

RICHARD GEORGE BOLNEY BROWN (1935–2010)

Richard (“Dick”) G.B. Brown died on 26 March 2010 in Kings Regional Rehabilitation Centre, Waterville, Nova Scotia, Canada, at the age of 74 following a lengthy 15-year battle with dementia. A research scientist with the Canadian Wildlife Service at the Bedford Institute of Oceanography, Dick was also a life member and longtime supporter of the Arctic Institute of North America. He was best known for his pioneering long-term study of the pelagic ecology of seabirds in the Northwest Atlantic, which included the first computerization of seabird at-sea data to analyze patterns of species’ distributions over a large marine geographic area: the eastern Canadian Arctic and the Atlantic north of 40° N and west of 40° W. He was a towering figure in marine ornithology worldwide for showing the relationship between distributions of birds at sea through the annual cycle and the oceanographic characteristics of their marine habitat. In addition to his intellectual prowess on seabird ecology and behaviour, Dick is also remembered as a well-read, witty, and entertaining raconteur, at his best in informal social gatherings discussing topics from his beloved seabirds to the Greek classics and other subjects from the humanities. He was one of the warmest, friendliest, and most interesting of the seabird investigators of his era, always willing to give of his time and knowledge to fellow workers and students.

Dick was born in Wolverhampton, the West Midlands, England, on 15 September 1935, the son of George and Nora (nee Taylor) Brown. After secondary schooling at the Benedictine Downside School in Bath, Somerset, he went to New College at the University of Oxford, graduating in Zoology in 1957. Dick remained at Oxford and became a graduate student of noted ethologist/ornithologist and Nobel Laureate Niko Tinbergen, completing his DPhil (PhD) research in 1962 on comparative reproductive behaviour in fruit flies (*Drosophila obscura* group). He then switched from entomology to ornithology, his primary interest, a transition made easy by an offer from Tinbergen first to undertake post-doctoral studies (1962–65) on species’ isolation mechanisms between the large *Larus* gulls on Walney Island, Lancashire, England, and later to go to Alaska to produce ethograms of Sabine’s gull *Xema sabini*. These studies produced an outpouring of publications in several scientific journals, largely on social factors influencing breeding behaviour in insects and seabirds, but also on insect migration in the Pyrenees and behaviour of the western sandpiper *Ereunetes mauri* and the willow warbler *Phylloscopus trochilus* in continuous daylight. The Oxford environment and a lush field of outstanding doctoral and post-doctoral students to interact with in the laboratories of David Lack and Niko Tinbergen (e.g., N.P. Ashmole, W.R.P. Bourne, M. Cullen, M.P. Harris, H. Kruuk, J.B. Nelson) formed the basis of his life work on northern marine birds.

In 1965, Dick moved to Dalhousie University, Halifax, Canada, as a research associate to teach animal behaviour in the Department of Psychology. Although this experiment



Richard “Dick” G.B. Brown (Photo: R. Belanger, BIO).

to bring ethology and psychology closer together failed to flourish, Dick exploited the presence of rock pigeons *Columba livia* on campus and examined social interference in courtship and seed selection. He also established working relationships with oceanographers at both Dalhousie University in Halifax, Nova Scotia, and the Bedford Institute of Oceanography (BIO) located nearby in Dartmouth, connections that permitted him to participate in joint oceanographic cruises on government research vessels to observe birds at sea and develop connections that would serve him well in the future. Dick thought he would stay in Canada for only a couple of years as a psychology lecturer, but as he stated later: “The country grabbed me, and before I knew it I was an oceanographer counting birds at sea and also discovered the Atlantic Ocean in all its moods, and I liked it very much indeed.”

Dick joined the Canadian Wildlife Service (CWS) in 1967. He was stationed first in Aurora, Ontario, to study crop damage by American robins *Turdus migratorius* in cherry and grape orchards (1967–71), and thereafter in the Maritimes, based at BIO, where he remained until his retirement in 1994. Although Dick was officially hired to study the bird damage problem in the Niagara, Hugh Boyd, the newly appointed CWS chief of migratory birds, recognizing his keen interest in marine birds, encouraged him to continue his cruises on BIO vessels into northern waters as a secondary activity, with the aim of ultimately initiating a long-term study of the pelagic ecology of Arctic and Eastern Canadian seabirds. This Dick did with great gusto and

was soon publishing papers on seabirds (e.g., Brown et al., 1967; Brown, 1968, 1970) and developing the use of computers to examine distributions of birds at sea in collaboration with Paul Germain, Eric Tull, and Tim Davis of the Université de Moncton, New Brunswick. The at-sea program initiated in 1969 by Dick and Paul Germain, entitled PIROP (Programme Intégré de Recherches sur les Oiseaux Pélagiques), was operated completely by the CWS by 1972. Dick's land-based studies were drawing to a close, with the call of the sea about to take hold full-time.

In early 1971, approval for the establishment of Canada's first formal CWS seabird program was secured by Hugh Boyd, and Dick relocated quickly from Aurora to BIO, Dartmouth, in early summer. In addition to completing the write-up of his robin work, which was published in 1974, Dick pushed ahead at full throttle to take advantage of the relatively large oceanographic fleet based at BIO, with its many cruises throughout the northwest Atlantic. He spent a great deal of time at sea once at BIO, and together with a small group of dedicated and trained observers under his direction, systematically collected quantitative observations to chart the distribution of seabirds at sea in Arctic and Eastern Canada. From 1971 to 1973, Dick also supervised the fine-tuning of the CWS-PIROP program for computerized seabird atlases, using the BIO computer centre and the programming talents of Eric Tull. It was a lively and exciting time!

Dick's training in animal behaviour under Niko Tinbergen served him well. He was exceptionally well organized and a meticulous record-keeper, with an innate sense of completeness. In addition to recording seabirds at sea—species, numbers, and position—he moved forward to integrate bird distribution data with oceanographic characteristics of the waters they were found in, an effort to discover not only where the birds occur, but also why they are there. The use of oceanographic research vessels, which simultaneously collected physical, chemical, and biological data on the same transects where the birds were being recorded, made for unique opportunities to better understand the patterns of seabird distribution and levels of abundance. Data were collected from Canadian oceanographic ships all the way from Baffin Bay, Jones and Lancaster Sounds (Brown, 1973, 1976a, 1984) south to Cape Horn (Brown et al., 1975a; Brown, 1976b) and beyond (Brown, 1979), wherever cruise plans dictated. Here Dick thrived, and his effort, creativity, and transformation into an oceanographer bore fruit in his many scientific publications on birds in Arctic and boreal marine waters. These included the *Atlas of Eastern Canadian Seabirds* (Brown et al., 1975b), the first summary analysis of the at-sea data (1969–73), an updated pelagic distribution supplement (Brown, 1986), and a gazetteer of marine birds in Atlantic Canada (Lock et al., 1994). Within the world of oceanography, Dick's special interest was in physical processes and chemical cycles that influenced primary and secondary productivity: upwellings and converging currents that concentrate seabird prey (e.g., Brown et al., 1979, 1981; Brown and Nettleship, 1984) and physical

features such as sea ice that can either enhance or limit seabird foraging (Brown and Nettleship, 1981; Brown, 1985). Dick also, to use his words, “preached the seabird gospel” to all takers, with the focus on seabirds as marine animals, through numerous talks and publications in general science journals (e.g., *Transactions of the Linnaean Society of New York, Oceanus*, and *Nature Canada*), in an effort to educate both the lay public and professional oceanographers, who often overlooked seabirds as an integral part of marine ecosystems (Brown, 1980). He did succeed in getting the oceanographic fraternity to acknowledge that indeed “the sea has wings”!

Dick had many talents beyond marine ornithology and oceanography. He was a gifted writer, editor, and translator, serving on the editorial boards of the *Canadian Journal of Zoology* and *Ontario Bird Banding*, and writing a bi-monthly column on natural history for the popular magazine *Nature Canada* for many years. He also served the Arctic ornithological world well by translating many Danish and Norwegian scientific papers and books on birds into English, including M. Norderhaug, E. Brun, and G.U. Møllen's important 1977 *Barentshavets Sjøfuglressurser* [Seabird resources of the Barents Sea] and the seabird chapters of Finn Salomonsen's classic 1967 *Fuglene på Grønland* [The seabirds of Greenland]. Dick's great love of Arctic and maritime history resulted in his own book, *Voyage of the Iceberg: The Story of the Iceberg that Sank the Titanic* (Brown, 1983). This outstanding fictional overview of the tragedy, a unique blend of shipbuilding, natural history and oceanography, received great acclaim from reviewers and readers worldwide. It brought him the Canadian Sportsmen's Shows/Outdoor Writers of Canada's 1983 Outdoor Writing Award (Books) and the Canadian Science Writers' Association's 1984 Science Journalism Award. At the local level, Dick also contributed greatly to the local birdwatcher and naturalist scene in Nova Scotia, especially the Nova Scotia Bird Society, and derived considerable pleasure in stimulating and exciting younger colleagues, students, and serious amateurs on seabird topics and oceanography. In 2000, he received the Lifetime Achievement Award from the Pacific Seabird Group, a most prestigious award recognizing his outstanding contributions to marine ornithology.

Dick's lifelong passion for the study of birds is perhaps best exemplified by his thoughts on his first publication on the migration of the Eurasian coot *Fulica atra* in relation to Britain (Brown, 1955) as a second-year undergraduate and what followed: “SEABIRDS? They're a long way from the Res [a reservoir near Brewood, where Dick spent his youth] where I did my first bit of scientific research on coots, but the research is much the same. The trick is to wonder WHY the coots in Staffordshire, and the fulmars, shearwaters and murrelets out at sea, are where they are.” His was an inquisitive mind, always asking questions, and his quest for knowledge continued throughout his working life. His study of pelagic seabird distributions and the roles that seabirds play in offshore Arctic and boreal ecosystems, using seabird atlases for multi-level correlations with other

environmental databases, will continue indefinitely, both inside and outside Canadian waters, with results far exceeding the initial 1967 objective of using at-sea data to predict the hazards of oil spills and other marine pollutants.

Dick is survived by his brother, Fr. Sandy Brown of Staffordshire, England, and his many close friends who considered him family. Dick will be missed by everyone who was fortunate enough to have known him as a research scientist with the CWS Seabird Research Unit at BIO. His enthusiasm for life and his researches on seabirds, coupled with a most diverse knowledge of both the natural sciences and humanities, made him special. Dick represented science at its best: he was an intelligent and original thinker, who never stopped giving to the CWS and oceanographic communities, as both a wonderful person and an outstanding scientist. His death is a tragic loss to all of us, as was the 15-year illness that took him from us prematurely.

REFERENCES

- Brown, R.G.B. 1955. The migration of the coot in relation to Britain. *Bird Study* 2:135–142.
- . 1968. Sea birds in Newfoundland and Greenland waters, April–May 1966. *Canadian Field-Naturalist* 82(2):88–102.
- . 1970. Fulmar distribution: A Canadian perspective. *Ibis* 112(1):44–51.
- . 1973. Transatlantic migration of dark-phase fulmars from the European Arctic. *Canadian Field-Naturalist* 87:312–313.
- . 1976a. The foraging range of breeding dovekies, *Alle alle*. *Canadian Field-Naturalist* 90:166–168.
- . 1976b. Seabirds of South America and the Northwest Atlantic. *Proceedings of the International Ornithological Congress* 16:716–724.
- . 1979. Seabirds of the Senegal upwelling and adjacent waters. *Ibis* 121(3):283–292.
- . 1980. Seabirds as marine animals. In: Burger, J., Olla, B.L., and Winn, H.E., eds. *Behavior of marine animals*, Vol. 4: Marine birds. New York: Plenum Press. 1–39.
- . 1983. *Voyage of the iceberg: The story of the iceberg that sank the Titanic*. Toronto: James Lorimer & Co.
- . 1984. Seabirds in the Greenland, Barents and Norwegian Seas, February–April 1982. *Polar Research* 2(1):1–18.
- . 1985. The influence of ice on the ecology of Arctic and Antarctic seabirds. *Proceedings of the International Ornithological Congress* 18:559–566.
- . 1986. Revised atlas of eastern Canadian seabirds. I. Shipboard surveys. Ottawa: Canadian Wildlife Service. 111 p.
- Brown, R.G.B., and Nettleship, D.N. 1981. The biological significance of polynyas to Arctic colonial seabirds. *Canadian Wildlife Service Occasional Paper* 45:59–65.
- . 1984. Capelin and seabirds in the northwest Atlantic. In: Nettleship, D.N., Sanger, G.A., and Springer, P.F., eds. *Marine birds: Their feeding ecology and commercial fisheries relationships*. Canadian Wildlife Service Special Publication. Ottawa: Canadian Wildlife Service. 184–194.
- Brown, R.G.B., Jones, N.G.B., and Hussell, D.J.T. 1967. The breeding behaviour of Sabine's gull, *Xema sabini*. *Behaviour* 28:110–140.
- Brown, R.G.B., Cooke, F., Kinnear, P.K., and Mills, E.L. 1975a. Summer seabird distributions in Drake Passage, the Chilean fjords and off southern South America. *Ibis* 117(3):339–356.
- Brown, R.G.B., Nettleship, D.N., Germain, P., Tull, E., and Davis, T. 1975b. *Atlas of Eastern Canadian Seabirds*. Ottawa: Canadian Wildlife Service. 220 p.
- Brown, R.G.B., Barker, S.P., and Gaskin, D.E. 1979. Daytime surface swarming by *Meganyctiphanes norvegica* (M. Sars) (Crustacea, Euphausiacea) off Brier Island, Bay of Fundy. *Canadian Journal of Zoology* 57:2285–2291.
- Brown, R.G.B., Barker, S.P., Gaskin, D.E., and Sandeman, M.R. 1981. The foods of great and sooty shearwaters *Puffinus gravis* and *P. griseus* in eastern Canadian waters. *Ibis* 123(1):19–30.
- Lock, A.R., Brown, R.G.B., and Gerriets, S.H. 1994. *Gazetteer of marine birds in Atlantic Canada: An atlas of seabird vulnerability to oil pollution*. Sackville, New Brunswick: Canadian Wildlife Service. 137 p.

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