

## HOW DID THEY DIE?

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In 1972 as an appendix to my "Annotated Catalogue of the plants of Pakistan and Kashmir" I thought that it would be a good idea to include a list of the authors and another of the collectors who had had anything to do with the flora of the region. In these lists there were 1217 authors of genera, species or publications and 394 collectors and in the years since 1972 I have found quite a few names I had missed. When I was compiling these names and looking up the dates of their births and deaths I began to wonder what manner of men the early explorers were; the people who had explored in India, the Himalayas, Tibet and Central Asia before the days of modern medicine; who arrived in Bombay or Karachi in sailing ships after a five month voyage around the Cape of Good Hope or used the land route via Turkey, then to Basra and took ship down the Persian Gulf and the Arabian Sea to India.

Before 1860 when the hardy travellers reached the coast of India, if they were going to explore in Kashmir, they did not find a railroad to take them from Bombay to Rawalpindi in 36 hours. Their heavy luggage had to travel by bullock cart at the speed of 12 or possibly 15 miles a day and when they reached the Punjab they had to leave the plains and cross the 15,000 ft. Pir Panjal Range to get to the famous Vale of Kashmir. The explorers still had to travel for additional weeks in order to get to the places where they hoped to explore, travelling on foot or horseback.

The modern tourist who flies from London to Kashmir and arrives there within two days and rents a houseboat or takes a room in Nedou's Hotel cannot imagine the conditions in the Punjab or Kashmir of 1820 or 1850. The great killers, plague, smallpox, cholera and malaria were endemic and so were typhus, leprosy, dysentery, diphtheria, typhoid, trachoma and several more. In many places travellers needed to travel in parties or with armed escorts. There were vast areas where there were no doctors, hotels, or amenities of any kind. There were no mails or telegraphs. In spite of all the dangers and difficulties which had to be faced there were dozens of men who reached Kashmir before the 1870's and some of them pressed on into Central Asia as far as Turkestan and even to China, crossing the vast cold deserts of Tibet. Who were these people? What were they like? What was their fate? Did they all get home again? Most of them did. Others did not.

When in August 1911 I arrived in Rawalpindi in the Punjab near the Afghan Frontier, the place where travellers going to Kashmir left the railroad to change to horse drawn vehicles which would take them to Srinagar in seven or eight days, I found civilization, hospitals and law and order. Rawalpindi was the largest military Cantonment in the British Empire. It was the Headquarters of the Northern Army which guarded India against any Russian incursion from the north. There were still dangers, however. I had been appointed for three years to teach elementary Botany and Zoology in a small Presbyterian College to enable students who wanted to become doctors to pass their Pre-Med. Exams. During those three years we had plague and smallpox holidays. Quite a few of the students had faces badly scarred by smallpox. On my first trip home in July 1914 my cousin and I sailed from Calcutta on a ship bound for Japan. I still remember that the day before we sailed,

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early in July 1914, that the Calcutta paper stated that 15 people had died from cholera, 15 from plague and the same number from smallpox. It was just before the period when vaccination and inoculations began to reduce the toll that these three killers had been taking. In 1911 one of our missionaries died of cholera and in 1914 while on holiday in Kashmir, our Treasurer died of the same disease. At this period when I was in Kashmir I was asked to serve as a pallbearer of a lone European woman who had died from cholera. There was so much diphtheria before that period that many white children died of that malady.

In British Lahul on the Tibetan frontier there was a little Moravian Mission which I visited in 1913. In the cemetery there were the graves of little Jaeschkes, Heydes and Peters. For years they feared that European children could not survive there. Both Heyde and Jaeschke were good botanists and have species named after them. *Jaeschkea* is a genus named for the Rev. Heinrich Jaeschke who lived in Lahul between 1860 and 1870; *Scutellaria heydei* Hkf. is one of the species named for the Rev. A. W. Heyde.

In the 1830's and 1840's when Kirilov and Karelín were exploring in Siberia they had to travel with 50 Cossacks. The local people hated foreigners and considered them to be spies. In the Philippines in 1916 A. D. E. Elmer (1870–1942) a professional plant collector told me that it was not safe for foreigners to travel in the wilds but that he could do so because the natives will not hurt a crazy person and that he was considered to be a madman because no one in his senses would pick little useless plants from tree trunks or from the ground and take them away. In Amboina, however in 1917 Dr. C. B. Robinson made the mistake of going into the forest alone. Head hunters who had never seen a white man killed him.

The chief danger in some countries was therefore the unfriendliness of the locals and not disease. This was true in Siberia, Arabia, the Andaman Islands, Ethiopia and Eastern Tibet. I travelled in the Western Himalayas for more than 40 years without an escort and without arms and the only unfriendliness we found was that of the huge Tibetan mastiffs chained outside the monasteries in Western Tibet. Only in Upper Swat near the Afghan Frontier did the authorities send five police with us for our safety.

Many Tibetan explorers tried to reach Llassa but they were all turned back. I never heard of the Tibetans of Western Tibet killing any of the explorers but on the Chinese side a number of French missionary plant collectors were murdered by fanatic lamas.

Disease was the most common cause of death even at sea. In the days of sailing ships, voyages were very long. Exploring expeditions lasted up to five years. Scurvy was not understood and the discovery of lime juice and other ascorbic foods was as great a discovery as some inoculations. On some very long voyages scores of sailors and passengers died from scurvy and the remark that a certain botanist died at sea probably means that he died of scurvy rather than that he was washed overboard in a storm.

A number of botanists were drowned in rivers. A surprising number were murdered. Two were enslaved, one in Ceylon and one in North Africa. Two botanists are said to have been guillotined in the French Revolution, not because they were botanists. A few disappeared without a trace. Frederick Müller, an Alsatian, went to Mexico to collect and was never heard from again. In 1818 an entire French expedition to the South Seas under the command of Philippe Picot, Baron Lapeyrouse, disappeared between Fiji and the Solomon Islands. In spite of a diligent search no trace was ever found. They may have perished in a typhoon.

This little paper is an exploratory effort to call attention to a field which someone may like to follow in order to prepare a book of biographies on the botanists who never returned home or if they did, soon died because they had been weakened by diseases they had acquired abroad.

In my collecting trips in the Himalayas, Trans-Himalayas and Hindu Kush between 1912 and 1962 I ran across the lonely graves of a number of scientific explorers and

missionaries who never saw their native country again. I remember seeing the grave of Ferdinand Stoliczka (1838–74) botanical collector and geologist who died on the Karakorum Pass c. 18,000 ft., probably of appendicitis while returning from Yarkand. His grave is in Leh (Ladakh), Western Tibet. At the foot of the Burzil Pass on the road to Baltistan we found the grave of the wife of a Parsee geologist near the highest Kashmiri Village in the Kishenganga Valley. We saw similar graves of those who had died from accidents or disease thousands of miles from home.

At this period a hundred or more years ago, West Africa was called the white man's grave and there were places in India and the Asiatic tropics which were not much better. Even in Rawalpindi, where I lived, many of the graves in the European Cemetery were of young men and women in their twenties and thirties. When I left in 1960, plague, cholera and smallpox were no longer dangerous and malaria, tuberculosis and hunger were probably the worst threats to life. The population of India is now more than twice what it was then.

The Central Asiatic explorers were almost all men but a few in the Trans-Himalayas were accompanied by their wives. For example in 1895 Mrs. St. George Littledale and her husband crossed the Tian Shan Mts. entering them from Central Asia, crossed Tibet and reached Leh in Ladakh in safety. Mrs. Visser-Hooft, whose husband was the Swiss consul in Calcutta accompanied him while he was surveying in the most difficult parts of the Karakorum Mts. in 1922, 1925 and 1929. She collected plants. Madame Potanin, wife of the Russian explorer G. N. Potanin, who collected and explored in Eastern Tibet, Mongolia and China in 1884–85 died near Chungking, Western China, a long way from home.

The facts mentioned in this paper were gathered over a number of years and much of what I have gleaned was discovered in general botanical reading when I was not looking for data on this subject. As I am now 93 I do not expect to be able to develop this study any further and hope that someone will take up the theme and expand it into a proper book. The field is vast and of great interest though the facts are so scattered that they are hard to find.

Anderson, William (1750–78), who served as botanist on Cook's second and third expeditions died at sea, possibly from scurvy.

Banister, John (1650–92), an Anglican missionary in Virginia, for whom the genus *Banisteria* was named, fell and broke his neck while trying to collect a plant growing in the crevice of a cliff.

Biermann, Adolph (x–1879/80), Curator of the Calcutta Botanical Garden was killed by a tigress when walking in the garden.

Boerlage, Dr. J. G. (1849–1900), of Holland died of a fever in Ternate.

Bowman, David (1838–68), a Scot, was robbed of his plants in Colombia, S. America. He is said to have died of 'mortification' in Bogota. Did he die of grief?

Chalmers, James B, a missionary from New Zealand to the Hebrides is the only plant collector I have heard of who was killed by cannibals.

Chesterton, J. Henry, orchid collector for Veitch of Great Britain, died in Colombia, S. America.

Cunningham, Allan (1791–1839), in charge of the Sydney, Australia, Botanical Garden was killed by aborigines while collecting.

Douglas, David (1799–1834), trained at Glasgow, a pioneer explorer and collector in the Northwest of N. America, for whom the Douglas fir was named, died in Hawaii from falling into an animal trap already occupied by a bull.

Dutreuil de Rhins, Jules Léon (1846–94), explored between Leh in Ladakh and Chinese Turkestan, 1892–94. His party lost a horse and he made the mistake of blaming some local people for stealing it and was murdered.

Farrer, Reginald John (1880–1920), collector of rock garden and other plants of horticultural worth for Veitch and Co. died of pneumonia on the Chinese-Burma border "in unrelenting rain."

Forsskål, Pehr (1732–63), a member of the Niebuhr Mission to Arabia died from a severe fever. *Forsskalea* Linn.

Gill, William John (1843–82), born in Bangalore, India was murdered by Bedouins in the Sinai Desert.

Griffith, William (1810–45), was probably the ablest of the British botanists who worked in India and

new species. In 1839 he went with the British Army to Baluchistan and Afghanistan. He was the first to collect in Nuristan, formerly Kafiristan. He narrowly escaped an ambush in which his servant was wounded. He returned to India through the Khyber Pass. He not only collected plants but fishes and various kinds of animals and also studied meteorology. He described his new species when they were fresh and he was probably the first in India to name his own mosses. Dying of malaria at 35 he had accomplished more solid work than most of the men who lived twice as long.

Helfer, Johan Wilhelm (1810–40), an Austrian, arrived in Tenasserim, Burma in 1837 and collected there. In 1840 he and his wife went to the Andaman Islands to collect. He was murdered but she escaped.

Hofmeister, Werner (1809–45), botanist of Prince Waldemar of Prussia, on a collecting trip in India, arrived in the Punjab when the British were at war with the Sikhs. Burkill states that the botanist was killed by a stray bullet while he was watching the fight. Another report, which may be more accurate, suggests that for the sport of it he was taking part in the battle on the British side.

Hooper, James, another Kew collector who had served as Curator at Buitenzorg in Java, died at sea (1830/1). Through scurvy?

Jack, William (1795–1822), one of the first botanists to work for the East India Co., collected in Bengal, Sumatra and Malaysia and the well-known Jack Fruit is named for him. He was only 27 when he died at sea.

Jacquemont, Victor (1801–32), a very capable, aristocratic French botanist, was sent to India to collect by the Paris Museum. He landed in Pondicherry, a small French enclave in South India in 1829. He gradually moved north, entertained by the British authorities. Hearing that there was an important Frenchman travelling about India, Maharaja Ranjit Singh invited him to visit the Punjab which he did in 1830. He was the first to do some collecting in many places, including the Salt Range, and parts of Kashmir. He then went south to Bombay where he died at 31 from dysentery or malaria.

Kerr, William (x–1814), a Kew trained horticulturist, went to Peradeniya, Ceylon to take charge of the Botanical Garden but died within four years.

Kirilow, I. V. (1821–42), together with Georg G. Karelin (1801–72), collected in Russian Central Asia but the younger partner died when only 21, apparently of cholera.

Koenig, Dr. J. G. (1728–85), doctor for the Tranquebar Mission, S. India (Moravian), died of cholera. He had been a pupil of Linnaeus and introduced the binomial system of nomenclature to India.

Leitner, E. F., an American collector born in Germany, was murdered by American Indians while collecting on the Florida Keys in 1838.

Lippi, Agostino (1668–1704), for whom *Lippia* Linn. and *Helianthemum lippii* were named, was murdered in Ethiopia.

Livingstone, Dr. David (1813–73), the famous missionary explorer, weakened by fever, died in Central Africa. His faithful African companions removed his heart and sent it back to Britain.

Lobb, William (1809–63), from Cornwall, great collector in N. and S. America, died paralysed in San Francisco.

Ludwig, A., is said to have been killed by the bite of a rattlesnake while collecting in the American West.

Maingay, Dr. A. C. (1836–69) was an Indian Army Surgeon and linguist who had collected plants in Burma and Penang. While he was in charge of a jail in Malacca there was a riot of the prisoners in which he was killed.

Marquand, C. V. B. (1897–1943) of the Kew staff, died by drowning in the Isle of Skye on the west coast of Scotland.

McCabe, D. C., a British District Commissioner was killed in an earthquake in the Naga Hills of Assam.

Mettenius, Georg Heinrich (1823–66), who had served as Director in Leipzig, died of cholera.

Meyer, Frank Nicholas (1875–1918), American professional collector in China, was drowned in the Yangtze.

Montbret, A. F. E. (1780–1801), accompanied Napoleon on his invasion of Egypt and died there.

Moorecroft, William (1765?–1825), was the pioneer of pioneers. He was the first in Gt. Britain to become a Veterinary Surgeon by going to France as the subject was not taught in Britain. He was the first veterinarian to be employed by the East India Co. He was the first to enter Tibet from India in 1814 and the first to collect a bundle of Tibetan plants which he sent to London. He was the first to collect a bundle of plants in Ladakh and Kashmir, which he sent to Wallich in Calcutta. Instead of going home by sea he tried to go by a land route from North India through Afghanistan but he either died of disease or was murdered and never reached home.

Motley, James J. (d. 1859), who had collected many plants for Hooker of Kew was murdered with his family in Labuan, Borneo.

Oldenland, H. B., died in 1691 at the Cape of Good Hope where he had collected for the Dutch from 1663–. He was a Danish doctor.

Oldham, Richard (1837–64), a Kew Horticulturist, died of dysentery in Amoy, China.

Park, Mungo (1771–1805), a Scot, protégé of Banks, collected in India and Sumatra and died while trying to trace the course of the Niger River in Africa.

Philippi, Theodore (x–1851), Ass't Berlin Herbarium, died in Chile.

Pierot, Dr. Jacob (1812–41), Leiden, Holland, importer of Javanese plants, collector in Japan, died in Macao, China.

Popenoe, Dorothy Kate, née Hughes (1899–1923), Kew agronomist before marriage, died in Guatemala. Wife of F. W. Popenoe.

Porter, George (fl. 1800–34), Overseer Calcutta Botanical Garden until 1822 and then Sup't at Penang, where he died.

Przewalski, Nicolai M. (1839–88), rose from Private to Major General and after collecting 1700 species in Central Asia died of typhoid in Turkestan. He hoped to reach Llassa.

Quartin-Dillon, Richard (x–1841), a Frenchman, died in Ethiopia after making large and valuable collections.

Redowsky, Ivan (1774–1807), a Russian botanical explorer in N. E. Asia and Kamchatka, was killed as a spy.

Robinson, Charles Budd (1871–1913), a Canadian with a Columbia University degree was employed by the Manila Bureau of Science. He went to Amboina to collect and made the mistake of going out alone and was murdered by superstitious headhunters who had not seen a white man before.

Roscher, Albrecht (1836–60), was killed in S. E. Africa, near Nyassa.

Roucher, J. A. (1745–94), of Montpellier, France, patron of natural science, was guillotined in the Revolution. *Roucheria* Planch.

Rumphius, Georg Eberhard (1628–1702), did not die in an earthquake in Amboina but he lost his wife and oldest child.

Schlagintweit. In 1854 three remarkable brothers, Hermann (1826–82), Adolf (1829–57) and Robert Schlagintweit (1833–85) went to India as geographical explorers and plant collectors under the auspices of the King of Prussia. The East India Co. was so pleased with their work and abilities that it employed them. For about four years they explored together and separately. They visited the most difficult parts of the Western Himalayas and the Trans-Himalaya and also worked in Tibet. One brother, Adolf, travelled as far as Chinese Turkestan where he was murdered in 1857.

Schweiger, A. F. (1783–1821), was murdered while collecting in Sicily.

Seetzen, Ulrich Jasper (1767–1811), for whom *Seetzenia* was named was poisoned in Yemen, South Arabia, while exploring for plants while disguised as a Muslim.

Stocks, Dr. John Ellerton (1822–54), was a vaccinator for the East India Co. He reached Bombay in 1847 and at once began to collect. He made pioneer collections in both Sind and Baluchistan. He took his plants home to name them but died before he could do so. His collection was sent to Boissier who used it in preparing his *Flora Orientalis*.

Stoliczka, Ferdinand (1838–74), a geologist and naturalist, accompanied the second Forsythe Expedition to Turkestan. He died on the Karakorum Pass (18,550 ft.) on the return trip. *Allardia stoliczkai* C. B. Clarke and *Saxifraga stoliczkae* Duthie were named for him. He probably died from appendicitis.

Wallis, Gustav (1830–78), crossed the Amazon basin from ocean to ocean and died of fever in Ecuador.

Willisel, Thomas—away back in 1675 was sent to Jamaica to collect and his death was said to be due to the climate.

Some of the greatest collectors anywhere have been French missionaries on the Chinese-Tibetan border. It is a very rich area botanically. One of them, Père Delavay (1834–95), collected and pressed with his own hands 200,000 specimens. He caught the plague and nearly died but recovered. Some of his colleagues were not as fortunate and were murdered by fanatical Tibetan lamas. Jean André Soulié (1858–1905) was tortured and shot. Père J. T. Monteig and Fathers Bourdonnec and Dubernard were murdered. Monteig was cut in pieces.