

THE HERBARIUM OF THE *TERRES AUSTRALES* (BAUDIN EXPEDITION, 1800-1804)

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There were no less than twenty scientists and three artists on board the *Géographe* and the *Naturaliste*, Commander Nicolas Baudin's vessels, when they left Le Havre on the 27 Vendémiaire of year 9 [19 October 1800] for an expedition of discovery in the Southern lands.¹ Even though they did not form a team in the strict sense, all the scientists taking part were working as "naturalists": they comprised astronomers, geographers, geologists and zoologists, as well as eight botanists and gardeners, the most numerous category, who were divided between the two ships. There were two head botanists (Jean-Baptiste Leschenault on the *Géographe* and André Michaux on the *Naturaliste*), a head gardener (Anselme Riedlé on the *Géographe*), an apprentice botanist (Jacques Delisse on the *Naturaliste*) and four assistant gardeners (Antoine Guichenot and Antoine Sautier attached to Riedlé; Jean-François Cagnet and the young slave, Merlot who accompanied Michaux).

The group of botanists and gardeners would be considerably reduced. Several of them abandoned the expedition during the six-week stay on the Ile de France (Mauritius) in Ventôse/Floréal of year 9 [March/April 1801], with the result that there were only four left on arrival in the *Terres australes* (Leschenault, Riedlé and the assistant gardeners, Guichenot and Sautier). Two of these would die during the voyage (Riedlé and Sautier), a third was disembarked in Timor during the expedition's second stay there because of illness (Leschenault). Guichenot alone returned to France on board the *Géographe* in Prairial of year 12 [March 1804].²

Neither the botanists nor the gardeners had received proper instructions. At the very most, they had been issued with a few basic questions: "*What are the main, dominant or rare species of trees of which the forests are composed? What use do the natives of country make of the trees? Do they produce fruit which can be traded? What other uses could be made of the wood and fruit? The same for the shrubs and plants*".³ It could be thought that the authorities of the National Museum of Natural History and Institut National were relying on the voyage experience and professionalism of the older men (Michaux et Riedlé) to collect, prepare and conserve the rare or unknown plants encountered, as well as to train the young scientists accompanying them. A hypothesis which was doomed after the defections at the Ile de France. However, in spite of the numbers being halved, the remaining participants did not spare themselves and together they

¹ Baudin left two accounts of the expedition to the *Terres australes*: a sea journal (Christine CORNELL, *The Journal of Post-Captain Nicolas Baudin*, Adelaide, Libraries Board of South Australia, 1974.) and a personal account (Jacqueline BONNEMAINS, *Mon Voyage aux Terres australes. Journal personnel du commandant Baudin*. Paris, Imprimerie nationale, 2000).

² It should be remembered that the *Naturaliste* returned to Europe prematurely. Baudin sent it back in the middle of the expedition with the already made collections.

³ Bonnemains, *Mon Voyage*, *op. cit.* p. 50.

collected numerous samples of wood, seeds, and living and dried plants. These dried plants are what interest us here.

The sites of the harvests

From the time they left Le Havre, the travelers were away from France for nearly three and a half years. If one subtracts from this period the time taken by the outward and return journeys, they spent a little more than twenty-five months in the *Terres australes*. More precisely, taking into account the time spent at the various ports (three months in Timor in 1801, five months in Port Jackson [present-day Sydney] in 1802, a month in Timor in 1803), the exploration by sea of New Holland (present-day Australia), Van Diemen's Land (present-day Tasmania) and certain other islands occupied only about sixteen months, during which time the ships were at anchor eleven times over a period of 107 days – less than a quarter of the time. It was during this time that the collections on land were made.

During the first campaign (from 17 May 1801 to 12 June 1802) the botanists collected specimens along the west coast of New Holland (Geographe Bay, the Swan River, the Barren Islands [Bernier and Dorre Islands], Shark Bay, Admirals Island [now Depuch]), in Timor (where Riedlé and Sautier died from illnesses contracted on the island) and Van Diemen's Land (the d'Entrecasteaux Channel, Maria Island) before arriving in Port Jackson. The five months spent in Port Jackson were employed in making numerous collections of specimens and in exploring the immediate surrounds (Hawkesbury, Parramatta, and the Blue Mountains). During the second campaign (from 18 November to 7 July 1803), the surviving botanists (Leschenault and Guichenot) collected specimens on King Island, Decrès Island (now Kangaroo), St Peter's Island (now Franklin), St Francis Island, at King George Sound (now Albany), in Shark Bay, on Cassini Island and in Timor. Except for the land around the ports in which they anchored, the sites where they spent most time were the d'Entrecasteaux Channel (27 days), Kangaroo Island (25 days) and Shark Bay (two stays – in 1801 and 1803 – a total of 20 days).

As regards the areas explored, we need to make clear : (1) that the dates of collection are never indicated on the herbarium's labels (thus, when the expeditioners visited the same region on two occasions – as they did in the case of Shark Bay and Timor – the year of the stay is not indicated); (2) in numerous cases the site visited is not specified and the labels then mention as origin the “north coast”, “west coast”, “south coast” or “east coast” of New Holland,⁴ in the cases when it is not simply “New Holland”; (3) that sometimes no particular place is indicated and the only information given is “voyage of Baudin” or “voyage to the *Terres australes*” ; (4) that on occasion it is only through recognition of the handwriting of one of the collectors, sometimes in association with the nature of the label, that one can establish that the specimen does in fact come from the Baudin voyage.

⁴ Even if one can easily visualize the sites of the collections which took place on the northern, western and southern coasts, it must be kept in mind that “east coast” refers sometimes to the east coast of Tasmania and sometimes to the Port Jackson region.

The Collectors

The collectors are named in less than a third of the cases. When they are, we find the names of Leschenault, Riedlé, or Guichenot; Sautier, the fourth member of the team, is never mentioned.⁵ From the time of arrival in the *Terres australes*, the names of Leschenault and Riedlé appear regularly on the labels, but after the stay in Timor (and the death of Riedlé), and up to the time when the expedition anchored in King George Sound (including the long stay in Port Jackson), those of Leschenault and Guichenot sometimes appear. After King George Sound, Guichenot alone looked after the collections as Leschenault could not continue the work because of illness (he was obliged to remain in Timor in autumn 1803).

The fate of the herbarium

Returning separately to France, Baudin's ships had each brought back part of the herbarium. In June 1803, the *Naturaliste* brought back twelve cases of dried plants which consisted of all the collections made before the arrival of the ships in Port Jackson. Those made in the Port Jackson region and in the sites explored subsequently were packed in six cases which reached France in March 1804 on the *Géographe*. These cases were deposited in the National Museum of Natural History and Labillardière, the botanist of the d'Entrecasteaux expedition and a Member of the Institut National, was then entrusted with studying the herbarium. But he did not take up this opportunity. For a long time it was believed that the herbarium had disappeared: it was supposed that it had been sold with that of Labillardière after his death. In reality, this was not the case. The dried plants from the *Terres australes* had remained in Paris. They had been integrated by Desfontaines, Professor of Botany at the Museum, into what was to become the general herbarium of the National Museum of Natural History.⁶ Since then, the plants from the Baudin expedition have remained there, distributed throughout the collections.

Even though it has never been studied as a whole, or publicised, the *Terres australes* herbarium was nevertheless studied in the years following its arrival in France. As the oldest labels indicate, many species were identified – at least provisionally – by René Desfontaines. These identifications were checked or corrected in the first part of the nineteenth century, in particular by Adolphe Brongniart,⁷ and by numerous botanical researchers who were then staying at the Museum. The labels accompanying the samples from the Baudin herbarium make possible the

⁵ Biographical information about the collectors can be found in Michel JANGOUX, *Le Voyage aux Terres australes du Commandant Baudin. Genèse et Préambule*. Paris, Presse de l'Université Paris-Sorbonne, 2013.

⁶ Director of the Chair of Botany from 1793 to 1830, Desfontaines (1750-1833) decided in 1808, to group together all the Museum herbaria, including that of the *Terres australes*, into a general herbarium classified according to “the natural order of families”.

⁷ In his annotations, Brongniart referred frequently to the book of La Billardière and to the prodrome of the De Candolle, father and son.



Figure 1. Portraits of René Desfontaines (left) and Adolphe Brongniart

reconstitution of part of its history. There are three types of labels which can be classified as original, pre-printed, and new.

The original labels were attached to the sections of the herbarium during the expedition. They are of three varieties: the “official” labels, which are blue, and the labels added by Leschenault and Guichenot, the main collectors.

*The blue labels are glued on the right or left, at the bottom of the stiff paper to which the plant is attached. They are in the form of a rectangle, or of a narrow strip of paper. The collection site is mentioned on the lower left-hand side of the label, while the name of the collector, less often indicated, is noted on the lower right-hand side. The writing remains unchanged throughout the voyage, but is less neat as time goes by. The rectangular labels, more often encountered than the



Figure 3. The blue labels

strips of paper, leave room for adding the name of the species, once it has been identified. This happened in the offices of the Museum after the return of the expedition (in the example above the identification -*Doodia aspera*- is made by Desfontaines).

*Leschenault's labels, which are always small, give little information: a number and the place of collection, sometimes accompanied by a genus name and/or a few words in Latin (Fig. 3).

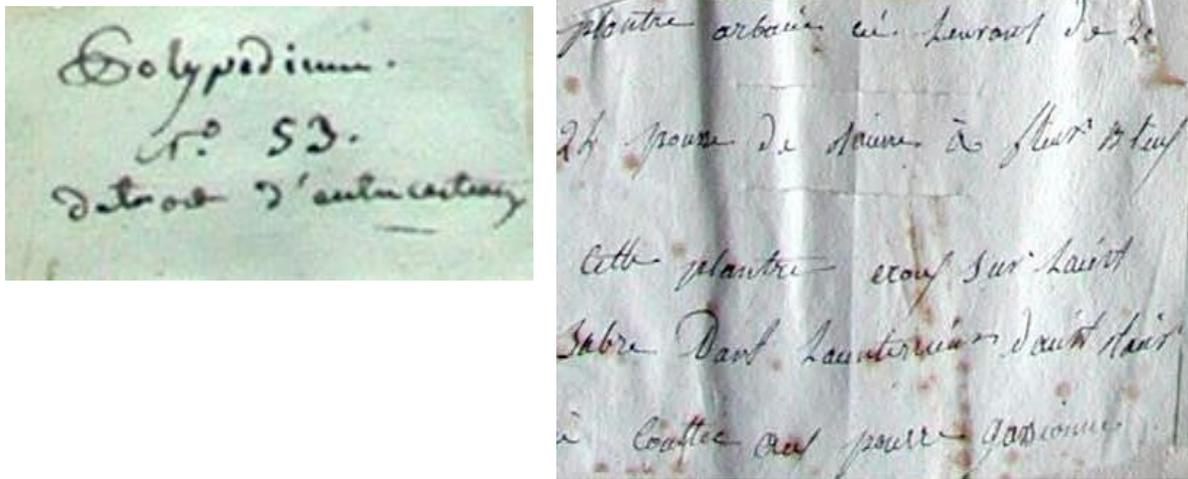


Figure 3. Examples of labels left by Leschenault (left) and Guichenot

*Guichenot's labels, on the other hand, in imperfect French and in writing that is hard to decipher, give more information: appearance, size and environment of the plant, appearance of the flower, or kind of soil (Fig. 3).

The pre-printed labels are pre-printed with the name of the voyage (Fig. 4). Placed on numerous sections of the herbarium, they must date from the years which immediately followed the return

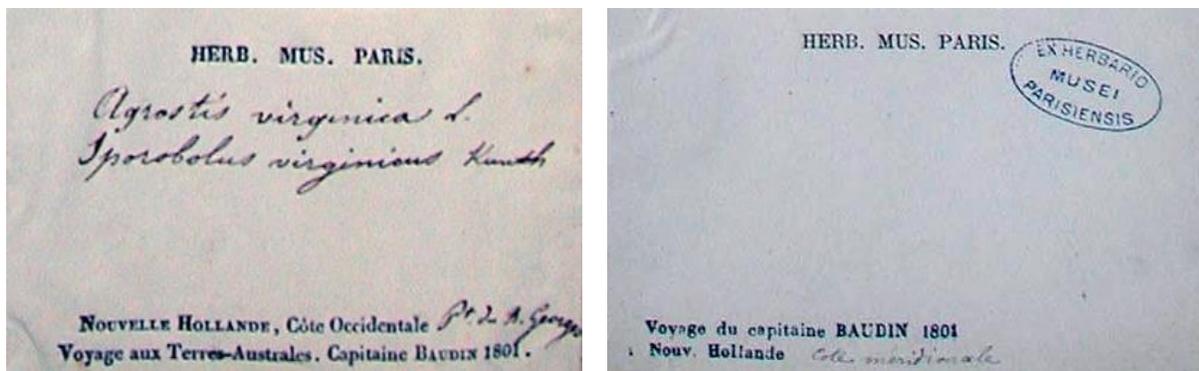


Figure 4. The pre-printed labels

of the expedition. They are of two kinds. The most frequently used label is reproduced on the left (see above). It presents three variants, depending on whether it is the west, south or east coast of New Holland that is quoted. The place of origin is in many cases added by hand (in the example below: “King George Sound”). On the right, a simpler, much less frequent model in which the coast and/or place of origin are added by hand.

The new labels date mainly from the 20th century. They have no particular links with the expedition and reflect the downgrading of the herbarium when it became a part of the general herbarium of the Museum. Some of these labels are corrections/annotations carried out by the scientists of the Museum, but most of them are added by botanists visiting the Museum or having loaned specimens in order to review a particular family or genus of plants. A third category of labels provides information that a given sample has been consulted in the context of major florilegium projects, such as for example the projects “Flora Malesiana” or “Flora of Australia”.

Presentation of the digitised herbarium

The dispersal of the *Terres australes* herbarium into the general herbarium of the National Museum of Natural History had, as a consequence, its progressive disappearance as such. We have seen that some were unaware of its location (hadn't it been sold?), and even doubted that it had been preserved. Fortunately, it had not been lost and the Baudin herbarium has spent two centuries hidden away, safe and sound, in the drawers of the general herbarium of the Museum.

The collection of dried plants from New Holland and Timor was assembled between May 1801 and June 1803. The flora of certain regions, such as that of the west and south coasts of New Holland, was at that time as yet unknown. For Baudin and his collectors the botanical field was particularly vast: as it was also for his immediate rival, the English explorer Matthew Flinders, his botanist Robert Brown⁸ and his botanical illustrator Ferdinand Bauer. The two herbaria had very different fates: Robert Brown had the chance to study the one that he had constituted and published the Prodrôme of it ; the one established by Leschenault, Guichenot and Riedlé enriched the Museum collections, but was not put to any further use.

The project for the reconstitution of the *Terres australes* herbarium stems from its undisputed historico-scientific interest. The different sections of the herbarium were identified in the general herbarium of the Museum, isolated and then photographed, before being put back in place. Using “Power Point” software the photographed specimens were assembled in botanical groups constituting slide shows (each consisting from 30 to 40 slides, with photographs of three specimens per slide). Converted to pdf files, these slide-shows have been, and will continue to be put on line.

An introduction precedes each botanical group, of which the representatives, depending on each case, give rise to one or several slide-shows. Likewise, each plant photographed has its own presentation (scientific name, origin of plant, name of collector, remarks, if any).

⁸ Brown and Leschenault had moreover become friends during their stay at the same time in Port Jackson in 1802 (Jangoux & Desmet 2010). For the record, Brown's herbarium is to be found in the British Museum (Natural History) (Chapman *et al.* 2001).

The following digitised herbaria (H) have been/will be put on line:

- H1 Algae
- H2 Pteridophyta & Gymnospermae
- H3 to H5 Monocotyledoneae
- H6 to H10 Dicotyledoneae Asteridae
- H11 Dicotyledoneae Caryophyllidae
- H12 to H14 Dicotyledoneae Dillenidae
- H15 Dicotyledoneae Hamamelididae
- H16 Dicotyledoneae Magnoliidae
- H17 to H47 Dicotyledoneae Rosidae

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