

**CRANBROOK AT EIGHTY: HIS CONTRIBUTIONS SO FAR.
ORNITHOLOGIST, MAMMALOGIST, ZOOARCHAEOLOGIST,
CHARTERED BIOLOGIST AND NATURALIST**

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ABSTRACT. — Gathorne, 5th Earl of Cranbrook, has been active in the fields of mammalogy, ornithology and zooarchaeology since 1956, influencing the course of research and education on these and many related topics in Southeast Asia. We review his activities and influence so far, by way of introduction to a series of 27 celebratory papers by friends, colleagues, students and collaborators who share in his research interests.

INTRODUCTION

With publication of this Supplement to the Raffles Bulletin of Zoology, the editors and contributors mark the eightieth year of Gathorne, 5th Earl of Cranbrook. The three editors have each known and worked with Gathorne for 40 or more years, and two of us have had the honour to be his graduate students. Amongst the authors of the contributed papers are many other students, collaborators and colleagues who have shared Gathorne's interests, worked at the same study sites and institutions, profited from his many publications, and benefited from knowing him. The list of contributors, however, is far from being a complete reflection of Gathorne's breadth of interests, or of his many regional contacts.

As editors we thank those who have contributed, also those who intended to contribute but found the pressures upon them simply too great to meet our deadlines, and extend our apologies to those who would undoubtedly have liked to contribute, but whom we did not manage to contact. We left the choices of topics to the contributors, hoping for a diversity that would include a range across Gathorne's interests and be appealing to readers.

BACKGROUND

At his appointment as Secretary of State for India in 1878 an earlier Gathorne Hardy was created Viscount Cranbrook, and on retirement from public life in 1892 made Baron Medway and Earl of Cranbrook. Lawyer and reforming parliamentarian, among other appointments in Westminster administrations he had also served as Home Secretary and Secretary of State for War. The family titles are Kentish but the family itself hailed from Bradford in Yorkshire where connected intellectually and socially with other industrial revolutionaries of north-eastern England at that period.

As a zoologist, the 4th Earl of Cranbrook (John David) made an early mark participating in a Frank Kingdon Ward expedition to the Adung Valley, extreme northern Burma (Myanmar) (Dollman, 1932a, 1932b). There, he collected mammals and birds including the type specimens of what would be named *Naemorhedus cranbrooki*, the red goral (Hayman, 1961a, 1961b), although later synonymised with *N. baileyi*. He was deeply committed to conservation of the East Anglian countryside and its wildlife, with a special interest in small mammals, bats in particular, and the otter *Lutra lutra* (e.g., Cranbrook (IV), 1977)—interests to be shared with his son (e.g., Cranbrook (IV), 1963; Cranbrook (IV) & Medway, 1963, 1965). He had inherited early, and so the most recent Gathorne, born in June 1933, took the

courtesy title Lord Medway (as he would be known to all during his years in Malaysia) from birth.

RETROSPECTIVE

Towards the end of his undergraduate studies at Corpus Christi College, Cambridge (BA, Natural and Moral Sciences, 1956), Gathorne met the late Tom Harrisson of the Sarawak Museum, and was offered a post there at the rate of £1 per day in the new role of Technical Assistant—should he be able to reach Kuching by himself. From 1956, therefore, his name is closely associated with Sarawak and the museum of which he is still Honorary Curator of Mammals. At first permitted by Harrisson to work only on swiftlets, and specifically not on the sensitive archaeological remains from Niah Caves, one of his early tasks was to see through the press the proofs of B. E. Smythies' *Checklist of the Birds of Borneo* (Smythies, 1957). Once his palaeontological abilities had become apparent, however, he was gradually loosed upon the Niah Cave remains, as shown in a long series of publications starting from Medway (1958a). From this time on at this internationally important site, Gathorne was following two parallel interests—in swiftlets (e.g., Medway, 1962) and zooarchaeology (e.g., Medway, 1978a).

In 1960 he was awarded a fellowship by the Siswa Lokantara Foundation, Indonesia, (Medway, 1961) for a short period of research in Java and, completing his doctorate from the University of Birmingham on swiftlets (Medway, 1960), was appointed to the staff of the University of Malaya, Kuala Lumpur. His arrival was too late for participation in E. J. H. Corner's first Royal Society Mount Kinabalu Expedition in 1961. On the second Mount Kinabalu Expedition, in 1964, which Gathorne did join, it was long time friend and associate David Labang who took over the duties of field assistant. At the University of Malaya, Gathorne greatly diversified his research interests, inter alia to migratory birds and migration (e.g., Medway, 1970a; Nisbet & Medway, 1972; Medway, 1973; Medway & Wells, 1976), birds and mammals of the tropical rain forest environment and (expanding the work of H. E. McClure in the Gombak valley) forest tree phenology (Medway, 1972a), in the process contributing to the mainstreaming of Malaysian science and scientific institutions at an international level (e.g., see Cranbrook, 1988). His period at this university overlapped with those of other prominent biologists there (e.g., Poore, 1963; Nisbet, 1968; Rohde, 2013) and at the sister campus in Singapore (later the National University of Singapore) where studies on resident equatorial bird populations (e.g., Ward, 1968, 1969; Ward & Poh, 1968) complemented Gathorne's work on migrants. While at the University of Malaya he built himself a house in upland forest of the Gombak valley, and established there the Ulu Gombak University of Malaya Field Study Centre (Medway, 1966a), of which he has justly been proud. At the time, he struggled to get the university grants committee's support of his Nuffield Foundation application for \$25,000 towards this project; its physicist chairman remarking in surprise "That's what I spend on a

single experiment!" The field station at Gombak has now been in use for 50 years, serving successive generations of biology students, and has been a centre for biological research throughout that time.

Although leaving the University of Malaya in 1970 to take up the bulk of the family's farming concerns, inheriting the title and entering the House of Lords in 1978, this led to no real decline in Gathorne's links with Malaysian science while, at the same time, strengthening his portfolio in environmental politics and administration. The most prominent of the resulting activities and professional commitments are listed in Table 1. These multiple careers have been added to his continuing active research programmes on swiftlets (e.g., Cranbrook & Lim, 1999), living mammals (e.g., Cranbrook et al., 2007), fossils (e.g., Cranbrook & Piper, 2008, 2013; Cranbrook et al., in press), and the historical contributions made by key biologists in South East Asia (e.g., Cranbrook, 2008, 2013).

In the sections below, we review some of the activities and interests to which Gathorne continues to contribute. Additional background is referred to in many of the contributed papers that follow.

KEY ACTIVITIES AND INTERESTS

Birds. — Based at the Institute for Medical Research in Kuala Lumpur, in 1958 H. E. McClure instituted the first professional scientific use of mist nets and birds rings in Malaya (Peninsular Malaysia) in a scheme that later expanded into his Asia-wide MAPS survey of bird and associated virus movements (e.g., McClure & Leelavitt, 1972). At the university, Gathorne oversaw the Malaysian part of the fieldwork and, at its close, replaced MAPS in Malaysia with the nationally based University of Malaya Bird-ringing Project (UMBRP) the equipment of which served both university-based and amateur field research on birds for a further two decades. The MAPS/UMBRP cross-over period saw major studies of herons, swallows, migrants wintering in then-extensive reedbeds around Kuala Lumpur (Medway, 1970a, 1973; Nisbet & Medway, 1972), and nocturnal migrants at Fraser's Hill, at a site discovered by Gathorne in the early 1960s where floodlights installed around a telecommunications tower attracted birds as they crossed the crest of the Main Range. Destined to become an internationally well-known ringing station it gave never previously achieved access to the nocturnal migration stream as this reached the centre of the Peninsula each autumn and spring. Work there continued intermittently until the facility was dismantled in the 1980s. This early period at the University of Malaya also resulted in establishment of the series of 'Malayan Bird Reports', from 1962 onwards (Medway & Wells, 1963), concluding in 1987 (Wells, 1990) when it was superseded by publications of the Malaysian Nature Society. The results of MAPS and UMBRP research, independent field and museum work by staff and affiliates, the Bird Report series, and of exploratory trips to various

parts of the Peninsula then fed into publication of *The Birds of the Malay Peninsula*, Vol. 5 (Medway & Wells, 1976), completing and updating a series authored by museum-based professionals in the 1920s and 1930s.

The key role of swiftlets in founding Gathorne's career has been alluded to above, covering biology, sustainable production of nests, and management of an economically valuable resource (for summaries see Cranbrook & Lim, 1999; Lim & Cranbrook, 2002); most recently also the identity of the newly emergent and actively spreading 'cultivated' swiftlet of the birds'-nest industry.

Mammals. — Bats would seem a natural outgrowth of work conducted on swiftlets and archaeology at Niah Caves (Medway, 1958b). Later, at Gombak and elsewhere, Gathorne applied mist nets devised for the capture and release of birds to the understorey forest bat community, resulting in new records, species descriptions (e.g., Hill, 1972), and detailed studies of the bamboo-inhabiting flat-headed bats *Tylonycteris* spp. (Medway, 1972b) showing, among other things, that sperm storage and delayed implantation occur in at least some tropical bats, and that these two species of *Tylonycteris* are characterised by extensive Robertsonian translocations (Yong et al., 1971). Other studies of small mammals involved the specialised marmoset rat *Hapalomys* (Medway, 1964), and the genetics and systematics of *Rattus* and relatives in Malaysia (e.g., Medway & Yong, 1976). A review of selected colobine primates in Sundaland (Medway, 1970b) makes a link to the studies by Chivers (1974, 1980).

Further outputs have been the foundational textbooks on the wild mammals of Malaya and Singapore (Medway, 1969, 1978b, 1983) and of Borneo (Medway, 1965, 1977).

Some of Cranbrook's research on zooarchaeology at Niah Caves and elsewhere has been mentioned above. Pigs and their domestication, and the impacts over time of climate change and hunting on Sundaic mammal communities (rats to rhinoceroses: faunal turnover, body size, and range limits) have been continuing themes. Such work has been underpinned by the development of collections of modern comparative material, some at the Sarawak Museum and more at the University of Malaya. There are few years since 1958 in which the *Sarawak Museum Journal* has not carried one or more contributions by Cranbrook, on the modern or the zooarchaeological mammal fauna.

Work on the faunistics of mammals again made a natural link with much further research on small mammal ecology and parasites, both ecto- and endo-, and with research by the Migratory Animal Pathological Survey (MAPS) that contributed to the bird-ringing programme in Malaysia and the region (e.g., McClure & Leelavit, 1972). Medway himself contributed to knowledge of ectoparasites on bats (Medway & Yong, 1969), and there has been continuing research on small mammal genetics and related parasitological studies following supervision by Medway (e.g., Yong, 1969). The ectoparasites of bats in Southeast Asia then became a research topic for Marshall (1982a, 1982b). The Gunung Benom

expedition, led by Medway in 1967, resulted in a series of major publications on ectoparasites of vertebrates, by Traub (1972a, 1972b, 1972c) and Hoogstraal et al. (1972), with the description of a new genus of fleas, *Medwayella* Traub, 1972 (Siphonaptera), recognising Medway's role in facilitating the collection of all the research materials for these studies (Rohde, 2013).

Regional expeditions. — Expeditions to rather remote areas have been a feature of biological research in Southeast Asia. After his Sarawak sojourn, the first to be organised and led by Gathorne was a university-based collecting and observing trip to Pulau Tioman, in April 1962 (Medway, 1966b). Of interest for its natural beauty, illustrations of island biogeography, and the pottery remains embedded in its beaches—relics of centuries of Southeast Asian trading voyages—this has been taken up as a venue for student field trips by the National University of Singapore and an important site for research in herpetology (Grismer, 2005). His second, major expedition experience outside Sarawak was as ornithologist and mammalogist to E. J. H. Corner's 1964 Royal Society expedition to Mount Kinabalu, Sabah—the year in which the founding of Kinabalu National Park was announced, while the expedition was in the field (Mandalam et al., 2005).

The first major multi-disciplinary, multi-institutional expedition that he organised in the Peninsula was to Gunung Benom, Pahang, in 1967/1968. Although this peak had been climbed on several previous occasions, it was not biologically well known, in spite of its relevance as the highest point of the Krau Game Reserve and as an isolated peak set apart from the Main Range. The background account (Medway, 1972c) entrained a large set of papers on the results (see also Medway, 1972d) in the *Bulletin of the British Museum (Natural History)*. Not a small contribution to such expeditions was the introduction of the rattan *selabit* from Sarawak to Peninsular Malaysia by Medway and David Labang, as a sophisticated tool for backpacking food and expedition materials through difficult forested terrain.

An expedition to Gunung Lawit, Terengganu, in 1974, in association with the British Museum (Natural History), however, did not result in an equivalent set of papers. Scattered information was later published by Dring (1979), Medway (1974a, 1975) and Cranbrook (1996). All of the expedition bird data that could be retrieved were included in Wells (1999, 2007). At nearly the same time he took part in an expedition organised by the Royal Society and the Percy Sladen Trust Fund to the New Hebrides (Medway, 1974b; Medway & Marshall, 1975).

Gunung Mulu is a mountain now renowned in Sarawak, visited by the Oxford University Expedition in 1932 (although not at that time by Tom Harrisson), renowned not only for its height but for its neighbouring archipelago of cave-riddled limestone hills. In 1977–1978, the area having been identified by the government of Sarawak as a potential national park, an expedition was organised jointly by the government and the Royal Geographical Society, with Gathorne as deputy

Table 1. Key events, professional activities and commitments to charitable causes by Gathorne, 5th Earl of Cranbrook, up to the time of this publication. Many other posts and honorary positions in non-governmental organisations are not listed.

Period	Key Events and Roles
1956–1958	Technical Assistant, Sarawak Museum, Kuching
1958–1960	Department of Anatomy, University of Birmingham (PhD 1960)
1960–1961	Post-doctoral award, Jajasan Siswa Lokantara, Indonesia
1961–1970	Zoology Department, University of Malaya: Assistant Lecturer, Lecturer, Senior Lecturer
1961–present	Honorary Curator of Mammals, Sarawak Museum
1970–1972	Nuffield Foundation Award
1971–1973	Demonstrator, Zoology Department, University of Chelsea, London
1972–1988	Scientific Advisor, WWF Malaysia
1973–1980	Editor, <i>Ibis</i> , Journal of the British Ornithologists' Union
1976–1983	Elected Councillor, Suffolk Coastal District. Chairman, Museums and allied interests
1976–1978	Chairman, RSPCA Special Enquiry into Shooting and Angling
1979–present	President, Suffolk Wildlife Trust and Chairman / Patron, Suffolk Naturalists' Society
1980–present	Chairman, Long Shop Project Trust and Museum
1978–1999	Hereditary member of House of Lords (UK Parliament, Upper House). Member of EU Select Committee & Environment Subcommittee (3 sessions as chairman), and member Select Committee on Science & Technology (1 session as chairman of inquiry into tropical forests)
1981–1992	Member, Royal Commission on Environmental Pollution
1982–1986	Trustee, British Museum (Natural History)
1982–1988	Member, Natural Environment Research Council
1986–2006	Chairman, Institute for European Environmental Policy
1987–1998	Member / Chairman, Foundation for European Environmental Policy
1987–1989	Board member, Anglian Water Authority
1988–1999	Member, Norfolk & Suffolk Broads Authority
1989–1998	Non-executive Director, Anglian Water plc
1989–1990	Member, Nature Conservancy Council
1989–1997	Member / Vice Chairman, Harwich Haven Authority
1990–1998	Chairman, English Nature (Nature Conservancy Council for England)
1994–1998	Member, UK Round Table on Sustainable Development
1996–2002	Chairman, ENTRUST, Regulator of Environmental Bodies under Landfill Tax Regulations
1998–2006	Chairman, Advisory Committee, NERC Centre of Ecology & Hydrology
2001–present	President / Patron, Haven Gateway Partnership
2001–2008	Chairman, International Trust for Zoological Nomenclature

leader (Anderson et al., 1982). With such a precedent, the government of Brunei Darussalam, Universiti Brunei Darussalam and the Royal Geographical Society were equally forward-looking in organising the 1991–1992 expedition to Kuala Belalong, run jointly by the university and the RGS and led by Gathorne and by David Edwards (Cranbrook & Edwards, 1994). In 1995 Gathorne was awarded the RGS Founders' Medal for expeditionary services rendered.

Outside the context of the large, formal, organised expedition, Gathorne has undertaken travels in New Guinea, Kalimantan, Java and other parts of Indonesia, often to follow up specific research questions or in search of comparative material.

Field stations and field studies. — The setting up of field stations has made available research sites for both short and long term studies, as well as introducing generations of school pupils, university students and adults to the complexities of the natural world. Ulu Gombak University of Malaya Field Study Centre has already been noted, and other important sites that Cranbrook has been associated with in some way

include Bukit Lanjan (formerly under the Forest Research Institute and Institute for Medical Research but now levelled for dwellings) on the fringe of Kuala Lumpur, Pasoh (under the Forestry Department, linked to the International Biological Programme and Man & Biosphere Programme) in Negeri Sembilan, Kuala Belalong in Brunei Darussalam (Cranbrook & Edwards, 1994), and sites in central Sarawak (under the plantation timber company Grand Perfect) and in East Kalimantan (under an oil palm initiative).

People. — Gathorne has had an abiding interest in human affairs, be it the culture and traditions of the Dayak and Iban peoples, or sustainable development of the United Kingdom environment and countryside, or setting on a sound footing the philanthropic ambitions of the Bolton Trust. These preoccupations have come together in his publications on Alfred Russel Wallace (e.g., Cranbrook, 2008), and his current interest in Alfred Hart Everett (e.g., Cranbrook, 2013), a man who possibly entered and left government service more times than anyone else in history.

Governmental and Non-Governmental Organisations. — Gathorne's support for non-governmental organisations has included office-bearing and voluntary contributions to the Malayan (later Malaysian) Nature Society, WWF Malaysia, the British Ornithologists' Union as editor of *Ibis* vols. 115–121 (from 1973 to 1979; a task in which he was preceded by David Snow, and followed by Janet Kear), Flora and Fauna International, the World Land Trust, the International Trust for Zoological Nomenclature, the Bolton Trust, the British Herpetological Society, and numerous others.

Environmental politics and the land have taken up much of Gathorne's attention since 1978. Langslow (2013) has elaborated on the development of English Nature, but Gathorne also acted in the House of Lords Select Committee on Science and Technology and served on the board of the Anglia Water Authority and non-executive director of Anglian Water. He has been a member of the UK Round Table on Sustainable Development, and Chairman of ENTRUST, the Regulator of Environmental Bodies under Landfill Tax Regulations, as well as Chairman of the Advisory Committee to the NERC Centre of Ecology & Hydrology. Many of the activities on behalf of WWF Malaysia, particularly with the series of State Conservation Strategies, could also be grouped as matters of environmental, non-partisan government planning and development.

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In referring to the literature, we have cited John David, 4th Earl of Cranbrook, in the text above as Cranbrook (IV) and in the list below as Cranbrook, 4th Earl. We have cited Gathorne as Medway or simply as Cranbrook in the text above and in the list below, depending on the date (before or after October 1978).

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