

# Phycological Trailblazer No. 8 Baron J. B. G. M. Bory de Saint-Vincent

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Baron Jean Baptise Geneviève Marcellin Bory de Saint-Vincent was born on July 6, 1778, in the town of Agen, Department of Tarn-et-Garonne, France. He came from a prominent family that had produced many lawyers, judges, government officials, and soldiers. It was a family that encouraged his inquisitive nature. At an early age his family moved to a palatial chateau in Bordeaux, which still exists today. Bory's formal education was interrupted by the Revolution (1789-1790), and so he learned from his family and friends. A maternal uncle made a major impact on his life by introducing him to natural history. Also during his youth he was associated with both young (e.g., Lamouroux) and older (e.g.,

Lacépède) scientists, so that by the age of 18 he submitted his first note (on *Conferva* and *Byssus*) to the Academy of Bordeaux.

In 1797, when he was 19 years old and unemployed, Bory enlisted in the Army and was stationed at Ile de Bellelle on the Atlantic coast. The next year, through the intercession of Lacépède, Bory was appointed as scientist on an expedition commanded by Nicolas Baudin. This expedition of 1800-1804 was to eventually reach Australia (Ducker, 1979), although Bory left the expedition on the out-bound leg. The two ships, *Géographe* and *Naturaliste*, reached Madeira, the Cape Verde Islands, and the Canary Islands. At Tenerife in the

Canary Islands Bory was as much fascinated by the native people, the "Guanches," as by the plants and animals. He deplored the earlier slaughter of the native people by the Spanish. He was intrigued by many features of the people and by their customs, such as the manner of embalming their dead.

By the time the expedition reached "l'île de France" (now Mauritius) there developed a deep misunderstanding between Baudin and his crew, including some of the scientists. An important part of the crew, including

Bory, departed the expedition at Mauritius. Bory's primary reason for leaving was illness (he was coughing up blood), and he was



Fig. 1. J. Bory de Saint-Vincent. (Courtesy of the Laboratoire de Cryptogamie, Muséum National d'Histoire Naturelle, Paris).

hospitalized for two months. Once he was released, he was out making collections and observations, using his botany to help him regain his health. No longer connected with the expedition, Bory pursued these investigations at his own expense out of a sense of duty. Much of his motivation was based on his attitude that he had to fulfill his contract with the French government. Although Port Louis was a disappointment to Bory because the streets were badly paved and the houses were mediocre, he was astonished by the beauty and variety of the plants, animals, and rocks. On his first day there he collected many varieties of plants from the streets of the capital. But there are no interesting mountains on Mauritius, and so Bory crossed over to "l'île Bourbon" (now Reunion). Bory spent more than half a year on Reunion, covering the island in all directions and cataloging the flora and fauna. Bory was a complete naturalist, interested in all aspects of natural history but botany in particular. He was mesmerized by tropical plants, especially ferns, and botany became almost a drug to him. He also witnessed a full eruption of the major volcano on the island. Eventually he headed homeward on a German ship. It was on this return voyage that the ship dropped anchor at the Island of St. Helena to avoid an English ship. He stayed, spending additional time making collections and observations. He captured a spectacular butterfly on St. Helena and later presented it to Napoleon Bonaparte, who welcomed Bory back with good will. Bory also brought back an ample supply of documents on natural history. He had drawn up a map of St Helena, which he gave to Bonaparte. Thirteen years later Bonaparte took this map with him into exile. Back in France by 1802, Bory met Léon Dufour, who was later to become a renowned naturalist and entomologist, and they became life-long friends. It was a remarkable friendship in that due to circumstances the two seldom met,

but they maintained an active correspondence during all these years, and their letters have been preserved. Dufour gave a description of Bory: [translated] " .... of small build, and with a pale complexion and a lively countenance, cheerful by nature, passionate about music and able to hum very well all the tunes, of infinite natural wit, with remarkable ease of speech without being overly talkative, with exquisite grace in telling a story or anecdote, very likeable and ambitious to appear so [!], a friend of the world ... , well educated but only touching on many of the sciences and going into little depth in any, generous in his spending and lifestyle and habitually without a penny, ambitious for titles which he sometimes usurped, writing well and quickly ... , and although married he lived as a boy making mistresses and debts everywhere, ... living for today and not tomorrow."

Bory married in 1802, a marriage that produced two daughters. He was living in military quarters in Rennes but frequently traveled to Paris to manage his publications. In 1803 he published "Essai sur les îles Fortunées ... ," a two volume work on his experiences associated with the Baudin expedition and his subsequent travels. It included expositions on Teneriffe, Reunion, Mauritius, and St. Helena. He made the revolutionary hypothesis (for the period) about the existence of a mysterious engulfed continent. The book, which caught the attention of Napoleon, was a success in spite of some critics who did not like the mixing up of descriptions of his trip with those of plants and minerals. Bory continued in his military career, primarily as a cartographer. While traveling through much of Europe, he was able to study both geography and botany. He was considered a good soldier, while at the same time he usually had a pencil in his hand rather than a weapon. He was stationed at Dunkerque in 1805 but often made trips to Belgium and the Netherlands. In Nov. of 1805

he was stationed in Austria and in December was at the Battle of Austerlitz. He wrote to his friend DuFour that his brave general and 20 of his friends were wounded: "There is only me, who in spite of my best intentions, cannot get honors for being wounded." In late 1806 he was assigned to Berlin. Exploring Prussia and Poland in 1807, he wrote to Dufour that his "overused" squadron was having great success and that instead of finding insects to pin for DuFour's collection, they were busy bayoneting Cossacks. He wrote that he missed the Battle of Eylau in 1807 but nonetheless spent 8 days miserably sick and ready to die.

He returned to Paris in Feb., 1808, and managed to describe three new genera of algae, *Lemanea*, *Thorea*, and *Draparnaldia*. In Oct. he went with the Army to Spain, where he was stationed in Galicia. In 1809 he found himself in Madrid under Marshall Ney. Bory wrote to DuFour that Ney often used him in the most difficult reconnaissances. It was very risky then to go in small groups because ambushes by partisans were frequent. The next year he was still in Spain but in Andalusia and then Seville, under Marshall Soult. He participated in the attack of Badajoz in 1811, against a reinforced army of 11,000 infantrymen and 2,000 horses. He wrote to DuFour that at one break of day they attacked the enemy and that he directed the infantry. His translated account to DuFour: "I was very exposed during the whole business but finally luck got me out of it." Badajoz was conquered but was lost 5 months later to Spanish, Portuguese, and English troops. Not long after there was a French attack on a troop of 18,000 Spanish entrenched in a narrow pass. Bory wrote to DuFour with his impressions. In August of 1811 he carried out an exploration, including botanizing, in the Sierra Nevada of Spain. He continued in Spain in 1812, especially around Toledo. In 1813 he joined a quick military excursion into Germany to

meet up with the Great Army at the Battle of Bautzen in May.

Then there was a return to Spain, but by this time the French Army was retreating into the Pyrenees in the face of Wellington's advancing troops. The south of France had become an entrenched camp by late 1813. The first four months of 1814 witnessed skirmishes against Wellington's army, a major battle occurring near Toulouse on April 10. Part of the French Army, including Bory, retreated to his hometown of Agen. On April 13, 1814, Napoleon abdicated (for the first time), and fighting ceased. At this time of great turmoil, Bory played an important role in calming the population of Agen and in thwarting the partisans, who were often thieves, from gaining the upper hand. He was later congratulated for this good work. On June 5, Bory was in Paris, declaring his loyalty to King Louis XVIII and to Marshall Soult. Later that year Soult, the new Secretary of War, asked Bory to take on the responsibility for running the Department of Maps and Records in the Ministry.

In March to June, 1815, the so-called "Hundred Days" period, Napoleon had returned to power, and Bory switched his loyalty to him. In Bory's mind this was not a crime because he genuinely regarded Napoleon as the best alternative for France, which was still rife with many hardcore revolutionaries on the one hand, chafing to kill off the King and the nobility, and many noblemen on the other hand, eager to kill off the revolutionaries. That same reasoning had motivated him to swear his loyalty to the King earlier. In the French Parliament Bory gave a rousing speech calling for a democratic constitution, and he also severely attacked the privileged class, which he loathed, despite his past devotion to the King as well as to Napoleon. But Waterloo soon followed, on June 15, and a week later Napoleon abdicated for the second time. Bory was a republican and, following the



Fig. 2. *Lessonia nigrescens* Bory (pl. 5, Bory in Duperrey, 1826-1827.)



Fig. 3. *Iridaea micans* Bory (pl. 13, Bory in Duperrey, 1826-1827.) [= *Iridaea cordata* (Turner) Bory.]

second abdication, made a devoted but futile effort toward the succession of Napoleon II, by opposing the return of the Bourbons. These acts resulted in his being banished by the government of restoration. An order came down from the new government on July 24, 1815, to banish 38 persons, including Bory and Soulé. Bory refused the offer of a friend to plead on his behalf for mercy from the King. Bory would agree to such an action only if all 38 persons were to be pardoned. So for the next four years Bory was on the run, wandering all over Europe, pursued by the police and hiding out successfully not only near Paris, but in Belgium, Germany, Bohemia, and The Netherlands. During this exile he collected plants and rocks, and as a diversion he wrote verses and inserted them in the towns' newspapers just as he was leaving. This would alert the police to his presence, but by then he was on his way.

Bory later remarked: You cannot imagine how much this ploy diverted me!

Eventually Bory was pardoned and returned to France in 1819. He found himself in Paris but penniless because, even though veterans of the Great Army received a pension of half their war-time salary, the order of 1815 which banished him deprived Bory of a pension. He had risen to the rank of colonel.

The period of 1820-23 was a time of feverish botanical work on Bory's part. He played a major role in the publication of the *Dictionnaire classique d'histoire naturelle* (1822- 1831) and contributed many of the entries on algal genera. Bory was responsible for describing such familiar genera as the diatoms *Navicula* and *Achnanthes*, the reds *Audouinella*, *Iridaea*, *Dictyurus*, and *Tenarea*, the chrysophyte *Anthophysa*, and the brown *Agarum*. Ragan and Gutell (1995) credited

Bory as apparently being the first person to propose a third Kingdom of life, the "Psychodiare," or two-souled organisms, including "Arthrodiées," (simple filaments, giving rise to motile or non-motile free cells, composed of such families as Conjugurées, Oscillariées, Fragillaires, and Zoocarpées) sponges, and the majority of the corals. His "Regne Végétal" was essentially the Plant Kingdom less some of the Cryptogamic groups.

In 1823 Bory was involved in a duel with M. Harel, one of his fellow-exiles. In fact, the two had been past friends during their exile in Belgium. But Harel made some slanderous remarks about Bory. Harel refused to fight with a sword, claiming he was a civilian, not a soldier. Bory's gun failed to go off, and luckily Harel's gunfire ricocheted off a rock near Bory, the ball glancing off his calf.

In 1825 Bory suffered another setback. Because of unpaid ruinous debts he was locked up in the Prison of Sainte-Pelagie. He had remarked "Botany saved me!" when he was so sick on Mauritius, and again during this period of imprisonment it was botany that sustained him. Although a friend offered to pay off his debts to keep him out of jail, Bory nobly refused. Yet he was not unhappy in jail in that he had his books and herbarium and could welcome visitors without restrictions. But he was unable to leave and collect plants. In addition to publishing on his own collections, Bory (1826-1829) worked up the material collected during the voyage around the world of the *Coquille* (1822-1825) under the command of Capt. L. J. Duperrey. The collections of algae were made by the first officer D. J. Dumont d'Urville and the botanist/chemist R. P. Lesson, to whom Bory paid homage with the phaeophyte generic names *Durvillaea* and *Lessonia* (Figs. 2 and 3).

It was during his detention that a giraffe was introduced for the first time in

Paris. Bory, long a devotee of tropical plants and animals, was keen to see this strange animal housed at the Jardin des Plantes. Bory's friends arranged to have the giraffe led to the top of a small hill, the "Labyrinthe," at the same time Bory, with a telescope in hand, climbed onto the roof of the jail to observe this curious animal.

The way in which Bory got his release from jail is interesting. His daughter Augustine, who was engaged to be married, insisted that she would not marry until her father could give lead her down the aisle, i.e., he had to be out of jail. This resulted in a two-year-long engagement. Augustine's fiancé, anxious to marry, offered to pay off Bory's debts. Bory proudly refused for some time but finally relented, and he was sprung from jail in 1828.

Late in 1828 Bory was put in charge (as president) of the staff of the scientific expedition to Morée, the Peloponnesus Peninsula of Greece. This expedition occupied most of 1829 (Biers, 1926). The results were published in 1832. Also in 1832 Bory was elected into membership in the Academy of Sciences.

It was in July of 1830 that another revolution occurred in Paris, this time King Charles X being deposed. With the accession of the liberal King Louis-Philippe, fortune once again smiled in Bory's direction. The edict of 1815, which had deprived Bory of his military pension, was rescinded. Consequently, he was re-installed in the Army at his rank of Colonel, and he received his back pay from 1815.

In 1839 the government nominated Bory to be President of the "Commission scientifique de l'étude de l'Algérie." He worked on the botany of Algeria, living in Algiers from January, 1840, until May, 1842. It was in North Africa that he expanded his gustatory palette, sampling exotic game, including wild boar, porcupine, mongoose, and carnivores such as lion ("better than

rabbit"), jackal, caracal, and panther ("it needs to be marinated"). He found all quite tasty except for hyena, which he regarded as foul. In 1842, Bory returned to France, still relatively poor but with many honors, such as being Commander of the Legion of Honor. He retired to an apartment in Paris, from which he regaled his many visiting friends with stories of his travels. Occasionally his doctor-neighbor (and fellow-physicologist) Camille Montagne dropped by, and the two would share goose liver sent by Dufour. Bory's collections proved useful in Montagne's own research. Bory died of a heart attack on December 26, 1846. Instead of leaving an inheritance, Bory left only debts. Montagne looked after the sale of his collections and became adviser and protector of Bory's daughter Augustine. His herbarium, the only item of value, was sold. Thuret purchased the algal herbarium, which is now kept in PC (Biers, 1920, 1924).

Bory de Saint-Vincent had a full and colorful life. In addition to his scientific body of work, he authored two plays (both comedies) and other literature, such as fables and verses. He made significant contributions in geography, having made maps of the countries he visited, including Reunion, St. Helena, the limestone caves of Maastricht, where he hid out for awhile, Aix-la-Chapelle, and—under military order—all the places through which the Great Army passed. He was an acute observer with a curious mind. In spite of his weaknesses, he was distinguished by his courage, his work ethic, his pre-eminence in the scientific field, and his loyalty to his many friends.

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