

*Voyageurs, Explorateurs
et Scientifiques*

The French and Natural History in Singapore

PART 1

Diard

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Lee Kong Chian Natural History Museum  Muséum national d'Histoire naturelle

CHAPTER 1: PIERRE MÉDARD DIARD AND ALFRED DUVAUCEL: TWO FRENCH NATURALIST IN THE SERVICE OF
SIR STAMFORD RAFFLES (DECEMBER 7, 1818–MARCH 27, 1820) 4

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Voyageurs, Explorateurs et Scientifiques: The French and Natural History in Singapore

*Pierre Médard
Diard and Alfred
Duvaucel:*

Two French Naturalists
in the Service of
Sir Stamford Raffles

(December 7, 1818–March 27, 1820)

Danièle Weiler

Introduction

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On 5 April 1814, Napoleon I was forced to abdicate. The Empire collapsed, the Bourbons returned to power and Louis XVI's brother, Louis XVIII, ascended to the throne. Although the Restoration of the Monarchy might seem a step backwards after the Revolution, Louis XVIII preserved revolutionary achievements and values and granted the French a Constitutional Charter, proclaiming equality before the law and freedom of the individual, religion, speech and the press. In 1818, freed from foreign occupation, France, under Louis XVIII, was able to rejoin the Holy Alliance. Thus it was that with the exception of a few military expeditions aimed at restoring monarchies, Europe was able to live in relative peace for almost half a century.

With freedom of expression restored after Imperial despotism and peace maintained, increased contact with foreign countries favoured a renewal of intellectual life and the Restoration was a period of intense intellectual activity. This period of peace allowed French scientists, philosophers and writers to broaden the scope of their research and establish new schools in a wide range of fields. French explorers journeyed over land and sea, amongst them Dumont d'Urville, who explored Oceania.

The exact sciences, already encouraged during the Revolution and the Empire, flourished in France, namely Cauchy's work on infinitesimal calculus, Fourier's on series and the propagation of heat, Fresnel's on optics, Ampere's in the field of electricity, Carnot's in thermodynamics and Gay-Lussac and Chevreuil's in the field of organic chemistry.

Emblematic of the natural sciences was Lamarck, who formulated hypotheses on the evolution of living organisms which were later taken up by Darwin and above all, by Geoffroy Saint-Hilaire and Cuvier.

Jean Léopold Nicolas Frédéric Cuvier, known as Georges Cuvier, was born in Montbéliard on 23 August 1769 (Fig. 1.1). He developed a passion for the natural sciences at a very early age and in 1795, at the age of 26, settled in Paris where he became friends with Etienne Geoffroy Saint-

Hilaire, a professor at the new Muséum national d'Histoire naturelle (MNHN) in Paris. Cuvier accepted a post of assistant professor to the Chair of Animal Anatomy, which was to become the Chair of Comparative Anatomy, at the MNHN. It was the beginning of an illustrious career.

6 Cuvier obtained the use of a building previously owned by the Paris Carriage Company, situated within the present-day Jardin des Plantes overlooking what is now the rue Cuvier, and set up his comparative anatomy laboratory there (Fig. 1.2). He contributed to the study of zoology an innovative system of animal classification based on the principle of the subordination of organs and correlation of parts. He developed the idea of classifying the animal kingdom by dividing it into four “branches” (articulate, vertebrata, mollusca and radiata), thereby structuring the study of the comparative anatomy of animals and calling into question the Chain of Being. The nervous and respiratory systems and organs successively indicate the order, family, genus and lastly, the species.

In 1806, Cuvier opened his laboratory to the public and it became the MNHN’s first comparative anatomy gallery.

Fig. 1.1



Fig. 1.1

The great French anatomist and zoologist Jean Léopold Nicolas Frédéric Georges Cuvier (1769–1832) was also the stepfather of Alfred Duvaucel

Fig. 1.2



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Fig. 1.2

'La maison de Cuvier dans les arbres', by Raoul Dufy, 1910.

Cuvier acquired a building that previously belonged to a company of carriages, located today within the grounds of the Jardin des Plantes and overlooking the current rue Cuvier.

Le Havre, Musée d'art moderne André Malraux © MuMa Le Havre / Charles Maslard © ADAGP, Paris, 2019

Two of Cuvier's Students in India: Alfred Duvaucel and Pierre Médard Diard

8 Alfred Duvaucel was born in Paris on 4 February 1793, the youngest of four children. His mother, Anne-Marie Loquet du Trazail had married Louis-Philippe Alexandre Duvaucel, Marquis of Castelneau, a *fermier-général* (an aristocrat who collected taxes for the King), who was born in 1754. Sentenced to death by the Revolutionary Tribunal of Paris—possibly for adulterating tobacco—Louis-Philippe was guillotined on 8 May 1794 at the same time as the chemist Antoine Lavoisier and a year after the birth of his son, Alfred. Sophie, the eldest of the Duvaucel children, was born on 19 December 1789 and became Alfred's confidante and recipient of his letters. The other two children, Thélème and Martial, died young.

Alfred was 11 years old when his mother married Georges Cuvier on 2 February 1804. They had four children, three of whom died in infancy. Clementine, born in 1809, and the only child to survive childhood, died at the age of 18. Deeply affected by the death of his children, Georges Cuvier increasingly focused his affection on Sophie and Alfred.

Alfred joined the army and took part in the 1813 campaign as a non-commissioned officer. He was sent to Antwerp the following year, where he was appointed aide-de-camp to General Lazare Carnot, remaining there until the end of the war. Finding the prospect of a military career unattractive, he then resigned his post.

Struggling to find a position that suited his aspirations and scientific interests, Alfred naturally turned to his stepfather. In 1817 he decided to set sail for India and send the fruits of his research to his stepfather at the MNHN.

In late December 1817, he boarded the 'Seine' under Captain Houssard in Le Havre. After five months at sea and calling at the Cape of Good Hope, Duvaucel arrived in Calcutta at the end of May 1818 in his official capacity as Naturalist to the King. In a letter to his mother dated 30 May 1818, he wrote:

My Dear Mother,

I am writing to you from Calcutta where I have at last arrived after a journey as long as it was tedious but during which I enjoyed excellent health. Not even the burning hot climate of Bengal where I have been since 18 May has dampened my cheerful spirits and I am as fit in the land of the Hindus as I am in Paris and have not yet regretted a single instant the great resolution I took to settle in India. ... I wanted to see everything: I sought out our traders since I wanted to know if it would be possible to make one's fortune with cotton and indigo. I then found myself less welcome and these gentlemen fled from me as though I wanted to steal their sugar or their money. I am living therefore in the world of scholars, dear mother. It is the most amiable and the one in which there is most to be gained.

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Pierre Médard Diard was born in the Château de Labrosse in Chateaurenault (Château de la Brosse in Château-Renault) in the Indre and Loire region on 19 March 1794 (Fig. 1.3). Like Duvaucel, he showed an early interest in science. After completing his secondary education in Tours and having no access to the opportunities for study offered by Paris, he gathered together a group of like-minded friends in order to study the natural world. He worked in the land registry then in public education before finally beginning his studies in medicine which were interrupted by the Decree of 3 April 1813. The decree aimed to replace the men lost during the Russian cam-

Fig. 1.3



Fig. 1.3

Pierre Médard Diard in the uniform of the 'Garde d'Honneur' which would date this portrait to between 1813 and 1814 as discussed in the text

paign quickly and Diard, like Duvaucel, enlisted in the third regiment of the guards-of-honour and took part in the campaigns of 1813 and 1814. With the return of the Bourbon monarchy to the throne of France, Diard was released from his military obligations and resumed his medical studies in Paris.

10 On the advice of a doctor from Chateaufort (Château-Renault), Diard showed his work to Cuvier who soon bestowed his friendship and esteem on the young man who became friends with Cuvier's stepson, Alfred Duvaucel. The work that particularly attracted Cuvier's attention was Diard's dissection of the Hottentot Venus, who died in Paris from smallpox and whose skeleton was, at the time, exhibited in the comparative anatomy laboratory.

Diard had been attracted to the Far East ever since he was a young man. His brother told of how he had told friends he would visit the Celestial Empire one day.

In 1816, when only 21 years old, Diard prepared to accompany Captain Freycinet on his journey around the world, but circumstances beyond his control prevented him joining the expedition.

The following year he agreed to travel to India on behalf of a Breton family who needed to settle matters relating to an inheritance. Before leaving, he had been appointed "Correspondant" of the MNHN. Just before embarking, however, he learnt that one of the elephants in the King's Garden had died and he delayed his departure in order to participate in the dissection of the animal. This proved to be a stroke of luck; for the ship he was to have taken, the 'Alouette', sank with all hands lost, off the Cape of Good Hope.

Diard finally left Bordeaux on 20 August 1817 and arrived in Calcutta on 5 January 1818.

Thanks to Cuvier's recommendation he was very well received by the members of the Asiatic Society and once matters relating to the inheritance had been completed, he began his research. Duvaucel joined him a few months later. Duvaucel wrote to his mother:

News of my trip to Bengal, had travelled ahead of me. Diard preceded me by four months. The good name of Mr Cuvier opened all doors and even hearts for me. The admiration they have for him in this country is beyond all expression: they love everything to do with him, they will receive anyone who knows him; there is no more glorious recommendation than his. No prince or sovereign ever received praise so sincere or so impartial. The name of Cuvier carries a hundred times more weight than that of the

King of France. Through him we can do everything, ask for everything, receive everything. Such a warm welcome has brought me happiness, and I have made every effort to show myself worthy of it, and I hope I have succeeded, since I am getting better and better. Of all the pleasures I have experienced here, the most pleasant is to have met poor old Diard, whom I have embraced as a brother, and who is as constantly by my side as my own shadow, and with whom I am determined to live and work for two or three years.

Jean-Jacques Coulmann, a friend of Duvaucel, recounts in his memoirs that Lord Hastings, then Governor General of India, “owned a considerable menagerie at Barrukpou, not far from Calcutta, and whenever he was sent some curious or rare animal from the environs of Bengal, she (Lady Hastings) would send word to Mr Duvaucel who would eagerly bring his draughtsman, a young Malay, whose talent Duvaucel had nurtured, and who would paint the animal accurately while his master Duvaucel was observing and describing it as a naturalist”.

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Calcutta had a few thousand Europeans living in the colonial neighbourhood known as the ‘white city’, which stood in sharp contrast to the native areas of the city (Fig. 1.4). In a letter to his sister, Duvaucel described the city thus:

Calcutta, my dear beauty [as Duvaucel would address his sister], Calcutta lacks regularity in its details and harmony overall. There are new streets, two or three times wider than the one leading to the Luxembourg, each bordered by two canals which serve as drains in rainy weather and to cool the public road when it is hot; but these streets are intersected by a multitude of alleys and dead ends where badly maintained drains spread a foul odour and miasmas that decimate the population.

Diard and Duvaucel very quickly realised that if they stayed in Calcutta they would not be able to devote all their time to the study of natural history so they decided to leave the social whirl of the city and move to the French trading-post of Chandernagor (now Chandannagar):

We will make our home in Chandernagor. We have found all the necessary resources and goodwill amongst the members of the Asiatic Society. Diard is studying Persian and I am studying Hindustani. Within seven or eight months, we will be able to make ourselves understood throughout India, and thus make the most of our stay in these vast lands.

The men rented a small house in which they set aside a room to sleep. The other rooms were soon full of live or stuffed animals. They hired hunters and every day new animals were brought

Fig. 1.4

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Fig. 1.4

A panorama of Calcutta from the Octerlony Monument on the Meydan (Maidan) River in 1832, drawn by Jacob Janssen

to them to be studied, drawn and stuffed. Diard and Duvaucel also spent time hunting and their house was quickly transformed into a menagerie-museum. Valentin Méniolle, nephew of the Bishop of Adran who was in Chandernagor in 1818 gave an account in his memoirs of his visit to the two naturalists:

14 Duhant-Cilly took us to two Parisians who are living in Chandernagor in order to study the natural history of the country ... They have already made many shipments to the Paris Museum and continue to do so every day. They have each devoted ten thousand francs of their income to these studies.

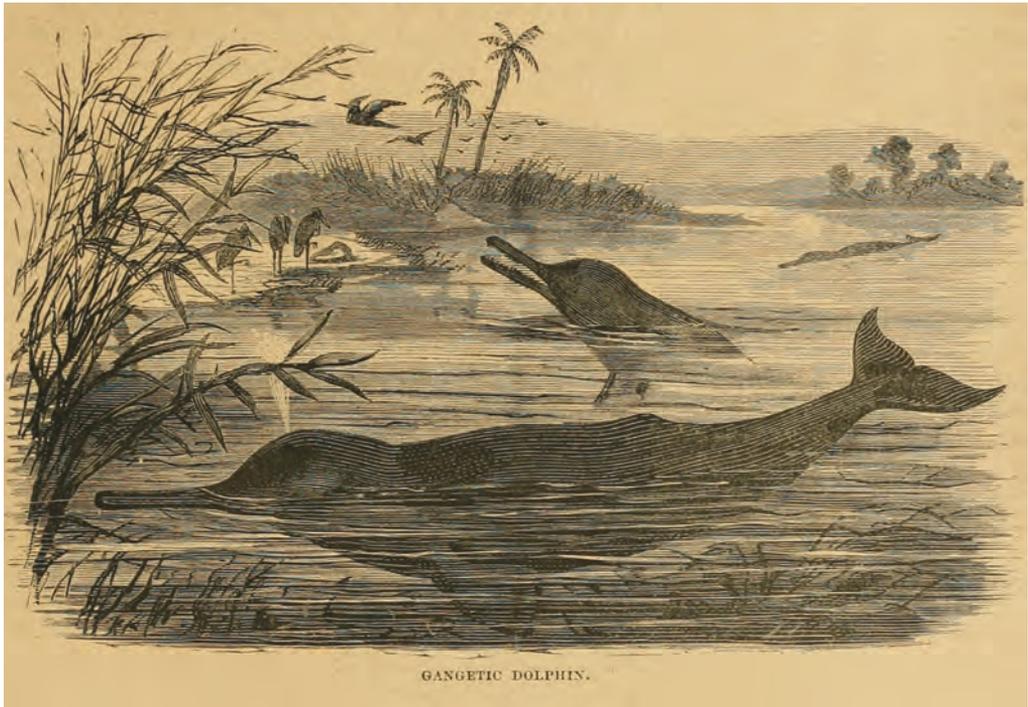
In the garden adjoining their home, the two naturalists grew native plants and harvested the seeds. There was also a pond where they raised water birds and wading birds.

They complained in their letters however, of problems with their servants who refused to do a wide range of jobs. It was almost impossible to get them to do any work other than their allotted tasks on account of the problems engendered by the caste system. By dint of tenacity and the promise of rewards, Diard and Duvaucel eventually managed to persuade their cook to go hunting, their gatekeeper to look after the garden, and the cupbearer to catch fish.

In June 1818 they sent to the MNHN the skeleton of a Gangetic Dolphin (Fig. 1.5), the head of an ox from Tibet whose bones they had to fight over with the ship's dogs, several little-known species of birds, and a drawing and description of the Malayan Tapir taken from an animal living in Lord Moira's menagerie in Calcutta, as well as some mineralogical specimens. A little later they also sent a horned pheasant and a young Kashmir goat to the same institution.

The two naturalists rarely went to Calcutta as "they feared with good reason that the multiple pleasures of this opulent and sensuous city would divert them from their work" confining their visits to meetings with the scholars of the Asiatic Society and the members of the Supreme Council of the powerful East India Company.

Fig. 1.5



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Fig. 1.5

The skeleton of a Gangetic Dolphin was one of the specimens sent by Diard and Duvaucel to the Museum in Paris in June 1818. The Gangetic Dolphin, *Platanista gangetica gangetica* (Lebeck, 1801), is one of the two subspecies of South Asian River Dolphin. The other subspecies is restricted to the Indus River region

Meeting with Sir Thomas Stamford Bingley Raffles

16 Raffles was a self-taught man with a passion for science. He wrote that he was continuing to devote his time to the studies he loved most and that he was now fluent in French and continuing his research in the fields of literature and science.

In 1811, Lord Minto, Governor-general of British India, appointed Raffles Lieutenant-Governor of Java, where he brought about many reforms, engaged in the restoration of the temple at Borobudur, and published a history of Java.

Raffles returned to England in 1815 and helped found the Zoological Society of London of which he was the first president. He also served on the committee that founded London Zoo.

In the summer of 1817, with his young wife Sophia Hull, he made a seven-week trip to continental Europe. He visited the Jardin des Plantes (Fig. 1.6) and attended several scientific conferences. In a letter to his cousin, he gave a perfect description of the gardens that fascinated him:

Today we have visited the Jardin des Plantes, the Botanical garden of Paris. It requires not the eye of a botanist to be interested with this delightful place. The precision and formality of science are relieved by the judicious grouping of plants, and the graceful distribution of the walks and lawns. Every region of the globe is here presented in miniature rich in its own productions, and with such embellishments as harmonise with the scene and heighten its effect. The menagerie and aviary are rich and worthy of attention.

Raffles also mentioned the richness of the galleries, the rarity of the specimens on display, their excellent preservation, and perfect classification and presentation. He added: “The Jardin des Plantes should certainly be visited immediately after the palace of the Louvre”.

In 1818, the British East India Company sent Raffles to Bencoolen, a province southwest of Sumatra, to serve as Lieutenant-Governor.

Fig. 1.6

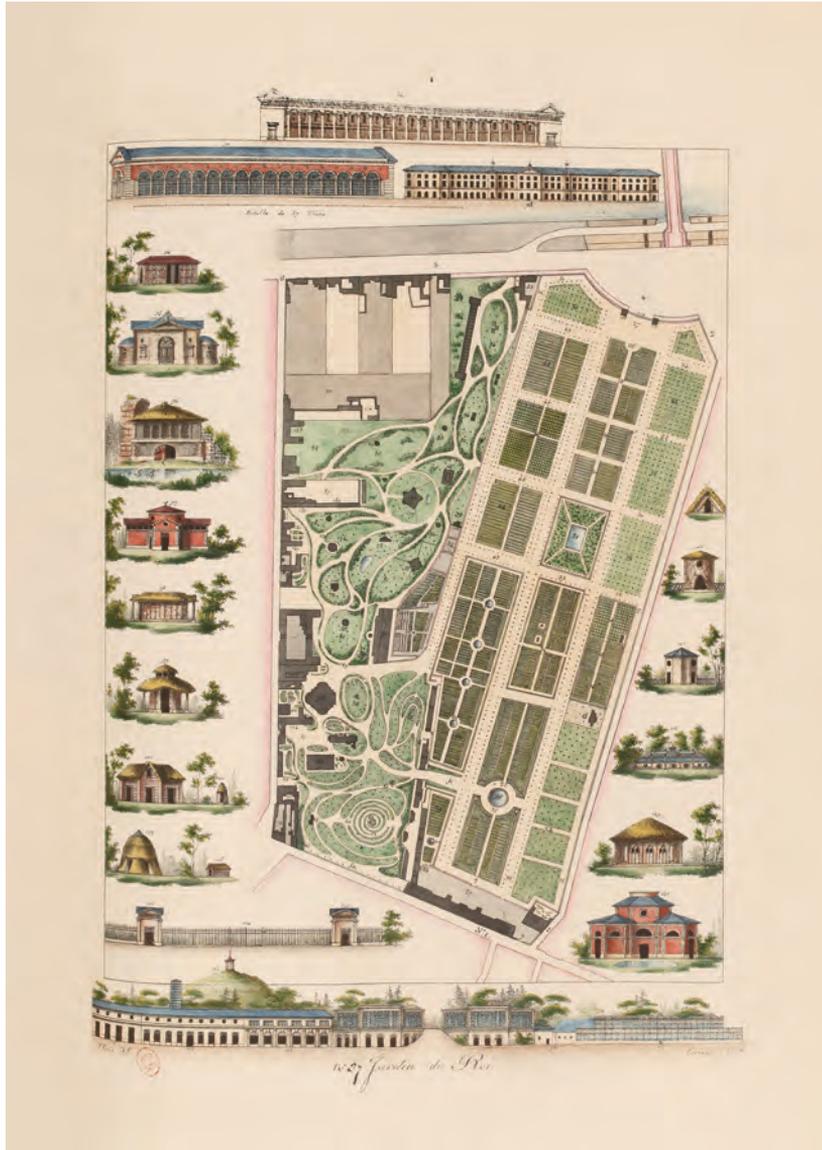


Fig. 1.6

A map from 1820 showing the plan of the Jardin des Plantes

Raffles went to Calcutta to obtain final orders from the Supreme Council of the East India Company concerning an expedition which he was to command, principally to Singapore where no Western power had yet established themselves permanently. Situated on the route to China and Japan, the island was a necessary stopping-point for ships. As Java was once again in the hands of the Dutch, it was important for England to find a new strategic base.

18 Upon his arrival in Calcutta, Raffles heard of Diard and Duvaucel. The two naturalists were about to embark on a long-term expedition within Bengal and were planning to go to an indigo plantation in Patna run by a friend of Duvaucel.

Raffles suggested, through a member of the Supreme Council of the East India Company to whom Diard was very close, that the French naturalist and his friend Duvaucel accompany him on his mission. They would thus be able to extend the scope of their scientific research and carry out a general zoological survey of the little-known islands of the Sunda Strait whilst Raffles, leader of the expedition, pursued the political objectives entrusted to him. There was also question of creating a vast menagerie in Bencoolen. The cost of the voyage was to be borne by Raffles and the collections obtained shared between the three men. Diard and Duvaucel agreed to collaborate in their research work, the findings of which were to be published at the end of the expedition.

It was an enticing offer and the two Frenchmen accepted the conditions laid down because they were short of funds and realised that they would not be able to continue working on their own for much longer. They trusted the word of Raffles, who appeared to benefit from unlimited funds from the East India Company. However, no written agreement was signed. The only condition stipulated by the two Frenchmen was that they would be free to dispose of duplicate specimens and to publish their observations in Calcutta, France or England, as they chose. Raffles agreed.

The expedition held out the promise of an abundant harvest of specimens. They hired draughtsmen, hunters, bird taxidermists, and others able to preserve or search for animals.

The Expedition to Singapore

The expedition left on 7 December 1818 on the ‘Indiana’. The young Scottish surgeon William Jack also sailed as part of the expedition but disembarked in Penang with Lady Raffles who was pregnant.

19

For the next eight months Raffles sailed to various locations between Penang and Indonesia. After skirting the west coast of the Malay Peninsula, they landed at Penang where they spent a few days collecting, amongst other animals, two species of fish and some rare birds. They also attempted to land at Carimore (Karimun Island) but were thwarted by the excessively thick vegetation. The expedition finally headed for Singapore.

An article published in 1821 in volume 10 of the ‘Revue encyclopédique’ gives an account of their journey:

They sailed on to Singapore, where General Sir Stamford had some political affairs to settle, namely, to firmly install on his throne a Malay prince whose subjects found him too much of an Anglophile.

The naturalists had other concerns as Duvaucel’s description of their stay in Singapore shows:

On reaching the harbour, the governor received the visit of three of the king’s aides-de-camp. These officers were not like our young men – tight-lipped, musk-scented and richly dressed – their black heads were shaved and covered with dark-coloured turbans; a large waistcoat hid their oiled, burnt, peeling and stooped backs. On their left side they carried a large kris or dagger and were bare-footed. These three Malays seemed delighted to see us, as if we had come for their benefit. The English were trying to find out what advantage might be gained by taking possession of their island; we, who were less concerned about this, questioned them about the animals that lived there. Who do you think these poor people listened to most willingly? They respond eagerly to the demands of their allies, and shrugged their shoulders listening to ours.

Fig. 1.7



20

Fig. 1.7

Diard and Duvaucel discussed catching the Common Tree Shrew (or *Sorex glis*) at Singapore and Penang in a publication in the 'Asiatick Researches' in 1822. However, this species was actually first named scientifically by Diard in 1820, and it is currently known as *Tupaia glis* (Diard, 1820). Coincidentally, the earliest known drawing of the first animal from Singapore to be described, Neptune's Cup sponge, *Cliona patera* (Hardwicke, 1820), was also published in the same volume of the 'Asiatick Researches'

In an article entitled ‘Notice sur une nouvelle espèce de Sorex’ (Fig. 1.7) published in the ‘Asiatick Researches’, the French naturalists described their work:

During our stays in Pulo Penang and Sincapore, on several occasions we killed a small quadruped in the woods which we took at first for a Squirrel but our examination of it soon led us to recognise that it belonged to the Insectivora family; the elongated shape of its muzzle alone might have made us suspect that it was not a rodent for as we have just said, in all other aspects of its body, its size, its short ears covered with very short hairs and perfectly formed like those of a man, and above all by the feathery disposition of the hairs of his tail, it perfectly resembled a species of small squirrel that we meet at every step of the way in the woods of Sincapore ... we gave him the name *Sorex Glis*, which gives at one and the same time an idea of its outer appearance and true nature.

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During this expedition, the naturalists were on the lookout for new discoveries. Diard and Duvaucel seized the opportunity during their journey between Bengal and Sumatra to obtain a Dugong (Fig. 1.8), a little-known animal often represented in some imaginary form. They sketched, dissected, described and sent the main parts of this large marine mammal to Europe. Their notes and drawings were included in the ‘Histoire naturelle des mammifères’ by Geoffroy Saint-Hilaire and Frédéric Cuvier.

On 6 February 1819, the British flag was raised in the beautiful harbour of Singapore and Raffles laid the foundations of the city that was declared a free port.

The expedition left Singapore and headed back up the Straits of Malacca to the northern tip of Sumatra and stopped at Achem (Aceh) where Raffles put an end to the troubles that divided the kingdom. Duvaucel related in one of his letters of an adventure that nearly cost Diard his life:

We stayed more than a month in this frightful country, without being able to penetrate the interior, nor procure most of the objects we had expected to collect there. The bad reputation of these people is justified every day by their conduct towards the Europeans, and Mr Diard, convinced that the savages are only bad when they are mistreated, almost fell victim to this sense of false security which I have been fighting against for a long time: surrounded by two hundred Malays, with three of our servants he was able, it is true, to escape without injury, but he lost the fruit of his hunt, his weapons, and our luggage ... Our stay at Achem, Padie, Tulosimawe has not

Fig. 1.8a

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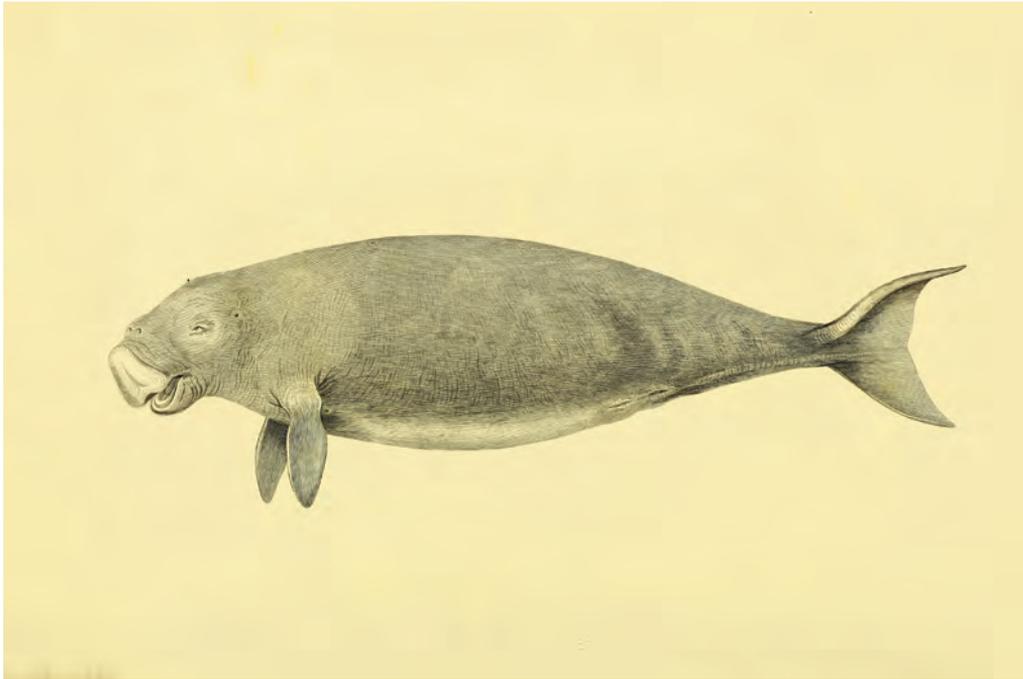
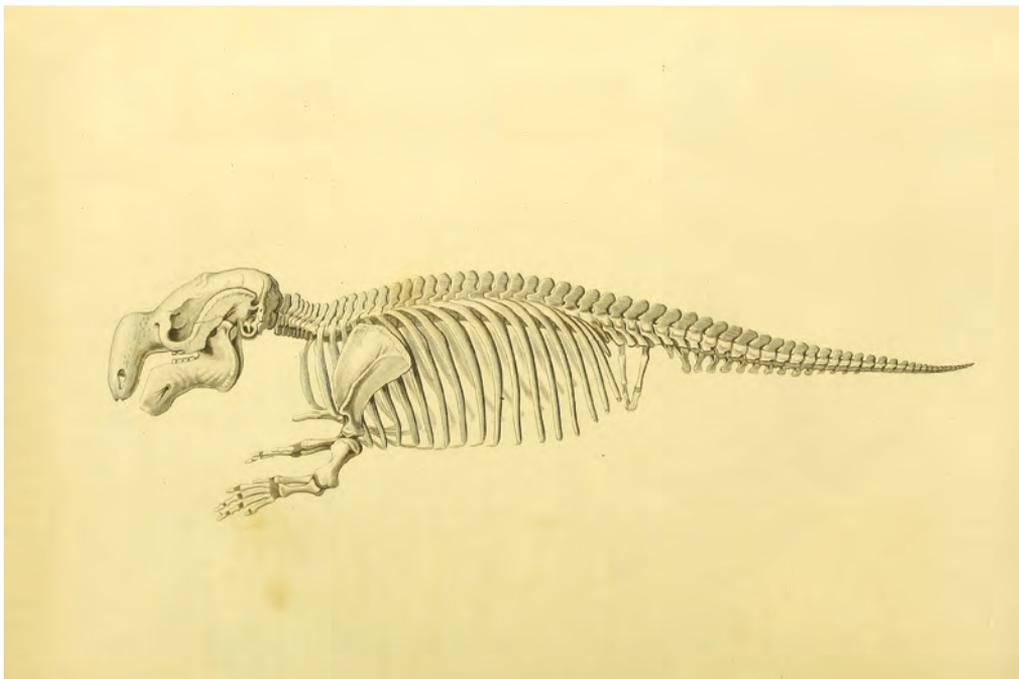


Fig. 1.8b



23

Fig. 1.8a–b

Thomas Stamford Bingley Raffles obtained at least three Dugongs, *Dugong dugon* (Müller, 1776). Two of these specimens were sent to British surgeon Everard Home (1756–1832) in London. Using this material, Home published two papers in the 'Philosophical Transactions of the Royal Society of London' from which these drawings are reproduced

greatly enriched our collections; a few plants, a few insects, a few birds, two or three snakes, four or five fish, and two deer are the only results of this arduous journey.

The expedition's next stop was Malacca, from where Duvaucel wrote:

24 No sooner had we arrived in Malacca than the whole city was at our door: all that has ever been traded here is opium and pepper and they could not guess what we wanted to do with the monkeys and birds we buy; in two hours we were able to acquire a bear, an Argus Pheasant and some other birds. The Dutch Governor has a young Orang-utang, and I shall leave you now to pay him a not disinterested visit.

From Malacca, the travellers returned to Singapore for a few days, arriving in Bencoolen in early August 1819. During this eight-month trip, Diard and Duvaucel disembarked wherever Raffles chose to drop anchor. They hunted quadrupeds and birds, gathered insects and reptiles, studied and noted the habits and manners of the natives, all despite the heat, climate and lack of help from their Malay servants. Their collections, when they finally arrived at Bencoolen, filled half the ship.

During this expedition, Diard was also Raffles' physician since young doctor Jack was with Lady Raffles in Penang to assist in the delivery of Leopold Stamford. Diard wrote in one of his letters to Raffles:

This intuition, Sir, has indeed been proved right, in particular by honouring me with the title of your physician; you have allowed us to consider ourselves part of your family.

A Stay in Bencoolen

The naturalists settled in the governor's country house and energetically pursued their research. The richness of their collections exceeded all their expectations. But they quickly became disenchanted. In a letter sent whilst they were at sea, Raffles informed them that the East India Company was in full control of the contract they thought they had concluded with him. There was no longer any question of their owning part of the research. Raffles informed them that this official document had been designed to anticipate any problems that might arise with the Company, but that they must have confidence in his promises.

25

In addition to this, the Supreme Council of the East India Company did not ratify the conditions laid down by Diard and Duvaucel, and further prescribed that payment of their expenses cease.

Raffles informed the two naturalists that he would send all their collections to England with a catalogue containing their observations, which would be published. His instructions were precise:

The generic character, as well as the essential part of the specific character, I would recommend to invariably be in Latin; the remaining points may be in Latin or French as you may find most convenient; the miscellaneous observations, which are not limited either as to extent or form, will of course invariably be in French, and are intended to include whatever additional particulars you may be desirous of stating.

The two Frenchmen protested vehemently, reminding Raffles of their verbal agreements that allowed them to freely dispose of the duplicates of the specimens they collected and gave them the right to publish their discoveries under their own names.

No longer able, Sir, to count on a permanent establishment and on pecuniary means which would have allowed us to continue for a great number of years a plan of research from which we had every reason to expect immense results, we allow ourselves to

submit to you some considerations formulated since being informed of the Supreme Council's decision.

An exchange of letters ensued as the two naturalists sought ways to avoid being totally deprived of their work. They put forward three solutions: to continue the research at their own expense, to be sponsored by Raffles himself or to reimburse the advances made by the Company in order to retain the monopoly on their research. Unable to agree on a compromise, Diard and Duvaucel replied to Raffles:

26

However, Sir, desiring as much as possible to enter into your views, we would, with pleasure, put all the objects we have collected into your hands, if you agree to the following proposals: the objects sent will be accompanied by a numerical catalogue of species. Species of which there are an even number to be shared equally. And as for those of which there are an odd number, the Company would take half plus the additional specimen. In this case, Sir, we will renounce all rights in the drawings, and you will be able to publish them as you see fit: we will even agree, if you prefer, to only print it in England and to this effect, one or other of us would accompany and care for this precious collection.

These offers and protests proved useless. The collections, along with their notes and drawings were seized and sent to England aboard the 'Mary'. The Company, however, consented to the removal of a specimen for each species that was present in triplicate and thanks to their good relations with some of the English in the colony who supported them in their fight against this injustice, they managed to conceal some valuable specimens in their luggage, replacing them with several crates of rags. These collections arrived in France and in an article published by the 'Musée des variétés littéraires' in May 1824 giving an account of Duvaucel's expeditions, we read:

The natural history collections made on the island of Sumatra by Messrs. Duvaucel and Diard were received at the Natural History Museum in Paris, and many of the most remarkable objects that were part of it are now seen in the galleries of this institution.

The collections sent to England, however, received a mixed reception. Raffles was criticised for spending the Company's money on extravagant research.

Once the collections had been sent, the two French naturalists asked Raffles, if they could set sail again on the 'Indiana'. Raffles issued detailed instructions in this regard:

To Captain Watson, W. T. Lewis, Esq., and Lieutenant Trueman.

Gentlemen,

Mr Diard having intimated the desire of himself and Mr Duvaucel to proceed to Batavia on the Indiana, I think it necessary to re-assemble you, for the purpose of receiving from those gentlemen the fulfilment of their pledge, and enabling them to close their accounts, and quit the settlement without delay, and with the least possible inconvenience to themselves. You will accordingly call upon those gentlemen to place in your possession all the remaining specimens, drawings, and descriptions which may be forthcoming. I enclose for your information, a copy of a letter I addressed to those gentlemen on receipt of your Report, together with their reply, and the list of specimens which they have in consequence selected; and in furtherance of the desire therein expressed in order to obviate future misunderstanding, I at the same time enclose a memorandum, which, if signed, shall be exchanged for a similar document under my signature ...

Fort Malborough, March 27, 1820

27

Sixteen months after leaving Bengal, the two naturalists left with a courteous exchange of letters.

Sir Raffles wrote in a final letter to the naturalists:

Gentlemen ... No man can appreciate more highly than myself the zeal and personal exertion which you have displayed in making these collections and researches, I am sincerely desirous of securing to you the full measure of credit due to them, and I think you must be satisfied that it is always been my wish to contribute to the extension of science ... I conclude with expressing my regret at the necessary closing of our public relation, but at the same time my satisfaction at its being about to terminate in an amicable arrangement.

To which Diard and Duvaucel answered:

Dear Governor,

Although it has been painful for us to engage with you in a public dispute, we have

been pleased to receive the recompense of receiving your assurance that this opposition on our part has not affected the esteem in which we hold you. We are eager therefore to express how grateful we are at this fresh proof of your benevolence.

We are more than pleased, Sir, to see that you have been able to appreciate the motives for our conduct, so that henceforth we may have no other desire than to conform to the views you have expressed. We beg you therefore, to be persuaded that we gladly agree to your proposals and that nothing could be more satisfactory to us before we leave Bencoolen than to prove to you our perfect confidence in your amicable intentions.

28

After bidding goodbye to Raffles, the two naturalists, far from being discouraged, wanted to make good their losses and immediately set to work again. Once their own part of the collections had been sent to Calcutta, they decided to extend their research and leave Bencoolen, parting company for a while.

Duvaucel left on 1 April 1820 for Padang. His research was fruitful and he amassed fourteen cases of stuffed animals and skeletons, including the skeleton and skin of a Malayan Tapir, the skeletons and skins of four rhinoceroses of two recognisably distinct species, a large number of monkeys, some of them alive, reptiles, and two kinds of deer. Diard left for Batavia on the same day, planning to rejoin his friend later. But they were never to see each other again.

Four years later, Raffles, suffering from violent headaches and having experienced family tragedies, wanted to return to Europe. He gathered his possessions, all his botanical and zoological collections, animals including a tiger, a tapir, and pheasants, and together with his family, boarded the 'Fame' on 2 February 1824. On 4 February a fire broke out on board and in less than five minutes the whole ship was ablaze. The passengers were saved but the entire cargo was lost and from a small boat, Raffles watched as all his naturalist's work went up in smoke. The shipments Diard and Duvaucel had secretly sent to France were therefore even more valuable.

The Short Life of Duvaucel

Alfred Duvaucel's regular correspondence with his sister, mother and stepfather, Cuvier, allows us to trace his movements and understand his work.

29

On his return from Padang, Duvaucel spent a few months putting the many notes made during his stay in the interior of Sumatra in order, as well as preparing for his trip to Sylhet, an area in what is today north-east Bangladesh and at the time little known to naturalists. Bearing letters of introduction from Lord Hastings, indispensable for such a trip, Duvaucel boarded the 'Hougly', a bazarra or large flat-bottomed boat, on 22 July 1821:

Our traveller's party was made up of a Malabar who was a good hunter and skilled taxidermist, a young Malay brought from Sumatra and named, 'Jumahat' (Friday) after Robinson Crusoe's servant, a very skilful mulatto painter and lastly a cook who, according to the accounts of our traveller, was rather better at dissecting animals than cooking them.

The first remarkable place that Duvaucel described was the city of Hougly (Hooghly), then Guptipara, a holy place where the presence of innumerable troops of monkeys excited Duvaucel's curiosity:

I therefore entered Guptipara, rather like Pythagoras in Benares, he to seek men, I to find beasts, which is usually easier. I saw the trees covered with long-tailed Hanuman Langurs (*Simia entellus*) that started to flee, uttering awful cries.

After visiting Patoly (Putali), Coulbarria (Goalpara) and the Plassey (Palashi) plain, where he made historical notes and collected many animals, Duvaucel resumed his journey to Sylhet. On the 16 August he entered the Ganges and on the 18 arrived at Commercolly (Kumarkhali), a town whose main industry consisted of collecting and preparing the feathers of the Greater Adjutant, *Leptoptilos dubius* (Gmelin, 1789), for the plume trade. Duvaucel did not fail to note the customs, religious practices and superstitions that he encountered at each stopping-place. At Dacca (Dhaka), Duvaucel hoped to find an escort to accompany him to the Sylhet mountains, and indeed, thanks to Lord Hastings'

introductions, he procured everything he needed for his expedition. On 27 August, having hired a guide, he left Dacca and sailed up the Burrampouter (Brahmaputra), one of the largest rivers in the world and one, like the Ganges, in which Hindus purify themselves.

30 Upon his arrival in Sylhet, the Governor gave Duvaucel a house, a carriage and a pair of elephants, as well as an invitation to a tiger hunt, all thanks to Lord Hastings' letters of introduction. Alfred Duvaucel described the celebrations they attended and the customs of the city. He wished to visit the Cossyah (Khasi) and Gentya (Jaintia) mountains which were beyond British jurisdiction but to do so he was required to request special permission from the ruler of these regions. Whilst awaiting permission, he went to Chhatak, where all Bengal's oranges grew, and noted that "the trees are all squashed up together without order or symmetry and the earth is covered with plants as harmful to the orange trees as they are to the men".

Once permission to visit the Cossyah and Gentya mountains had been received, "Duvaucel was followed by forty Hindu soldiers, his servants, an interpreter, four Cossya chiefs who had come to visit him and a crowd of Indians who took advantage of the opportunity to make a pilgrimage to the Boobon cave, known to the Hindus as 'the Devil's Cave'. Duvaucel described the entire scene near the cave with precision and humour: "What most surprised the savage king was not my torn stockings, nor my ragged clothes, nor my bloody body, it was to see me respectfully let go of his hand, from time to time, to collect snails that I slipped into my pocket, and I have reason to believe that his court was no less surprised, since each time I bent down, there was laughter that drowned out the music".

Duvaucel explored the cave, using ropes to descend into it. He was somewhat disappointed with his mineralogical haul, but quite satisfied with his zoological harvest:

I write to you still bleeding from the bites of these cruel leeches, overjoyed, even though I have suffered loss of blood and some bruising. This painful journey yielded no minerals, which was its principal object, but though the Devil's Cave is unworthy of attracting the attention of geologists, it will be of interest to zoologists as it has offered up various new species of animal.

Duvaucel's stay in Sylhet lasted until December 1821. Tired, and unstinting in his efforts, he was obliged to return to Calcutta suffering from jungle fever. As he slowly recovered, he started to think about travelling to Tibet.

In 1822 he explored the Ganges plain around Benares (Varanasi) and travelled as far as Kathmandu in

Nepal. He was unable to reach Tibet, however, where political tensions with the Nepalese Gurkhas, who had invaded the country, prevented him from entering.

On 24 January 1823, in a long letter to his mother, Alfred Duvaucel gave an account of his past five years in India:

Having earned a measure of respect from the most distinguished Englishmen in India, I thought I had gone most of the way towards gaining their trust and kindness. Either I was not assiduous or flexible enough in my negotiations, or my time has not come, or maybe it never will, but I find myself at the same point today as seven or eight months ago. A hundred people assure me of their friendship yet none of them take care of my fortunes. So many years of employment, so many privations, so many obstacles should have brought me back to you, my dear mother, where I would have been free from all these evils.

31

Duvaucel also mentions the difficult climate, which “we can only resist by rigorous obedience to the laws it imposes”.

In the meantime, Cuvier had already published some of Duvaucel’s research:

This indefatigable naturalist M. Duvaucel, enables me to make known to my readers two species of Indian deer that are entirely new to naturalists. ... It would be highly desirable to obtain a description of the coat of this handsome deer without delay, but in the meantime, we think it appropriate to name it after the naturalist who discovered it, and we thus name it *Cervus Duvaucelii*.

Duvaucel’s fever returned and he considered returning to Calcutta to recover. After a trying day, he wrote to his mother about his encounter with a rhinoceros (Fig. 1.9):

I had intended to devote this day to writing to you, but no sooner had I begun than I was interrupted by news of a rhinoceros in my neighbourhood. Nothing less would have interrupted me. It is the only animal that keeps me here. I was anxious to give a pair to the Museum and so put down my pen; I expected the task to have been all the easier for having acquired some experience since the first time. The animal had just been blinded in one eye by an arrow from one of my hunters. I reached it in a few moments, accompanied by a single servant and seven or eight untouchables armed with bows and pikes. I entered the undergrowth and as I was only ten feet away from it, confident of bringing it down and just

Fig. 1.9



32

Fig. 1.9

This rhinoceros specimen, now housed in the Musée Zoologique in Strasbourg (no. Mam-01505), was transferred from the MNHN in Paris in 1829. It was said to be connected to Alfred Duvaucel. However, as this is a two-horned Sumatran Rhinoceros, *Dicerorhinus sumatrensis* (Fischer, 1814), which is not known in India, it is unlikely to have been responsible for Duvaucel's injury

as sure of acquiring its bones and skin, I was suddenly surprised by another rhinoceros that I had not seen. The second was even nearer than the first and rushed upon me with such fury that I had no time to point my gun at it. With a single blow it threw me ten paces, then with a stroke from its horn made a slash along the length of my right thigh and immediately began to flee, leaving me as shocked by its sudden appearance as I was astonished to still be alive. The pain was so mild that I got up at once and seizing my rifle, was imprudent enough to shoot at my generous victor to whom I did more harm than he had caused me. But after twenty minutes I had lost so much blood and felt such numbness that I could not walk. The untouchables carried me to the cave and thence to the banks of the Ganges, three miles distant, on a cart drawn by two oxen. After three hours of walking, I finally arrived at my bazaar, from where I am writing these words while everything needed to dress the wound is being prepared. My wound is wider than it is deep and will heal in a few weeks. It is because there is not the slightest danger that I console myself by telling you the story of this little accident.

33

On 25 August, Duvaucel asked his mother to forgive him for talking only about himself and his health and explained that he also had headaches, was spitting blood and that the slightest movement caused him unbearable pain. He was in a remote area and without the services of a doctor. He realised that he had come close to death but believed three months would be enough to restore him to health. He nevertheless continued to plan his journey to Nepal and Tibet.

On 28 January he arrived at Boglipour (Bhagalpur) after a four-day journey in great pain and found an excellent doctor, “who was all the more willing to treat me since he was, in some small way, the cause of my predicament, having assured me three weeks earlier that it was as easy to kill a rhinoceros as a partridge. It has to be admitted that he had hunted with the Marquis de Hastings and five hundred elephants. I had but two, both more frightened than I; one of them very nearly killed me by fleeing through the trees without remembering that I was on its back”.

The doctor’s treatment was based on emetics, salts, poultices and plasters. Duvaucel was only allowed to drink water and the doctor forbade him to speak. He tried to find out what happened to “his beast” as he called the rhino that had injured him. “The loss of the female rhinoceros is with little regret as it is not the specimen Mr Cuvier wants”. Without pausing he went on: “Have the goodness to tell him, dear mother, that nothing is more common here than the long-nosed crocodile, but that nothing is more difficult to obtain”. This was followed by a lengthy description of the long-nosed crocodile and an explanation of why it was difficult to catch.

Duvaucel was still thinking about his expedition and planned to stop at a friend’s home in Benares

(Varanasi) instead of continuing to Luknow (Lucknow) to see the most beautiful menagerie in the world. He planned to take advantage of the opportunity to improve his study of Hindustani and to begin to learn Persian.

He resumed his correspondence with his mother on 31 January, then on 4 February though very weak, he told her of his return to Paris where he would be near his sisters Sophie and Clementine, complaining of being alone apart from the company of his doctor and some Englishmen. He was still dreaming of continuing his expedition:

34

I will therefore leave as soon as I am a little better, but it will be from Benares that I will inform you of my complete recovery. My thigh is assuredly healing, one can almost see the wound closing and I have had a beautiful pair of crutches made that I am longing to use.

He ended his letter with what were to be his last words:

Adieu, adieu, dear mother, I am sending my letter to Calcutta with all haste, assuring you once more that I am not suffering, that my illness will have no lasting consequences and that I am the happiest of wounded men with the exception of those whose wounds are healing in the presence of their mother.

A few months later, his death was announced in Madras in the death notices column with an unspecified date at the end of August 1824. He was said to be at the house of Herbert Compton, Esquire, Advocate-General in Madras. It is not known how or when he reached Madras. In some accounts, there is no mention of his rhinoceros-inflicted injury, but only of death as a result of fevers or dysentery.

This young naturalist, recognised for his important work, advanced the science and knowledge of these regions of India. It is certain that his writing and letters, published in the 'Revue des Deux Mondes' had an impact on the reading public. His uncle Frédéric Cuvier continued his work in the 'Histoire naturelle des mammifères' the first volume of which was published in 1824 with a final tribute to his nephew:

Receive in this book, which belongs to you as much as to me, this first testimony of my pain. I was happy to be associated with your successes, to make your name known, to exalt your merit, to make your country aware of the riches you procured for it, to bestow upon you public gratitude so that on your return you would find the only noble recompense for your troubles by which your generous heart could be flattered: the just and profound esteem of all those whom you yourself esteemed.

The Travels and Works of Pierre Médard Diard

35

On the same day that Duvaucel embarked for Padang, Diard left for Batavia (Jakarta), a Dutch possession in Java, where he met Caspar Georg Carl Reinwardt (1773–1854) (Fig. 1.10), a Dutch naturalist doing research in natural history on behalf of the Netherlands, and who, in April 1817, created a botanical garden in Buitenzorg (Bogor). Despite his limited resources and competition from Reinwardt, Diard was able to put together new collections to add to those that the English had left him or that he had been able to conceal. From the end of 1820 he sent several crates to the MNHN containing the results of his research. Eager to prospect in new areas and in accordance with the plans they had made, Diard decided to go to Bengal to find Duvaucel in order to resume their work together. He was not able to board a ship as planned since the captain refused to take him, believing that having a naturalist aboard invited misfortune. Diard prolonged his stay in Java and visited the island's plantations. He studied the cultivation of indigo, coffee, pepper and spices, observations that he recorded in a 450-page book on the agricultural methods of Java.

In February 1821, Diard found passage on another ship, but for various reasons it never left. In April, he became acquainted with Jean-Baptiste Chaigneau, Mandarin, Commissioner and the King of France's Consul in Cochinchina (French Indochina). Chaigneau informed Diard that Louis XVIII wished to establish a strong French presence in Cochinchina and that he had been instructed to set up negotiations with Emperor Gia Long to promote trade relations between France and Annam (Vietnam). The Consul appealed to the naturalist in Diard, knowing how interesting it would be for him to explore this little-known region, but Diard had already promised Duvaucel that he would join him in Bengal. At the same time, Diard did not have sufficient funds to live in Cochinchina. He resigned himself to forgoing the opportunity to visit a new area and instead, assisted the doctor aboard the 'Larose' in fighting a cholera epidemic, thanks to the vaccines in Chaigneau's possession.

In late April 1821, just as Diard was about to embark, he learned from a friend arriving from Batavia of the departure of Duvaucel for France. Diard was unaware that this information was not accurate. It would seem that there was now nothing to prevent him from going to Cochinchina, and he

prepared to depart with a 2,500-piastres advance from a certain Mr Palmer. He took the time to write to Duvaucel before leaving:

My dear Duvaucel,

Overwhelmed with fatigue and having no more than two hours to finish my business before going aboard, I barely have time to inform you, my good friend, that just as I was setting sail for Bengal, the arrival of Mr Poleuset in Calcutta, and the news of your departure for France, caused me to suddenly change my plans, and having just enough time to send you pell-mell everything I possess and to load some of my luggage onto the 'Larose', in a few hours I will set sail for Cochinchina ...

36

On 17th May 1821, the 'Larose' moored at the mouth of the Hue (Perfume) River. Emperor Gia Long had already died and his son Minh Mang had succeeded him. He granted Diard the right of residence in Cochinchina but denied him permission to travel within the kingdom. This prohibition by Minh Mang applied to all Europeans and was to prevent the introduction of Catholic missionaries into Cochinchina. Unable to leave Hue (Huế), Diard spent his free time learning the language of the country and studying its administrative structure. In October 1821, he was finally allowed to go on a two-day excursion and hunt in the mountains of Tourane Bay (Da Nang). He returned very ill from this expedition, but nonetheless sent a letter to Cuvier announcing that he was sending two crates containing specimens. In a second letter to Cuvier, he

Fig. 1.10



Fig. 1.10

Caspar Georg Carl Reinwardt (1773–1854) was a Dutch naturalist working for the Dutch government in Java. Pierre Médard Diard took over Reinwardt's position after the latter's death

sent his observations on Cochinchina hoping that France would colonise it “to afford the French the privilege of cultivating all kinds of colonial commodities”. Diard also feared he would not be able to repay Palmer and announced that he would be sending a small box of common birds and some fish, reptiles and molluscs. A combination of the rainy season and the ban on travel slowed down his research.

At the beginning of 1822, thanks to Chaigneau, Diard was authorised to travel. He visited the provinces of the south, in the direction of Tourane (Da Nang) which in 1822 was still a village whose small buildings were clean and pretty. Diard rested a while with Edouard Borel, a representant of Maison Balguerie of Bordeaux which had established a trading-post and warehouses. He then continued his journey southwards and arrived at the beginning of May 1822 in the city of Saigon (Ho Chi Minh City) which was already an important city with markets where Diard observed and examined the products of the southern provinces: cardamom, pepper, rice, bamboo shoots, sugar, tobacco, fresh and salted fish, poultry, pork and crocodile meat.

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He continued his natural history research and sailed up the Mekong River before entering Cambodia. According to the writings of his brother, President of the imperial court of Riom, it is possible that Diard visited Angkor before Abbot Bouillevaux (in 1856) and the naturalist Henri Mouhot (in 1861).

Back in Saigon, Diard recorded his observations on local cultures in a memoir that he sent to the Ministère de la Marine (Ministry of the Navy), which was later published in the ‘Annales du commerce exterieur’ in March 1863 under the title of ‘Renseignements sur les ressources naturelles de la Cochinchine et sur les cultures que le pays comporte’.

On 29 August 1822, Diard met the members of the Crawford Mission, sent by Lord Hastings to open the ports of Cochinchina for British commerce, which had just arrived at Saigon. George Finlayson (1790–1823), in his work ‘Voyage du Bengale en Chine et à la Cochinchine’ (‘Journey from Bengal to China and Cochinchina’), described his meeting with the French naturalist:

In the evening we were visited by P. Diard, a very learned Frenchman, whose profession was medicine, and who had been led into these countries by his desire to pursue the study of natural history. He passionately loved adventures and excelled in his ability to overcome obstacles. One could expect from him a complete description of the zoology of these regions. He had wisely adopted the costume and taken the manners of the natives among whom he dwelt.

After parting ways with the Crawford Mission, Diard resumed his exploration of Lower Cochinchina. He came to realise however that he was under constant surveillance and that his situation was becoming precarious. He decided to go to Java, but the Emperor Minh Mang was opposed to his departure and, unable to find a boat, Diard decided to build his own schooner. It took several months to build and during this time Diard met the King of Pegu (Bago) ambassadors in Burma (Myanmar) and formed a bond with Gibson, who was of mixed English and Indian heritage. Alerted to his relations with the Burmese court, Minh Mang sent for Diard with a view to obtaining information on the Burmese Mission. Diard was summoned to the Great Council in Hue. No alliance was concluded, but Minh Mang asked Diard to accompany the ship bearing the Burmese Mission back home. Diard left for Saigon and arrived on 24 February 1824 but did not leave with the Burmese Mission, planning to join it in his own schooner. Just as he was boarding his vessel, he learned that England had declared war on Burma and invaded its territory. This did not affect Diard, however, who intended to meet the Mission, which given the circumstances was rushing back to Burma, in Singapore. The flotilla was stopped by the English, and Diard was unable to continue and settle in Rangoon. Instead, he sailed to Singapore, then to Batavia to see some friends and decided to settle in Malacca to hunt the Malayan Tapir in order to capture live specimens for the MNHN. He captured four, but only one survived, which he sent to Paris:

I hope this tapir will arrive in good health; it would be greatest reward I could receive in return for all the anxieties, difficulties and fatigue, and for the more than 2,000 piastres that this animal cost me.

Indeed Diard returned from the tapir hunt, which had lasted almost six months, very weak and suffering from high fevers.

In December 1824 he left Malacca to settle permanently in Batavia. He was about thirty years old and had spent eight years travelling in tropical countries in great discomfort in addition to which his own financial resources were exhausted. For the past four years, however, as the official Royal Naturalist, the French government had granted him a yearly sum of 3,600 francs, but this did not cover his expenses since the split with Raffles.

In Batavia, Diard met two senior officials he had befriended, Governor van den Capelle and Reinwardt. Their support was necessary as Diard was reported as suspicious to the Dutch authorities, having been in the service of Raffles, founder of Singapore, a place that Holland was also interesting in acquiring. Diard finally received permission to stay and to continue his research for the MNHN and took the opportunity to travel around the islands of the archipelago.

The Dutch government was aware of the benefits Diard could bring and through the good offices of Reinwardt, Diard entered the service of the Dutch administration whereupon honesty compelled him to relinquish the sum allocated him by the French government.

From 1825 to 1827 he occupied the post of Inspector of Agriculture. Two systems were in place at the time that aroused debate. The first was based on intervention by the government, which organised the crops, managed the employees, supervised the natives, and supported the company if necessary. The other, more European system left initiatives and crop development in private hands. Diard preferred the first system which, in his opinion, was more favourable to the Javanese since they lacked initiative and energy. It was a system which also made it possible to grow European trade crops that were well adapted to the soil and whose trade was lucrative. Van den Capelle allowed Diard to prove the value of this system by appointing him Director of several agricultural establishments. The results were convincing. The state therefore oversaw all agriculture. Diard had permission to start his own business, which brought him significant profits. He gave valuable advice to both the administration and settlers, improving the cultivation of rice, coffee and cinnamon, as well as sugar cane. He also developed the process for indigo production he had discovered in 1820.

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Diard was also entrusted by the Dutch government with an exploratory mission to the tin mines in Bangka and gold mines in Borneo. But once again circumstances were not in Diard's favour. As a Frenchman and foreigner, his suitability for the position was called into question and he had to leave his post. In January 1828, however, the government appealed to him to quell revolts in the coal mines in Borneo and East Java.

Shortly after Reinwardt's death, Diard was appointed to continue the former's zoological research and was appointed director of the botanical gardens at Buitenzorg. The gardens were situated about 45 kilometres from Batavia and the Governor General of the Dutch East Indies lived there in a magnificent castle. The gardens included a menagerie, a botanical garden containing all the colony's crops as well as useful or strange plants from the Malay Archipelago. In particular, the plant classification system Diard set up was much remarked upon and appreciated. Each piece of land allocated to a family of plants was numbered, catalogued and shown on the map. Within the family group, each plant was also numbered. In addition, a large, green wooden label was solidly implanted at the foot of each plant bearing the name of the species, its family and a serial number.

From 1833 to 1841, Diard introduced silkworm farming to Java and was appointed sericulture inspector. He travelled to France and Holland between 1843 and 1848 after 26 years of absence, before returning to Batavia where he resumed his duties.

In 1858, Diard went on a mission to Mauritius, Bourbon Island (Réunion) and Ceylon (Sri Lanka) to compare their agriculture and brought back useful observations. He discovered plantations of sugarcane that had been ravaged by an insect and obtained permission from the Governor of Java to ship to Mauritius and Bourbon Island cuttings of a variety of cane that he produced in Java and which were resistant to this pest. This variety of sugarcane bears his name, the Diard.

40 In Ceylon, he hunted elephants, went pearl fishing, and in addition to his agricultural activities, continued to collect specimens, sending these collections to the MNHN whose “Correspondant” he still was.

The Dutch government appointed him a knight of De Orde van de Nederlandse Leeuw (The Order of the Dutch Lion) for his spirit and research. He was also named a Chevalier de la légion d’Honneur by France. He owned and lived in a brick house with a garden in Djatti, about 10 minutes from Batavia. He was very much loved by Malays and was considered their doctor (Fig. 1.11).

In 1860, the collections he sent to the Museum of Leiden had deteriorated. The government asked Diard to assemble a new collection using a preservation process he had invented based on arsenic, which protected mammal and bird skins from deteriorating yet at the same time left them flexible. Diard organised committees in the provinces to send him the animals intended for this collection. He did not want the skins to be prepared without his supervision due to the toxicity of the arsenic. Furthermore, in order to protect his servants, Diard exposed himself to the substance.

At almost 70 years old, Diard started to show signs of poisoning which his body was unable to overcome, and he died on 16 February 1863. His death caused great sadness in Batavia. The Consul General of France and senior Dutch officials accompanied him to his resting place.

Fig. 1.11



Fig. 1.11

Pierre Médard Diard in his later years. The two medals on his breast are probably those of the 'De Orde van de Nederlandse Leeuw' (The Order of the Dutch Lion) that was awarded by the Dutch government and the French Chevalier de la légion d'Honneur (Knight of the Legion of Honour of France)

Conclusion

42 Diard and Duvaucel were intrepid travellers and tireless collectors endowed with boundless daring and energy. Blessed with a keen sense of observation, they regularly published their scientific observations. Georges Cuvier was often astonished by “their piercing eye and profound insight”. They learned local languages, and Duvaucel, who did not speak English when he left France, was rapidly able to write short papers for the ‘Asiatick Researches’. Duvaucel’s scientific reports, as well as his letters to his beloved sister and his mother, were written in the most diverse places, in moments of great discomfort, hunger and fatigue, yet his correspondence shows no signs of crossing-out or corrections. Diard also left many reports, notes and letters to his brother. He never ceased to share and to communicate his findings with passion and a pioneering spirit.

Both researchers, despite all their setbacks and lack of funds, were always driven by their passion. In total they sent back 2,000 specimens to the MNHN.

Their names are commemorated by several species, including the Barasingha, *Rucervus duvaucelii* (Cuvier, 1823), the River Lapwing, *Vanellus duvaucelii* (Lesson, 1826), the Scarlet-rumped Trogon, *Harpactes duvaucelii* (Temminck, 1824), Diard’s Trogon, *Harpactes diardi* (Temminck, 1832), the Siamese Fireback Pheasant, *Lophura diardi* (Bonaparte, 1856) and the Sunda Clouded Leopard, *Neofelis diardi* (Cuvier, 1823) (Figs. 1.12–13).

More than 200 specimens collected by the two naturalists are still in the collections of the MNHN. These collections are annotated and described in minute detail. It was these collections that introduced hitherto unknown species to France, England and the Netherlands.

Pierre Médard Diard, since he lived longer than Duvaucel, made additional studies on the organisation of agriculture in Southeast Asia. He introduced new crops and innovative solutions. On 21 February 1863, the journal ‘Bataviaasch Handelsblad’ paid homage to him:

It goes without saying that Diard, especially when taking into account the period in

which he lived and the means at his disposal, had great merit in relation to the progress of natural science in the Dutch East Indies, merit that it is a duty to save from oblivion.

The legacy of these two naturalist-travellers, Diard and Duvaucel, was to further the progress of science and at the same time increase our knowledge and understanding of the regions of Southeast Asia in which they lived.

Fig. 1.12a



Fig. 1.12a–b

Coenraad Jacob Temminck (1788–1858) immortalised the names of Diard and Duvaucel by naming two species of trogons after them: *Harpactes diardii* (Temminck, 1832), commonly known as Diard's Trogon (the bird with the wings unfurled), and *Harpactes duvaucelii* (Temminck, 1824), commonly known as the Scarlet-rumped Trogon

Fig. 1.12b



Fig. 1.13a



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Fig. 1.13b



Fig. 1.13c



Fig. 1.13a–c

Similarly, Georges Cuvier immortalised the names of Diard and Duvaucel by naming two species of mammals after the two naturalists: *Neofelis diardi* (Cuvier, 1823), commonly known as the Sunda Clouded Leopard, and a species of deer, *Rucervus duvaucelii* (Cuvier, 1823), commonly known as the Barasingha. Although named in 1823, the Sunda Clouded Leopard was only confirmed to be a distinct species in 2007