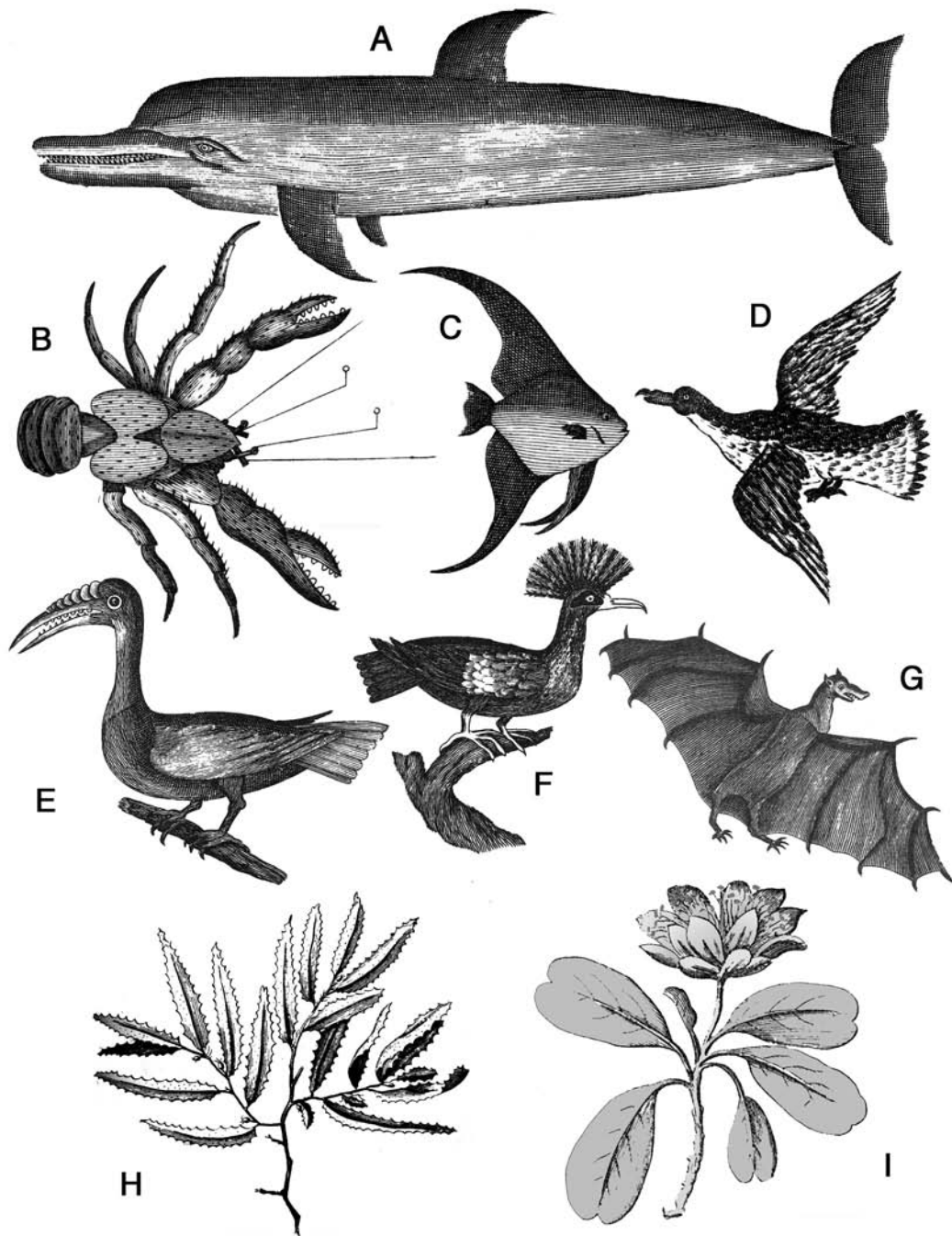


FIGURE 4. Examples of natural history illustrations appearing in Dampier's *A Voyage to New Holland*, 1703. A. Bottlenose dolphin (*Tursiops truncatus*). B. Hermit crab (*Dardanus* sp.). C. A large juvenile batfish (*Platax* sp.). D. Pintado Petrel or Cape Pigeon (*Daption capense*). E. Blyth's Hornbill (*Rhyticeros plicatus*). F. Victoria Crowned Pegeon (*Goura victoria*). G. Flying fox, a fruit bat (*Pteropus* sp.). H. Seaweed, a brown alga (*Sargassum binderi*). I. Wild Rose (*Diplolaena grandiflora*, of the family Rutaceae).

associates, was devoted to close observation of winds and tides, geography, plants and animal life... In happier days, and with a sounder scientific education, his status in a world cruise might have been that of Darwin on the *Beagle*.

In addition, Burney (1803) states,

It is not easy to name another voyager or traveller who has given more useful information to the world; to whom the merchant and mariner are so much indebted; or who has communicated his information in a more unembarrassed and intelligible a manner. And this he has done in a style perfectly unassuming, equally free from affectation and from the most distant appearance of invention.

Finally, Gill (1997) comments, “Dampier’s work established a new, serious, analytical kind of travel writing, made readable by the brilliance of Dampier’s style, which was often emulated. The Royal Society was impressed...”

Dampier’s first book of discovery, *A New Voyage Round the World*, is a classic of travel literature (Fig. 5A). Gray (1927) relates,

In his Preface Dampier describes his book as ‘composed of a mixt relation of places and actions,’ a modest and inadequate indication which would hardly be approved by the advertising experts of the present day. The relation of places was, in fact, an extensive contribution to the geographical and ethnographical knowledge of his time. Nor does the description take count of the frequent excursions in the realm of natural history which diversify the main story with detailed accounts of tropical animals and plants . . .

In all of his writing, Dampier produced a charming, attractive prose that is a delight to read even some three centuries later. It was largely for this reason that his writing stands out among the many published accounts of travel writing produced during the age of maritime exploration. The nature of this writing style and humor, intentional or not, is evident in the following passage from *A Voyage to New Holland* (Figs. 5C–D), where Dampier describes the inhabitants of islands in the Ceram Sea near the western tip of New Guinea,

I cannot tell of what Religion these [people] are: but I think they are not Mahometans, by their drinking Brandy out of the same Cup with us without any Scruple.

An example of Dampier’s natural history writing is from his visit to a group of small islands just off the coast of western New Guinea in the Ceram Sea,

This Island has no Name in our Draughts, but the Natives call it Pulo Sabuda. It is about 3 Leagues long, and 2 Miles wide, more or less. . . Here are likewise Abundance of Bats, as big as Coneys; their Necks, Head, ears and Noses, like Foxes; their Hair rough; that about their Necks, is of a whitish yellow, that on their Heads and Shoulders black; their Wings are 4 Foot over, from Tip to Tip: They smell like Foxes.

At least fourteen species of flying foxes and fruit bats are known from northern New Guinea.

The following description by Dampier shows these islands to represent an ethnic border region between Malay and Papuan cultures,

The Inhabitants of this Island are a Sort of very tawny *Indians*, with long black Hair; who in their Manners differ but little from the *Mindanayans*, and others of these Eastern Islands. These seem to be the chief; for besides them we saw also shock curl-pated *New-Guinea Negroes*; many of which are Slaves to the others, but I think not all.

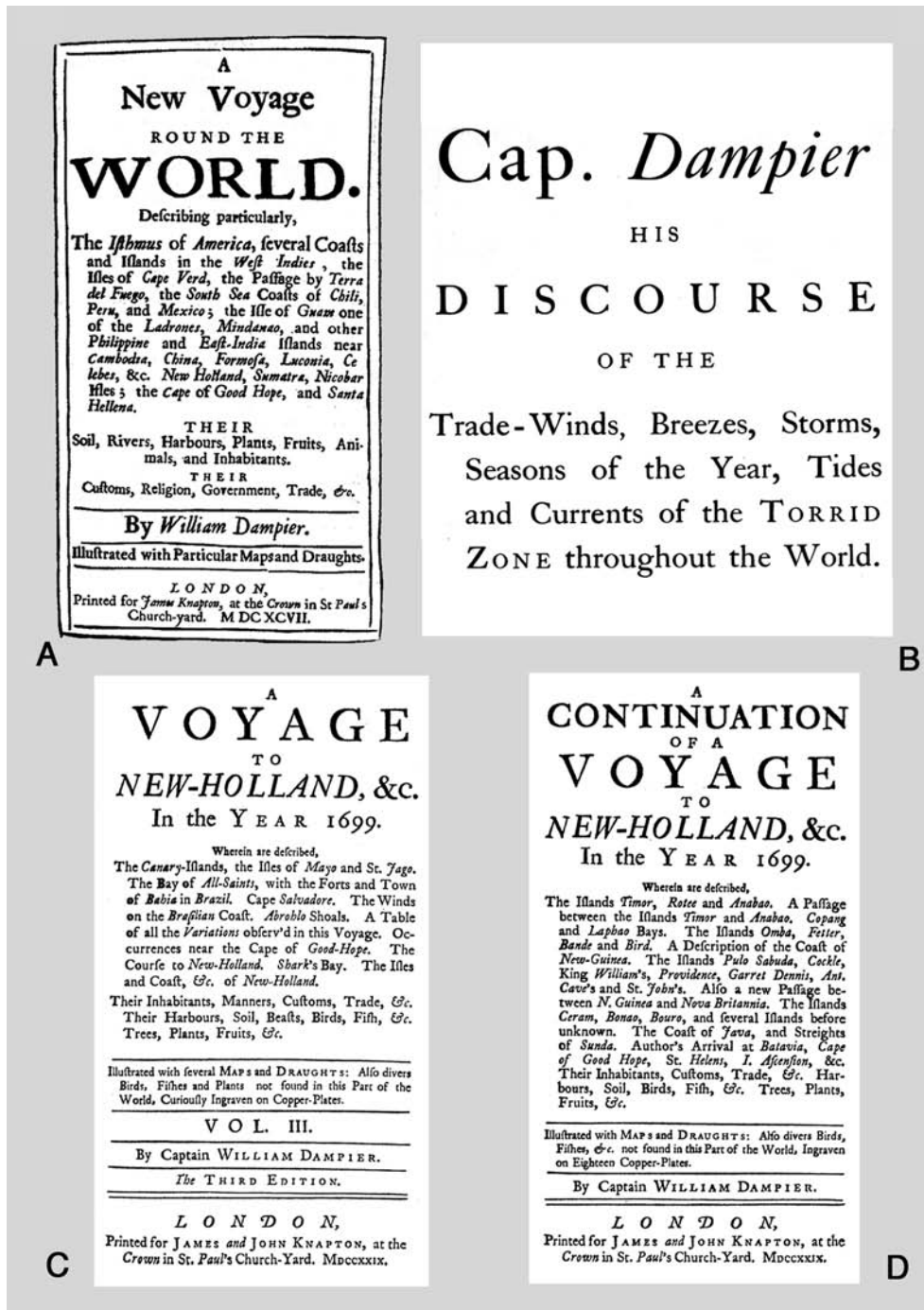


FIGURE 5. Title pages from Dampier's published works. A. *A New Voyage Round the World*, first published in 1697. B. Dampier's hydrographic treatise, "A discourse of trade winds, breezes, storms, seasons of the year and currents of the torrid zone throughout the world," from *Voyage and Discoveries*, first published in 1699 (from the 1931 Argonaut Press edition). C. First part of *A Voyage to New Holland*, published in 1703. D. Second part of *A Voyage to New Holland*, published in 1709.

After Dampier's court martial in 1702 for mistreatment of an officer on board the H.M.S. *Roebuck*, he once again turned to his previous life style with two privateering voyages around the world. Dampier published nothing regarding these voyages, our knowledge of them comes from William Cowley (1705) and William Funnell (1707), and Edward Cooke (1712) and Woodes Rogers (1712) for the last voyage. We hear nothing more from Dampier up to the time of his death in 1715, except for his two part account of his second voyage published in 1703 and 1709.

Plant Collector

In 1699, Dampier made a collection of plant specimens at Dirk Hartog Island (Shark Bay) and East Lewis Island (Dampier Archipelago) on Australia's Indian Ocean coast. At least twenty-four of these have survived, which Dampier managed to save when the *Roebuck* sank, and are housed at England's Oxford Herbarium. Among his discoveries is the beautiful Sturt's desert pea *Willdampia formosa*. In Dampier's third and last book, *Voyage to New Holland* (1703), he describes and illustrates these plants. Many of Dampier's plant specimens were also subsequently described and illustrated by the preeminent botanists John Ray (1704) and Leonard Plukenet (1705), as well as Rene Desfontaine. Dampier was a competent plant collector. Seddon (1999) states, ". . .he collected selectively, choosing those that he had not seen elsewhere. . . .He pressed his specimens carefully and professionally: Alex George says that some of his specimens at Oxford are as well preserved as those collected recently."

Although Dampier's natural history collections were made in Western Australia, the illustrations of flora and fauna included in *Voyage to New Holland*, are from New Guinea and Timor, as well as Australia. Dampier, using the standard practice of pre-Linnean naturalists, makes use of Latin polynomials in describing his discoveries. Examples of this are *Fucus ex Nova Guinea uva marina dictus, foliis variis*, referring to the seaweed *Sargassum ilicifolium* and *Equisetum Novae Hollandiae frutesceus foliis longissimis*, which probably refers to the Red Beefwood *Casuarina equisetifolia*. Pertaining to his description of *Casuarina*, Dampier suggests that the plant may actually be other than a horsetail, and thus states, "Tis doubtful whether this be an *Equisetum* or not."

Galápagos Islands

More than a century and a half before Charles Darwin visited the Galápagos Archipelago in September and October of 1835, Dampier spent two weeks there exploring the islands (Slevin 1959; Larson 2001). He visited several islands in June of 1684 and took copious notes of his many observations. Commenting on various aspects of the natural history of the islands, Dampier provided an early account of the Archipelago and the endemic tortoises (Fig. 3F),

The Gallapagos Islands are a great number of uninhabited Islands, lying under, and on both sides of the Equator. . . .I believe our Hydrographers do not place them far enough to the Westward. . . .The Spaniards when they first discover'd these Islands, found Multitudes of Guanoes, and Land-turtle or Tortoise, and named them the Gallapagos Islands. I do believe there is no place in the World that is so plentifully stored with those Animals. The Land-turtle are here so numerous, that 5 or 600 Men might subsist on them alone for several Months, without any other sort of Provision: They are extraordinary large and fat; and so sweet, that no Pullet eats more pleasantly.

Dampier also describes the Candelabra Cactus (Fig. 3E),

. . . the Eastermost [islands] are rocky, barren and hilly, producing neither Tree, Herb, nor Grass, but a few Dildoe-trees, except by the Sea-side. The Dildoe-tree is a green prickly shrub, that grows about 10 or 12 foot high, without either Leaf or Fruit. It is as big as a Man's Leg, from the root to the top, and it is full of sharp prickles, growing in thick rows from top to bottom; this shrub is fit for no use, not so much as to burn.

DAMPIER'S INFLUENCE ON BRITISH SCIENCE

Dampier's writings, particularly the publication of *A New Voyage Round the World*, made a significant impression on the British Admiralty, and led to the first official expedition of scientific discovery — the voyage of H.M.S. *Roebuck*. This event in effect set the stage for Captain James Cook and a subsequent era of government sponsored scientific exploration. Gill (1997) states,

Dampier started out on his travels 100 years before James Cook set out on his famous series of voyages of exploration; and Cook's achievements should be regarded as the apotheosis of the work of scientific exploration begun by Dampier.

Throughout his travels, Dampier kept careful notes expressing his observations. He was precise and gave clear impressions in his descriptions in a way that did not become common until the 1700's. The maintenance of his journal records served as testament to his ability as a Pacific sea captain in the British tradition. The journals established his credibility within the Admiralty in London, which invited Dampier to suggest a destination and led to a type of expedition that was virtually unique at the time — a government-sponsored scientific voyage of discovery. Dampier chose New Holland and New Guinea and was given command of the H.M.S. *Roebuck*. He was instructed by the Admiralty to make a collection of plant specimens and to bring home any native who might be willing to travel with him.

Dampier's writing stands out among that of other chroniclers of his day. The scientific merits of his writing are extraordinary. He is always objective and scientific, wholly untainted by metaphysics, never embellishing or invoking supernatural causes for the natural phenomena that he encountered. Relative to this, Gill (1997) states,

Dampier's writing is phlegmatic, scientific, restrained . . . understatement, and calm observation of what he saw, is his great strength. . . where many were fanciful, Dampier is always factual. . . He had brought a spirit of scientific exactitude to travel writing, and it was precisely in tune with the expectations of the educated late-seventeenth-century mind.

Scientific works (hydrography)

It has been generally accepted that the recorded observations of the *Challenger* Expedition (1872-1876) provided the basis for the modern science of oceanography. The fundamental historiography of marine science by Margaret Deacon (1997) dispelled the myth that the voyage of H.M.S. *Challenger* marked the origin of modern oceanography, and showed that the mid-seventeenth century was a time of scientific revolution, with particular emphasis on the marine sciences.

One hundred and seventy three years before the *Challenger* set off on its epic journey, William Dampier's detailed hydrographic work on the world's tropical oceans appeared, first published in 1699, which from a modern retrospective, can best be regarded as a harbinger in the field of physical oceanography — a blend of meteorology and marine hydrography. This attribute has been all but lost in most texts concerning the history of oceanographic science. The Discourse was truly a first of its kind — a purely empirical contribution based on Dampier's careful observations and journal entries during twelve years of maritime experience, comprising his first major voyage and circumnavigation of the globe.

Several authors including Bell (1931) have previously recognized the significance of Dampier's treatise originally entitled, *A discourse of trade winds, breezes, storms, seasons of the year and currents of the torrid zone throughout the world*, but later shortened to, *A discourse of winds, breezes, storms, tides and currents*, as a seminal work on hydrography of the world's oceans (Fig. 5B).

Dampier's treatise is composed of eight chapters and describes in detail the following subjects:

the general trade wind and constant coastal trade winds, shifting coastal trade winds and monsoons, sea and land breezes, seasonal localized breezes and some that produce strange effects, storms (including hurricanes, typhoons, stormy monsoons and elephantaís), seasonal effects in various regions of the world, and tides and currents. Among other things, he records the regional names used by various local peoples for unusual meteorological phenomena.

Although Dampier's account is filled with practical sailing knowledge for circumnavigation of the world in tropical latitudes, it provides much more detailed meteorological and hydrographical information than is necessary for a mariner's guidebook, and in so doing, actually produces an oceanographic treatise.

For example, his treatise probably represents the first published account that clearly describes the relationship between winds and currents. Dampier states,

Tis generally observed by Seamen, that in all Places where Trade winds blow, the Current is influenced by them, and moves the same way with the Winds; but 'tis not with a like swiftness in all Places; neither is it always so discernable by us in the wide Ocean, as it is near to some Coast; and yet it is not so discernable neither, very near any Coast, except at Capes and Promontories, that shoot far forth out into the Sea; and about Islands also the Effects of them are felt more or less, as they lye in the way of the Trade-Winds.

Practical applications of hydrographic observations are often provided by Dampier, as in this example,

In all my Cruisings among the Privateers, I took notice of the Risings of the Tides; because by knowing it, I always knew where we might best haul ashore and clean our Ships: which is also greatly observed by all Privateers.

Although Luis Vaez de Torres is credited with the European discovery in 1606 of the straight separating New Guinea from Australia, and published maps showed a passage separating the two land masses as early as 1589, its existence was kept conjectural, due to Spanish reticence regarding the dissemination of geographical information outside of Spanish circles. Dampier used his observations of tides during a two month stay in northwestern Australia to deduce that such a straight may be factual.

Other notable contributions to oceanographic science include Dampier's distinction between surface currents and subsurface countercurrents based on his observations of the way the ship's cable was bent and pulled in different directions while at anchor, as well as his description of the powerful Agulhas Current off of southeastern Africa. Referring to subsurface currents, Dampier states,

neither is it any strange thing to see two different Currents at one place and time, the superficial Water running one way, and that underneath running a quite contrary: For sometimes at an Anchor, I have seen the Cable carryed thus by two different Streams, the under part having been doubled one way, and the upper part the contrary.

DAMPIER'S INFLUENCE ON ENGLISH LITERATURE

Scholars have long recognized the importance of Dampier and his travels to two significant contributions in English literature of the early eighteenth century, Jonathan Swift's *Gulliver's Travels* (1726) and Daniel Defoe's *Robinson Crusoe* (1719). In addition, George (1999) states, "Samuel Taylor Coleridge [1772–1834] referred to him [Dampier] as 'a man of exquisite refinement of mind' and probably gained ideas and inspiration from him for *The Rime of the Ancient*

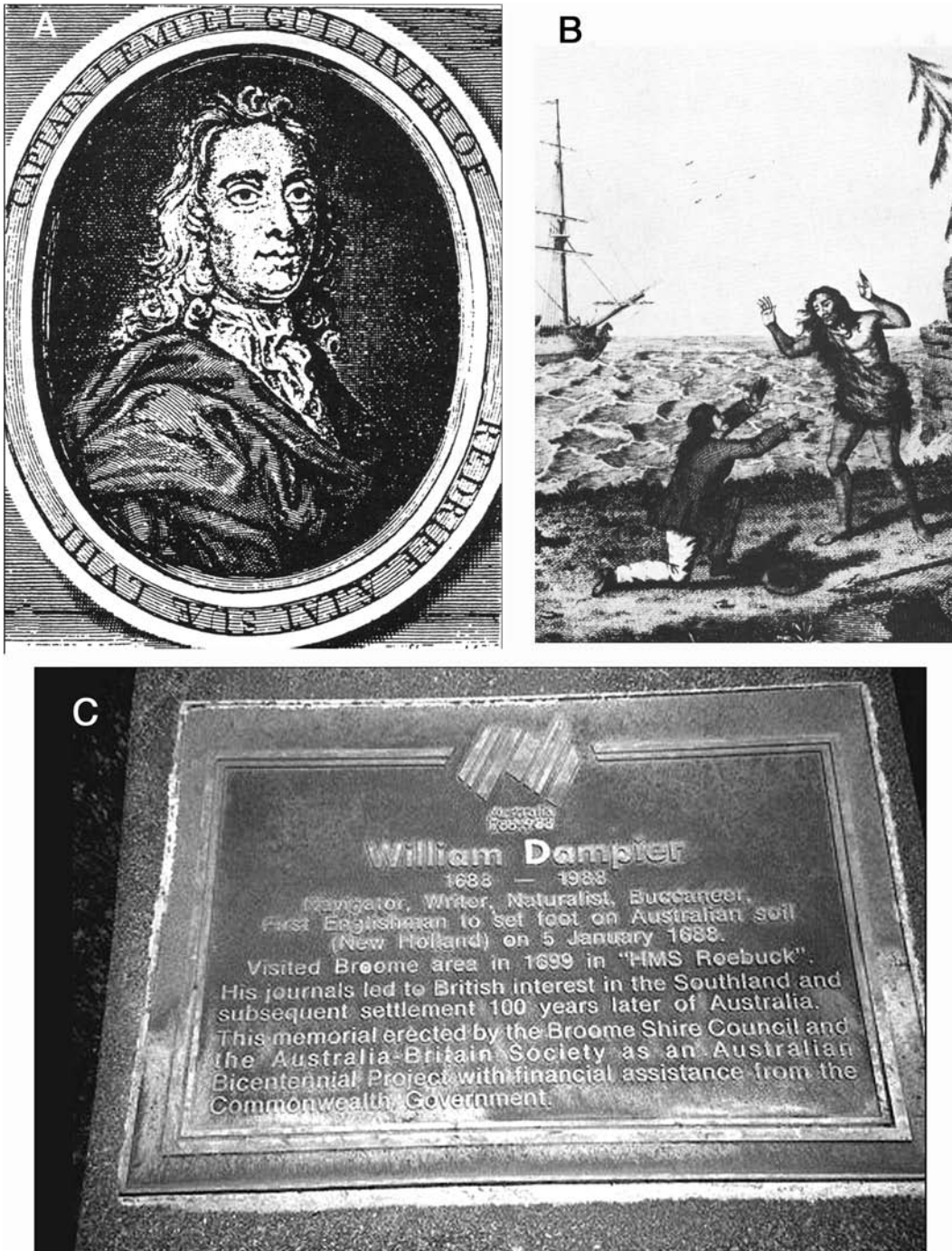


FIGURE 6. A. Lemuel Gulliver, from the frontispiece of the first edition of Jonathan Swift's *Gulliver's Travels*, 1726. B. The Mosquito Indian "Will" during his rescue from the Juan Fernandez Islands in 1684 (from Mégroz, 1939: pl. 3). C. Commemorative plaque to Dampier in Broome, near Roebuck Bay, Dampier Land, Western Australia (photograph by Phil Alderslade).

Marine (1798). Could the albatross that the Mariner shot have had its origin in the petrel shot by Dampier?" (Fig. 4D).

Gulliver's Travels

It is considered likely by some authors that Swift (1667–1745) modeled his fictional character Captain Lemuel Gulliver (Fig. 6A) after Dampier, and based the travels of Gulliver on those of Dampier. Various authors have pointed out support for Dampier as the real life model for Lemuel Gulliver, contained in the beginning of *Gulliver's Travels*, as *A letter from Capt. Gulliver, to his Cousin Sympson*. Swift begins,

I hope you will be ready to own publicly, whenever you shall be called to it, that by your great and frequent Urgency you prevailed on me to publish a very loose and uncorrect Account of my Travels; with Direction to hire some young Gentlemen of either University to put them in Order, and correct the Style, as my Cousin Dampier did by my Advice, in his Book called, *A Voyage round the World*.

Robinson Crusoe

The link between one or possibly two incidents during the travels of William Dampier and another subsequent and equally famous work of adventure fiction, is unmistakable. Students of English literature generally agree that Daniel Defoe's *Robinson Crusoe* is one of the great adventure novels in literary history.

Defoe's fictional account is based, at least partly, on the true-life adventures of the Scottish seaman Alexander Selkirk (1676–1721), who was marooned during Dampier's third voyage and rescued four years later during Dampier's fourth and last voyage in 1709. The event took place in the Juan Fernandez Archipelago off of Chile. A first hand description of the Selkirk incident is aptly provided in the account of Woodes Rogers (1712), as no account by Dampier is known to exist.

A previous incident that occurred during Dampier's first voyage, involved the marooning and rescue of a Mosquito Indian named "Will", also from Juan Fernandez Island (Fig. 6B). The story of this rescue, some twenty-five years before Selkirk's rescue, may have provided the model for Defoe's character "Friday" in *Robinson Crusoe*, or part of a composite from which Crusoe himself was modeled. Both Dampier (1697) and Ambrose Cowley (1705) relate the incident.

CONCLUSION

In conclusion, Dampier's pre-Linnean contributions to the exploration of the world's tropics, natural history, and physical science, are numerous and significant, but relatively underrated by historians. There is little doubt that the odious stain of piracy, as well as his many difficulties and failures as a sea captain, are at least partly responsible for portraying him in a negative light, and for underappreciating the importance of his many contributions in a pre-scientific era. Dampier lived at a time when the philosophical paradigm of the day was not readily conducive for the objective and unhindered observation of the natural world, free from metaphysical constraints. His accomplishments are admirable in light of the fact that he worked for the most part under duress, often under hostile or life threatening conditions, that would have dissuaded, disheartened, or destroyed less determined and resourceful individuals. "He had the grit and the imagination that will take a man anywhere . . .", Clennell Wilkinson (1931) has said of him, and he overcame great difficulties to contribute significantly to our knowledge of the natural world. He was a man happiest while in uncharted territory or directly engaged in the course of discovery. At the same time, he had a modest, unassuming personality and an abiding interest and desire to explore the Earth and record his

observations for the good of scientific knowledge. He was able to portray this knowledge in an eloquent yet unpretentious style of writing in several popular and influential publications.

Dampier's multidimensionality is remarkable. He wrote a seminal hydrographic treatise, which can be considered as an important early contribution in the field of physical oceanography. He was the first Englishman to set foot on the Australian continent, made significant Australian botanical collections, and consequently spawned British interest in the region, opening the way for the explorations of James Cook. Dampier captained the first official British voyage of discovery. He explored and named many geographic features in northwestern Australia, northern New Guinea, and the Bismarck Archipelago including Shark Bay and New Britain. He was a major influence on eighteenth century English literature, particularly regarding Swift, Defoe, and possibly Coleridge. He was a superb navigator, observer, natural historian, and travel writer, who was wholly scientific in his genre of perceptive prose with an empirical approach.

In contrast, he spent most of his career in association with buccaneers and privateers, taking part in numerous piratical escapades in the Caribbean and Pacific arenas. As a ship's captain he was a poor leader, and was court-martialed by the British Admiralty and expelled as captain from the British navy for his mistreatment of an officer.

A memorial commemorating Dampier's landing in Western Australia near Broome on the Dampier Peninsula, was erected during the Australian Bicentennial (Fig. 6C). In addition, a Dampier memorial plaque erected in 1908 at his birthplace in East Coker, Somerset, reads, "An exact observer of all things in Earth, Sea and Air he recorded the knowledge won by years of danger and hardship." In a similar vein, Sir Albert Gray (1927) said of Dampier, "He affords a bright example of strength of character in the pursuit of knowledge under the most adverse conditions."

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