CARLOS SPEGAZZINI (1858–1926): TRAVELS AND BOTANICAL WORK ON VASCULAR PLANTS[1]

Liliana Katinas,[2] *Diego G. Gutiérrez,*[2] *and Silvia S. Torres Robles*[2]

ABSTRACT

Carlos Luis Spegazzini (1858–1926) was a leading figure in Argentinian natural history, mainly recognized for his mycological and vascular plant studies. Information concerning Spegazzini's travels and his botanical work focusing on vascular plants, including his specimens and publications, is provided. The collecting expeditions of Spegazzini and collaborators in Argentina are summarized. The identification of his typic and non-typic materials is frequently complicated by the lack or sparcity of label information. Spegazzini published ca. 100 papers on vascular plants, mostly in Argentinian journals, describing ca. 1000 new taxa. A list of the new genera, species, and infraspecific taxa described by Spegazzini is provided. Spegazzini was professor at the University of La Plata and Buenos Aires in Argentina, curator of the herbarium of the National Department of Agriculture, first head of the herbarium of Museo de La Plata, and founder of an arboretum and an institute of mycology in La Plata city.

Key words: Argentina, botanist, plant collections, Spegazzini, travels, vascular plants.

Carlo Luigi Spegazzini, or "Carlos Luis" Spegazzini (the Spanish translation of his name by which he was recognized in Argentina and in the rest of the world), was a leading figure in Argentinian natural history, for both his mycological and vascular plant studies. Spegazzini was one of the most significant explorers of Patagonia in terms of the volume of his collections. He also traveled and collected extensively in almost all of Argentina, from northern Salta to southern Tierra del Fuego.

This botanist, who was attracted by the South American biota since he was a young student in Italy (Spegazzini, 1884a), is best known for his work in mycology, although his vascular plant systematics is of equivalent importance. His herbarium of vascular plants, collected by himself and by other collectors, reaches 100,000 specimens (Molfino, 1929), and he described approximately 1000 new taxa during his career. In the process, Spegazzini published more than 320 papers, of which ca. 100 refer to vascular plants. Furthermore, he was a teaching professor of botany, zoology, mineralogy, geology, and phytopathology, curator of the Ministerio de Agricultura de la Nación herbarium, first head of the herbarium of Museo de La Plata, and founder of the Arboretum of the Facultad de Ciencias Agronómicas y Forestales in La Plata city.

Biographies of Carlos Spegazzini considering his mycological work have been published previously (Scala, 1919; Hauman, 1923; Molfino, 1929, 1951; Arambarri & Spinedi, 1996), but details of his travels and botanical work on vascular plants are still undocumented. This information, including his specimens and publications, is provided herein.

BIOGRAPHICAL SKETCH

A detailed biography of Carlos Spegazzini has been published by José Molfino (1929), a botanist who married one of Spegazzini's daughters. We present here a brief outline of Spegazzini's life, as it pertains to his botanical endeavors.

Carlo Luigi Spegazzini (Fig. 1) was born on 20 April 1858 at Bairo in Torino, in northern Italy. He took courses in the School of Viticulture and Enology in Conegliano, Venice (Italy), where he graduated in 1879. There, he met Pier Andrea Saccardo (1845–1920), professor and founder of the *Scuola micologica di Padova* (Lazzari, 1973), who would be a major influence in Spegazzini's scientific career. Soon after graduating, thinking that botani-

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[2] Departamento Científico de Plantas Vasculares, Museo de La Plata, Paseo del Bosque, 1900 La Plata, Argentina.

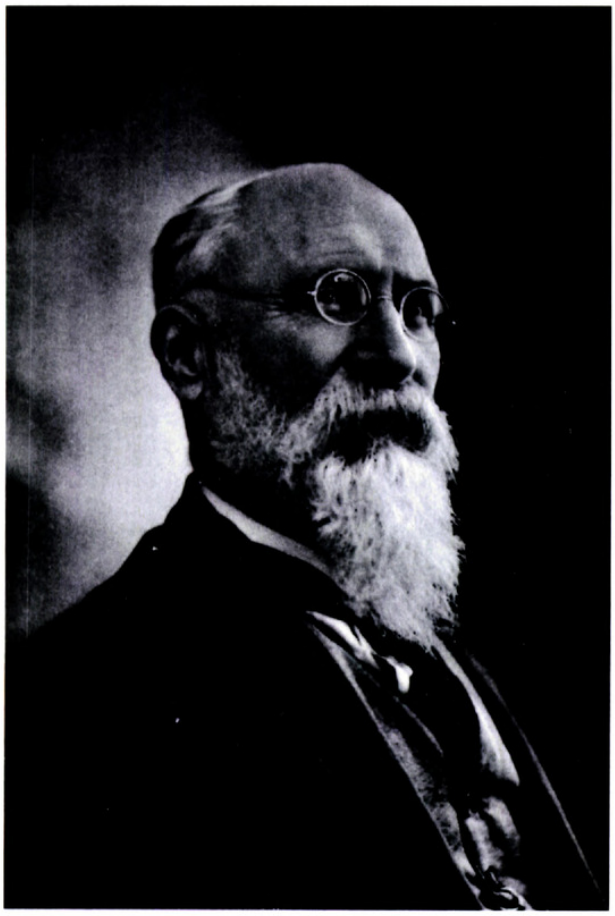

Figure 1. Carlo Luigi Spegazzini in a photograph taken on 20 April 1922, the day of his 65th birthday.

cal studies in Italy were well covered and completed by other Italian scientists, Spegazzini decided to move to another land. In December 1879, he disembarked in Buenos Aires harbor. It is interesting to note that the period from 1850 to 1923 was characterized by the arrival in Argentina of a large number of European naturalists (Ringuelet, 1960; Ragonese, 1986). They came mainly from Germany (Hermann Burmeister in 1857, Paul Lorentz and Georg Hieronymus in 1870, Fritz Kurtz in 1884), Italy (Domingo Parodi in 1875, Spegazzini in 1879, Augusto Scala in 1909), Russia (Carl Berg in 1873, Nikolai Alboff in 1895), Switzerland (Theodor Stuckert in 1869), and Belgium (Lucien Hauman in 1904).

The Spegazzini story in Argentina evolves from two fortunate circumstances: his unbounded enthusiasm for the natural sciences, and a scientifically young country waiting to be discovered. In the year after arriving he made his first field trip and published his first new species of vascular plant, *Cabomba australis* Speg. (Nymphaeaceae) (Spegazzini, 1880). In 1885, he was appointed professor in the Instituto Agronómico de Santa Catalina (Buenos Aires Province), and professor and temporary dean in the Facultad de Agronomía (University of La Plata). Two years later, he was designated Head of the Department of Botany in Museo de La Plata. At the same time, Spegazzini was a student at the School of Agriculture, obtaining his degree on 23 December 1897 (Ragonese, 1986).

In 1898 Spegazzini was designated curator of the Herbarium of the Ministerio de Agricultura de la Nación, in Buenos Aires (currently the Herbarium of the Instituto de Recursos Biológicos, INTA), and in the following year he founded the Arboretum of the Facultad de Agronomía in La Plata. In 1900 he was appointed Professor in the Facultad de Farmacia y Bioquímica, at the University of La Plata. He was a leader in the study of agriculture in the country. In his research in this field in Argentina, he discovered a fungus that attacks grape vines (*Plasmospora viticola*), the bacterium that causes a disease of sugar cane (*Bacillus sacchari*), and fungi that attack tobacco (*Peronospora nicotianae*) and alfalfa plants (*Uromyces striatus*).

During the years 1912 to 1914 he returned to Europe (Spegazzini, 1916a) to work in herbaria and also to visit his mentor and friend Pier Andrea Saccardo. One of his last botanical activities on 1 April 1925, was the foundation of a scientific journal in Argentina, *Revista Argentina de Botánica.* [Unfortunately, after Spegazzini's death the journal ceased publication.]

On 1 July 1926, at the age of 68, Carlos Spegazzini died in his home at La Plata from kidney disease. In his will he donated the house to science with the condition that it become an institute of botany bearing his name (currently *Instituto de Botánica Carlos Spegazzini*, LPS; Holmgren et al., 1990). He also donated his library (ca. 6000 books and papers), scientific instruments, and personal herbaria of fungi and vascular plants (Anonymous, 1930).

Collecting Expeditions

Carlos Spegazzini was an active field worker throughout his life. His principal expeditions and collecting efforts are outlined in Table 1 and Figures 2 and 3. Only the most representative of his frequent collecting trips around the cities of La Plata and Buenos Aires are cited in Table 1.

Spegazzini collected and also received specimens from other collectors (see Table 1) and his own children, Etile, Propile, and Rutile Spegazzini. His preferred area of collecting was Patagonia, the southern tip of Argentina including Mendoza, Neuquén, Río Negro, Chubut, Santa Cruz, and Tierra

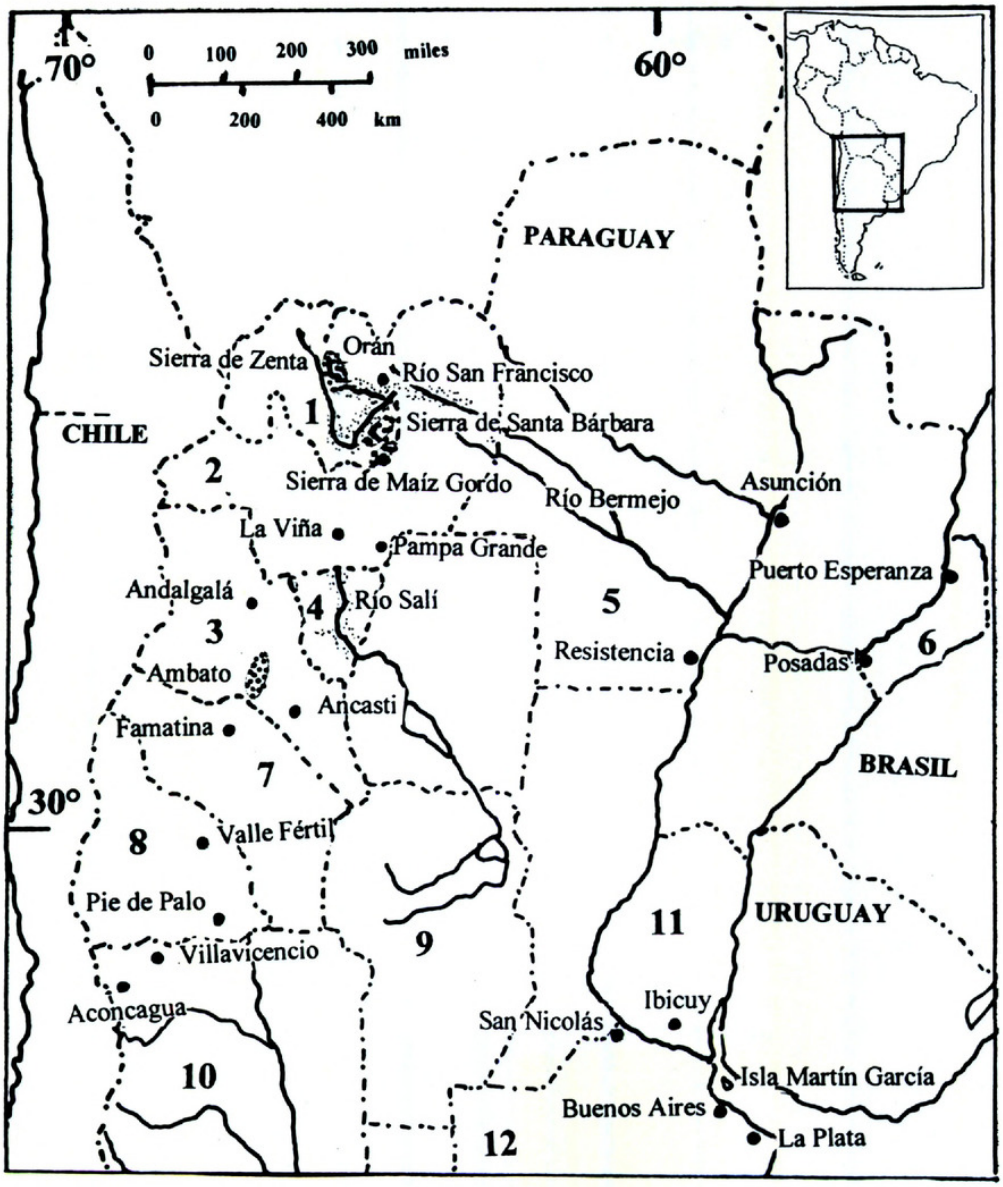

Figure 2. Map of northern and central Argentina with the main localities (mentioned in Table 1) of Spegazzini's and other collectors' vascular plant collections that contributed to his herbarium. Numbers refer to the Argentine provinces: 1 = Jujuy; 2 = Salta; 3 = Catamarca; 4 = Tucumán; 5 = Chaco; 6 = Misiones; 7 = La Rioja; 8 = San Juan; 9 = Córdoba; 10 = Mendoza; 11 = Entre Ríos; 12 = Buenos Aires.

del Fuego (Fig. 3). The countries adjacent to Argentina, on the other hand, were scarcely visited for collecting.

One of the first remarkable trips Spegazzini made was in 1881, two years after his arrival in Argentina. On December 18 he embarked as a botanist, representing the University of Buenos Aires, in the expedition of Lieutenant Santiago Bove aboard the ship *Cabo de Hornos*. Spegazzini, as well as a geologist, a geographer, and a zoologist, departed from Buenos Aires heading for Isla de los Estados and Tierra del Fuego, the southernmost part of America. After arriving at Punta Arenas, Chile, Spegazzini, Bove, and the geologist embarked in a smaller ship to sail through the narrow channels of Tierra del Fuego. A storm caused their shipwreck, but Spegazzini saved some of the plant collections by swimming to the coast and burying them in the snow to preserve them. While the three survivors awaited rescue, Spegazzini contacted the Indians of the area and learned the grammar of their language (Spegazzini, 1884b). Spegazzini returned to Buenos Aires on 27 September 1882. As a result of this adventure, Spegazzini collected 1108 specimens (mosses, fungi, lichens, and vascular plants). Forty-two years later, in January 1924, he returned to Cabo de Hornos in Chile where he discovered very different conditions. The Native Indian populations had almost disappeared, and the fauna and flora were reduced due to pressure from the increasing

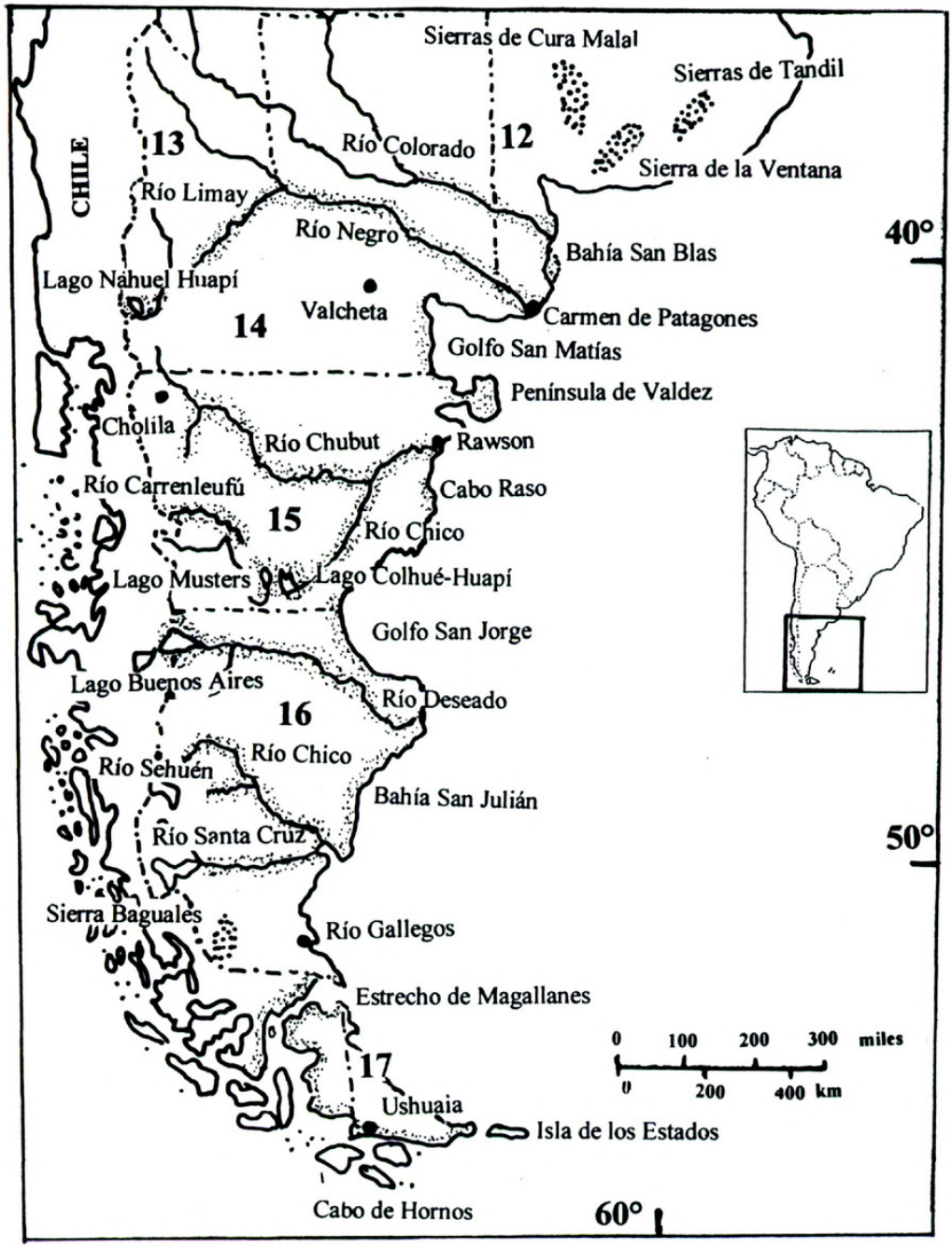

Figure 3. Map of southern Argentina with the main localities (mentioned in Table 1) of Spegazzini's and other collectors' vascular plant collections that contributed to his herbarium. Numbers refer to the Argentine provinces: 12 = Buenos Aires; 13 = Neuquén; 14 = Río Negro; 15 = Chubut; 16 = Santa Cruz; 17 = Tierra del Fuego.

populations of the growing cities there, the burning of native trees, and the introduction of exotic species (Molfino, 1929).

Some trips were undertaken by order of either the Argentine government or commercial entities. For instance, he went to Chaco to install an alcohol factory; to Tucumán to study the sugar cane disease; to western Argentina to analyze the viticultural industry; and to northwestern Argentina to search for and study plants that produce rubber. In all these trips he looked for the opportunity to collect plants because he found that it was usually difficult to organize collecting trips that lacked direct utility. In his own words:

"Me es disgustoso declarar que he hallado constantemente una cierta indiferencia, por no decir hostilidad, toda vez que he querido llevar a cabo algún viaje botánico que no tuviera un fin práctico inmediato, así que para prepararme debidamente al desempeño de mis funciones de botánico oficial he tenido necesidad de aprovechar toda misión económica o industrial que mis conocimientos me permitiesen desempeñar más o menos satisfactoriamente, acumulando así los materiales que ahora forman la base

Table 1. Carlos Spegazzini's vascular plant-collecting expeditions, with the names of other collectors who provided specimens for him. The dates, names, and description of the travels are taken from herbarium labels and from the literature cited. * = data taken exclusively from herbarium labels.

Dates	Collecting expeditions	Bibliography
Nov. 1880	C. Spegazzini and D. Parodi; Argentina. Prov. Buenos Aires: areas surrounding the city of Buenos Aires (e.g., Boca del Riachuelo, Palermo, Recoleta, San José de Flores, Isla Maciel, Puente Alsina, Montes del Tordillo, Montes Grandes, Montes del Real Viejo).	Spegazzini, 1880, 1914b, 1917c
Dec. 1880	C. Spegazzini; Argentina. Prov. Buenos Aires: General Lavalle, Magdalena.	Spegazzini, 1917c
Dec. 1881–Nov. 1882	C. Spegazzini in Bove's expedition; Argentina. Prov. Santa Cruz: Río Gallegos, Río Santa Cruz, Salinas, Isla Pavón, Monte León, Isla de los Baguales, Isla de los Leones, Misioneros, Cabo Vírgenes. Prov. Tierra del Fuego: estrecho de Magallanes, Isla de los Estados, Punta Porpesse, Cabo Negro, Gregory Bay (Bahía San Gregorio), N coast of the province, Ushuaia, Cabo Posesión, Cerro de los Caracoles, Bahía Sarmiento, Gente Grande Bay, Punta Anegada, Isla Isabel. Chile: Punta Arenas.	Spegazzini, 1883b, 1896, 1897b, 1901c, 1902b; Moore, 1983
1883	C. Spegazzini; Uruguay. Arroyo de San Juan, Cuareim.	Spegazzini, 1917c
Early 1883	C. Spegazzini and A. Onetto; Argentina. Prov. Santa Cruz: Río Santa Cruz region.	Spegazzini, 1883a
Mar.–Nov. 1883	C. von Gülich; Argentina. Prov. Misiones: Río Piray-Guazú, Río Yacan-Guazú, near Piray. Paraguay. Tapurucupú, Sierra de Amambay.	Spegazzini, 1883a, 1916c
July–Aug. 1883	C. Spegazzini; N Argentina. Prov. Chaco. Paraguay. Río Aquidabán, Amambay.	*
1884	F. Tonini del Furia; Argentina. Prov. Santa Cruz: area of río Santa Cruz, Lago Argentino.	Spegazzini, 1897b, 1901c, 1902b; Del Vitto et al., 1998
1885	O. Mauri; Argentina. Prov. Santa Cruz: Río Chico.	Spegazzini, 1897b
Jan. 1886	C. Spegazzini; Argentina. Prov. Chaco: Colonia Resistencia, Monte Yponá.	Spegazzini, 1917c
1887	C. Spegazzini; Argentina. Prov. Buenos Aires: isla Santiago.	Spegazzini, 1905
1889	C. Moyano; Argentina. Prov. Chubut: Río Carrenleufú, Teka -choique, Río Senguer, Lago Fontana, Río Chubut, Lago Musters, Colonia Galesa.	Spegazzini, 1897c, 1901c
1889	E. Fischer; Argentina. Prov. Chubut: Cabo Raso, Puerto Rawson, Península de Valdez.	Spegazzini, 1897c; Hosseus, 1915
Dec. 1889	C. Spegazzini; Argentina. Prov. Buenos Aires: sierras Cura Malal.	*
1890	O. Mauri; Argentina. Prov. Tierra del Fuego: Canal Ultima Esperanza.	*
May–June 1890	A. Tonnellier; Argentina. Prov. Chubut: Trelew, Rawson.	*
1891	C. Spegazzini; Argentina. Prov. Buenos Aires: San Nicolás.	Spegazzini, 1905
1892	C. Spegazzini; Argentina. Prov. Buenos Aires: Tandil.	*
Jan. 1894	C. Spegazzini; Argentina. Prov. Salta: La Viña.	*
Mar. 1894	C. Ameghino; Argentina. Prov. Santa Cruz: Río Deseado, San Julián, Cañadón 11 de Septiembre, Río Salado.	Spegazzini, 1897b, 1901c 1902b
Sep. 1894	C. Berg; Argentina. Prov. Río Negro.	Spegazzini, 1901c
Jan.–Mar. 1895	C. Spegazzini; Argentina. Prov. Tucumán: Famaillá.	Spegazzini, 1895a, 1923b
Nov. 1895	C. Spegazzini; Argentina. Prov. Buenos Aires: Sierra de la Ventana in valle de las Vertientes, between Tornquist and Sierra de la Ventana, Cerro de la Ventana.	Spegazzini, 1897a, 1905
Dec. 1895	E. Fischer; Argentina. Prov. Chubut.	Spegazzini, 1902b
Late 1895–Early 1896	C. Spegazzini and S. Venturi; Argentina. Prov. Salta: Cuesta de Trancas.	Venturi, 1925

Table 1. Continued.

Dates	Collecting expeditions	Bibliography
Late 1895–Feb. 1896	C. Ameghino; Argentina. Prov. Santa Cruz: Golfo San Jorge, San Julián.	Spegazzini, 1897b, 1901c
Mar. 1896	J. Koslowski; Argentina. Prov. Chubut: Lago Fontana.	Del Vitto et al., 1998
Apr. 1896	N. Alboff; Argentina. Prov. Tierra del Fuego: San Sebastián.	Del Vitto et al., 1998
Nov. 1896	C. Spegazzini; Argentina. Prov. Buenos Aires: Tornquist, Sierra de la Ventana, Río de La Plata, Isla Santiago.	Spegazzini, 1901c, 1905
Nov. 1896–Mar. 1897	O. Mauri; Argentina. Prov. Neuquén: Río Aluminé-Neuquén.	Spegazzini, 1902c; Del Vitto et al., 1998
Late 1896–Early 1897	E. Fischer; Argentina. Prov. Chubut: Cabo Raso.	Spegazzini, 1901c, 1902b, c
Dec. 1896–Mar. 1897	C. Spegazzini; Argentina. Prov. Salta: Cuesta de Arca-Trancas, Pampa Grande, Quebrada de Guachipas, Amblaio-Cachi, Cafayate, Molinos-Cafayate, Nevado de Cachi, La Viña, cuesta de San Antonio, Isonza-Tintín, entre Talapampa y Valle Calchaquí, Runi-Huasi. Prov. Tucumán: Montero, Colalao.	Spegazzini, 1897d, 1899b, 1901d, 1916c, 1917a, b, c, d, 1921a, 1923c, 1925b
Jan.–Mar. 1897	C. Ameghino; Argentina. Prov. Santa Cruz: Río Chico (Chonquen-aik, Emelk- aik), Lago Argentino (Karr-aik).	Spegazzini, 1901c, 1902c
Feb. 1897	C. Spegazzini; Chile. Prov. Atacama: Atacama desert.	*
1897	C. Spegazzini; Argentina. Prov. Buenos Aires.	Spegazzini, 1901b, c
1897	C. Spegazzini; Argentina. Prov. Catamarca, Prov. Córdoba, Prov. La Rioja, Prov. Mendoza, Prov. Salta, Prov. San Juan.	Spegazzini, 1898
Oct. 1897	E. B., O. B., O. R., V. B. (sic); Argentina. Prov. Santa Cruz: Río Santa Cruz, Monte León.	Spegazzini, 1902b
Oct.–Nov. 1897	J. Valentín; Argentina. Prov. Chubut: Trelew, Cabo Raso, Río Chubut.	Spegazzini, 1899a, 1901c, 1902b
Nov. 1897–Jan. 1898	O. Mauri; Argentina. Prov. Neuquén: Lago Traful, Nahuel Huapí. Prov. Santa Cruz: Río Seco, Canal Ultima Esperanza.	Spegazzini, 1901c, 1902a
Oct.–Dec. 1897	C. Ameghino; Argentina. Prov. Santa Cruz: Pan de Azúcar, Río Chico (Emel-kaik, El Paso), Laguna Seca, Río Santa Cruz.	Spegazzini, 1901c, 1902b, c
Dec. 1897–Feb. 1898	C. Spegazzini; Argentina. Prov. Buenos Aires: from S Buenos Aires N Patagonia, San Blas, Carmen de Patagones, La Pantanosa, Punta Rubia, Bahía San Blas, El Carbón, Lomas de Saladero, Isla de Crespo, Salitral Grande, Salina de Piedras, Salina del Inglés, Tres Cerros, La Verde, Barrancoso. Prov. Neuquén: Lago Nahuel Huapí, Lago Traful, Laguna Blanca. Prov. Río Negro: areas of Río Colorado and Río Negro, Salina de Piedras, Puerto Nuevo, confluence Río Limay and Río Neuquén, Choele Choel, Lomas Negras.	Spegazzini, 1899a, 1901c, 1902b, c, 1905, 1914a, 1925b
1898	C. Moyano; Argentina. Prov. Río Negro.	*
Jan. 1898	C. Spegazzini; Argentina. Prov. Buenos Aires: sierras de Tandil.	Spegazzini, 1901a
Jan. 1898	F. Lahille; Argentina. Prov. Chubut: Península de Valdéz, Caleta Porfirio.	Spegazzini, 1899a, 1901c
Jan.–Apr. 1898	C. Ameghino; Argentina. Prov. Santa Cruz: Río Chico (Kumen-aik, Chonkenk-aik, cerro Kmanaich, Emelk-aik, Boron-aik, Parr-aik, Sehuen-aik), Lago Viedma (Orr-aik), Lago Argentino (Karr-aik), Río Sehuén (Parr-aik), Golfo San Jorge, Río Santa Cruz.	Spegazzini, 1899a, 1901c 1902b, c
Feb.–Mar. 1898	S. Venturi; Argentina. Prov. Santa Cruz: Río Santa Cruz.	Spegazzini, 1902b
Fall 1898	C. Ameghino; Argentina. Prov. Santa Cruz: between San Julián and Río Deseado.	Spegazzini, 1902b

Table 1. Continued.

Dates	Collecting expeditions	Bibliography
Nov. 1898–Early 1899	J. Koslowsky; Argentina. Prov. Chubut: Lago Blanco, central area of the province, Paso de los Indios, Río Senguerr, Valle del Río Mayo, Río Chubut.	Spegazzini, 1899a, 1901c 1902b
Nov. 1898–Feb. 1899	N. Illín; Argentina. Prov. Chubut: Lago Musters, Choique Lauquen, Angostura, between Trelew and Paso de los Indios, Costa de los Manantiales.	Spegazzini, 1901c, 1902b
Nov. 1898–Mar. 1899	T. Stuckert; Argentina. Prov. Córdoba.	Spegazzini, 1899b
Dec. 1898–Mar. 1899 (Spring?)	C. Ameghino; Argentina. Prov. Chubut: Lago Musters. Prov. Santa Cruz: Lago Argentino (Karr-aike), San Julián-Río Deseado, San Jorge, Lago Buenos Aires, Golfo San Jorge, Río Chico.	Spegazzini, 1902b, c
Jan., Aug. 1899	A. Tonnellier; Argentina. Prov. Chubut: Trelew, Rawson, Río Chubut.	Spegazzini, 1901c, 1902b
Apr.–May 1899	F. Lahille; Argentina. Prov. Río Negro: Golfo San Matías. Prov. Chubut: Caleta Porfirio.	Spegazzini, 1901c, 1902b
Nov. 1899–Mar. 1900	N. Illín; Argentina. Prov. Río Negro: Bolsón. Prov. Chubut: Río Chubut, between Choique-Laven and Lago Musters, Lago Musters, Teka-dique, Carrenleufú, Teka-choique.	Spegazzini, 1902a, b, c
Summer 1899	C. Moyano; Argentina. Prov. Chubut: Carrenleufú.	Spegazzini, 1902c
Dec. 1899	C. Spegazzini; Argentina. Prov. Buenos Aires: Sierras de Cura Malal, Tornquist.	Spegazzini, 1905
Late 1899–Early 1900	A. Larguía; Argentina. Prov. Río Negro: Colonia Valcheta.	Spegazzini, 1902b
Late 1899–Early 1900	F. Basaldúa; Argentina. Prov. Chubut: Trelew, Río Chubut.	Spegazzini, 1902b
Dec. 1899–Jan. 1900	C. Burmeister; Chile. Río Aisén.	Spegazzini, 1902b, c
Dec. 1899–Mar., June 1900	O. Asp; Argentina. Prov. Neuquén: Sierra de Maichol, Valle Trolope, Río Manzano, Codihué, Pilahuincó, Río Fiero, Vega del Pino Hachado, Sierras de Sanquil.	Spegazzini, 1902b
Jan.–Feb. 1900	R. Hauthal; Argentina. Prov. Santa Cruz: Cerro de los Baguales.	Spegazzini, 1902b, c
Feb. 1900	F. Silvestri; Argentina. Prov. Santa Cruz: Río Santa Cruz, Lago Argentino.	Spegazzini, 1902b, c
Feb.–Mar. 1900	N. Illín; Argentina. Prov. Chubut: Río Carrenleufú, between Cholila and Colonia 16 de Octubre.	Spegazzini, 1902b
Fall, Summer 1900	C. Ameghino; Argentina. Prov. Chubut: Col-huapí (Colhué-huapí). Prov. Santa Cruz: Río Chico, between Río Deseado and San Julián.	Spegazzini, 1902b, c
Nov. 1900	R. Hauthal; Argentina. Prov. Santa Cruz: Sierra de los Baguales.	*
Summer 1900–1901	F. Basaldúa; Argentina. Prov. Chubut: Trelew.	*
Dec. 1900	C. Burmeister; Argentina. Prov. Chubut: Arroyo Verde.	Spegazzini, 1902c
Dec. 1900	A. Fernández; Argentina. Prov. Neuquén: Lago Nahuel Huapí.	Spegazzini, 1902b, c
Dec. 1900–Feb. 1901	N. Illín; Argentina. Prov. Chubut: Lago Blanco, Corcovado, Puerto Rawson, Carrenleufú, Teka Choique, Nafofo-Cahuellu, Cholila, Manantiales.	Spegazzini, 1902b
Jan. 1901	C. Spegazzini; Argentina. Prov. Buenos Aires: Tandil.	Spegazzini, 1901a
Jan. 1901	F. Claren; Argentina. Prov. Jujuy: Puna of Santa Catalina.	*
Jan.–Apr. 1901	C. Burmeister; Argentina. Prov. Chubut: Manantial de la Subida. Chile. Río Aisén.	Spegazzini, 1902c
Feb.–Mar. 1901	C. Spegazzini; Argentina. Prov. Mendoza: Punta de Vacas, road Mendoza- Villavicencio, road Puente del Inca, Laguna de Los Horcones, valle del Aconcagua, Cerro Leones, Las Cuevas, Cañadón de los Horquillones.	Spegazzini, 1901d, 1917a, b, c, 1925a
Summer 1901	F. Lahille; Argentina. Prov. Neuquén: Fortín Roca.	Spegazzini, 1902b
Jan. 1902	R. Hauthal; Argentina. Prov. Chubut: Río Senguerr.	Del Vitto et al., 1998
Aug. 1902	C. Spegazzini; Argentina. Prov. Chaco: Ipaguayo.	*
Jan. 1903	C. Spegazzini; Argentina. Prov. Salta: Río Pescado.	Spegazzini, 1916c

Table 1. Continued.

Dates	Collecting expeditions	Bibliography
1904	C. Spegazzini; Argentina. Prov. San Juan.	Kiesling, 1994
Dec. 1904–Mar. 1905	C. Spegazzini; Argentina. Prov. Jujuy: Sierra de Santa Bárbara, Sierra de Calilegua. Prov. Salta: Río Pescado, Río San Francisco (Ledesma), Río Bermejo.	Spegazzini, 1916c, 1917a, 1921a, 1923c
Dec. 1905–Apr. 1906	C. Spegazzini; Argentina. Prov. Jujuy: Río San Francisco, Perico, Ledesma, Yuto, Río Saucelito. Prov. Salta: Orán, Valle de Lerma, Sierra de Santa Bárbara, Santa Cornelia, Sierra de Maíz Gordo, Sierra de Zenta, Río Santa María. Prov. Tucumán: Tafí, Parque Roca. Prov. Mendoza: cerro de los Cordobeses.	Spegazzini, 1914a, c, 1917c, 1923c, 1925a, c
Dec. 1905	C. Burmeister; Argentina. Prov. Santa Cruz: Puerto Deseado.	*
Dec. 1906–Mar. 1907	C. Spegazzini; Argentina. Prov. Misiones: from Santa Ana to Barracón and Río San Antonio, Puerto Esperanza (Río Paraná), Posadas, Campina de Américo, San Pedro, Fracrán, Yacán-Guazú, Garupá, Arroyo Dorado, Campo de las Cuyas, Cerro Pesegueiro, Campo Grande, Cerro Bonito, Río Bossetti (Río Grande), Río Acaranguay (Campo Grande), Loreto, Layado.	Spegazzini, 1909, 1916c, 1917a, b, c, d, 1923c, 1925b
Feb. 1907?	C. Spegazzini; Argentina. Prov. Catamarca: Piedra Blanca.	Spegazzini, 1917b
Late 1907	P. Spegazzini; Argentina. Prov. Buenos Aires: isla Martín García.	*
Dec. 1909	J. Argerich; Argentina. Prov. Buenos Aires: Estación Argerich, La Fina.	*
Dec. 1909–Mar. 1910	P. Spegazzini; Argentina. Prov. Catamarca: Ancasti, Ambato, Andalgalá, Huillapina, Pomán, Río Tala. Prov. Mendoza: quebrada de los Horcones, Cacheuta. Prov. Salta: Santa Cornelia, Sierra de Santa Bárbara. Prov. Tucumán: Alpachiri, Cochuma.	Spegazzini, 1916b, 1917c, 1923a
Mar. 1911	C. Spegazzini; Argentina. Prov. Entre Ríos: Ibicuy.	Spegazzini, 1917a
Nov. 1911	C. Spegazzini; Argentina. Prov. Jujuy: Santa Cornelia, Sierra de Santa Bárbara, Lecherón Negro.	*
1912	C. Spegazzini; Argentina. Prov. San Juan.	Kiesling, 1994
Jan.–Feb. 1914	C. Spegazzini; Argentina. Prov. Mendoza: Río Blanco del Plata. Prov. San Juan: Paso de los Puntanos.	Spegazzini, 1914a
June, Oct. 1919, Feb. 1920	C. Spegazzini; Paraguay. Asunción, Puerto Sajonia, Río Paraguay, San Antonio, Pacú-cuá, road San Lorenzo–San Antonio.	Spegazzini, 1921a, b, 1923a, c
Feb. 1922	J. Molfino; Argentina. Prov. Misiones: San Javier, Apóstoles.	*
Summer 1923	C. Spegazzini; Argentina. Prov. Buenos Aires: Isla Marín García.	Anonymous, 1925
Jan. 1924	C. Spegazzini; Argentina. Prov. Tierra del Fuego: Haberton (Shamanes), Isla Grande, Lapataia, Ushuaia, Bahía Orange, Puerto Shell. Chile. Cabo de Hornos, Isla Hoste, Península Hardy.	Spegazzini, 1924; Moore, 1983
Jan. 1926	A. Raffaelli; Argentina. Prov. Río Negro: S Río Negro, Talagapa, Barrilniyeo, Carilaufquen.	Spegazzini, 1926

del grandioso Herbario Argentino que figura en la Sección Botánica Ministerio de Agricultura y el conocimiento que tengo de la fito-geografía argentina"(Spegazzini, 1909). [I am annoyed to declare that I have constantly found a certain indifference, if not hostility, every time I have wanted to make a botanical expedition devoid of immediate profit. Thus to properly prepare myself to fulfill my official botanical duties I have had to take advantage of every economic or industrial mission that my knowledge allowed me to do more or less satisfactorily, accumulating in this way the materials that now constitute the basis of the great Herbario Argentino of the Sección Botánica Ministerio de Agricultura and the knowledge that I have about Argentine phytogeography.]

His partners on the field trips described Spegazzini as a true naturalist, an enthusiastic and profound connoisseur of the flora and fauna, which he described in simple language, making each expedition an exciting and enjoyable adventure (Molfino, 1929; Parodi, 1961).

Spegazzini's Specimens

As a result of the collecting expeditions made by Carlos Spegazzini and by his collaborators, the number of vascular plants in Spegazzini's herbarium reached 100,000 specimens (Molfino, 1929). This number is not surprising if one bears in mind that he was able to collect 30,000 specimens in a single trip (Venturi, 1925). Due to the abundance of fungi and vascular plants collected, Spegazzini maintained the majority of them as a personal herbarium at home. Several European and North American institutions were interested in purchasing these valuable collections after Spegazzini's death, but all offers were rejected. Around 1966 (Kiesling, 1984), the collection of vascular plants was transfered from LPS to the Herbarium of Museo de La Plata (LP), also in La Plata city.

Type materials ascribed to Spegazzini are estimated at ca. 700 specimens in LP. Staff of this herbarium (Katinas et al., in prep.) are currently developing a catalogue of these specimens. Other specimens remain in Museo de Botánica Juan A. Domínguez in Buenos Aires (BAF), in the Instituto de Recursos Biológicos (INTA) in Buenos Aires (BAB), as well as in the Museo Botánico in Córdoba (CORD). Other herbaria with Spegazzini vascular plant specimens are: BAE, BR, E, H, IAC, K, L, MICH, NY, PAC, PAD, S, U, W, and Z (Stafleu & Cowan, 1985).

Two additional Spegazzini collections of interest are, or were, the living types of cacti, and the photographs of cacti. The collection of living types is practically lost, except for one specimen of *Cereus* still growing in his house, now the institute (Kiesling, 1984). His collection of cacti photographs that correspond to type and non-type specimens (Kiesling, 1984) is deposited in the Herbarium of Museo de La Plata (LP).

Specimen labels are annotated by Spegazzini or stamped with a seal by him, with a few references to the locality. He used the initials C. S. for the plants he collected, and other initials to differentiate other collectors: C. A. (for Carlos Ameghino), N. I. (for Nicolás Illín), T. F. (for Tonini del Furia). Most of the specimens lack the number of the individual collector, although they have the number of Spegazzini's herbarium (LPS). For example, the type specimen of *Oryzopsis bicolor* (Vahl) Speg. var. *media* Speg. collected by Carlos Spegazzini in 1899 should be cited: *C. Spegazzini s.n.* (ex LPS 12517 in LP). The name of the collector is frequently not mentioned, but can usually be determined by reference to the year and locality (Table 1). The date of collection usually consists of the month and the year, or sometimes the year is accompanied by the terms *aest.* (from the Latin aestivus or summer) or *aut.* (autumnus, fall). The word *vere*, annotated by Spegazzini as "Vere 1889," can be seen only in the labels of the specimens collected by Carlos Ameghino in San Julián-Río Deseado. There are two probable meanings for this Latin term (Stearn, 1996): (1) *Ver* = spring, a neuter generic noun of the third declension. *Vere* corresponds to the ablative singular, i.e., "by the spring," "with the spring," or "from the spring"; and (2) *Vere* (also *vero, revera*) = an adverb meaning "truly, in fact, rightly, exactly." Following other annotations of Spegazzini as "Vere 1894" (Spegazzini, 1895b) for fungi collected in October–November (Southern Hemisphere spring), it seems that the most reasonable interpretation of this term is "spring."

For some labels of Patagonian specimens, there is no citation of the contemporary political provinces. From 1878 to 1884 the Argentine territory south of Río Colorado (ca. 40°S latitude) to Cabo de Hornos was established by the government as one unit: Gobernación de la Patagonia. Only in 1884 was this wide territory divided into the current provinces of La Pampa, Neuquén, Río Negro, Chubut, Santa Cruz, and Tierra del Fuego. Another problem with some of these Patagonian plants is with the specimens collected by C. Moyano in Chubut in 1899. As Moyano did not write the corresponding labels, Spegazzini annotated the labels with probable localities. As he explained (Spegazzini, 1897c):

> "La colección que voy a publicar se hallaba en bastante buen estado de conservación a pesar de no haber sido envenenada, pero por desgracia carecía completamente de etiquetas, de modo que los habitat he debido indicarlos de un modo bastante vago y por recuerdos más o menos del coleccionador." [The collection that I am going to publish was in a quite good state of conservation although it was not curated with preservative. Unfortunately, it completely lacked labels, so I had to indicate the habitat very vaguely and more or less by the recollections of the collector.]

The type specimens frequently have the original Latin descriptions made in Spegazzini's handwriting. Many of these descriptions were written directly in the field or during the specimen preparation (Fig. 4). It is also very common to find the

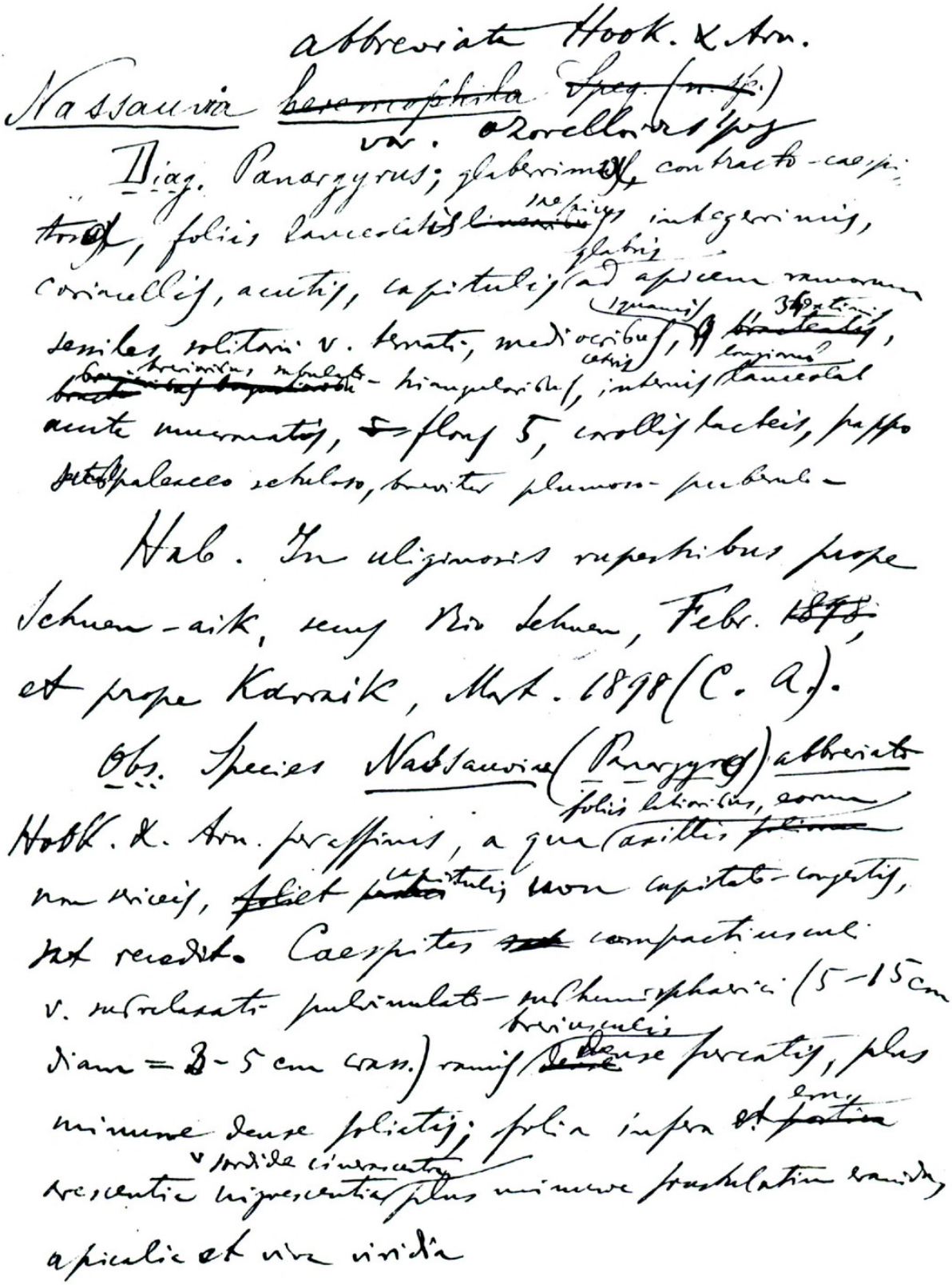

Figure 4. Original description of a new variety of vascular plant made in Spegazzini's handwriting.

botanist's accompanying drawings, characterized by their precision and simplicity (Fig. 5). Some sets of the original Spegazzini illustrations are housed in BAF, as is the case with some cactus species (Kiesling, 1984). The citation of more than one specimen and locality in the original taxa descriptions (species, varieties, and forms) is common, and therefore Spegazzini's type collection is mainly

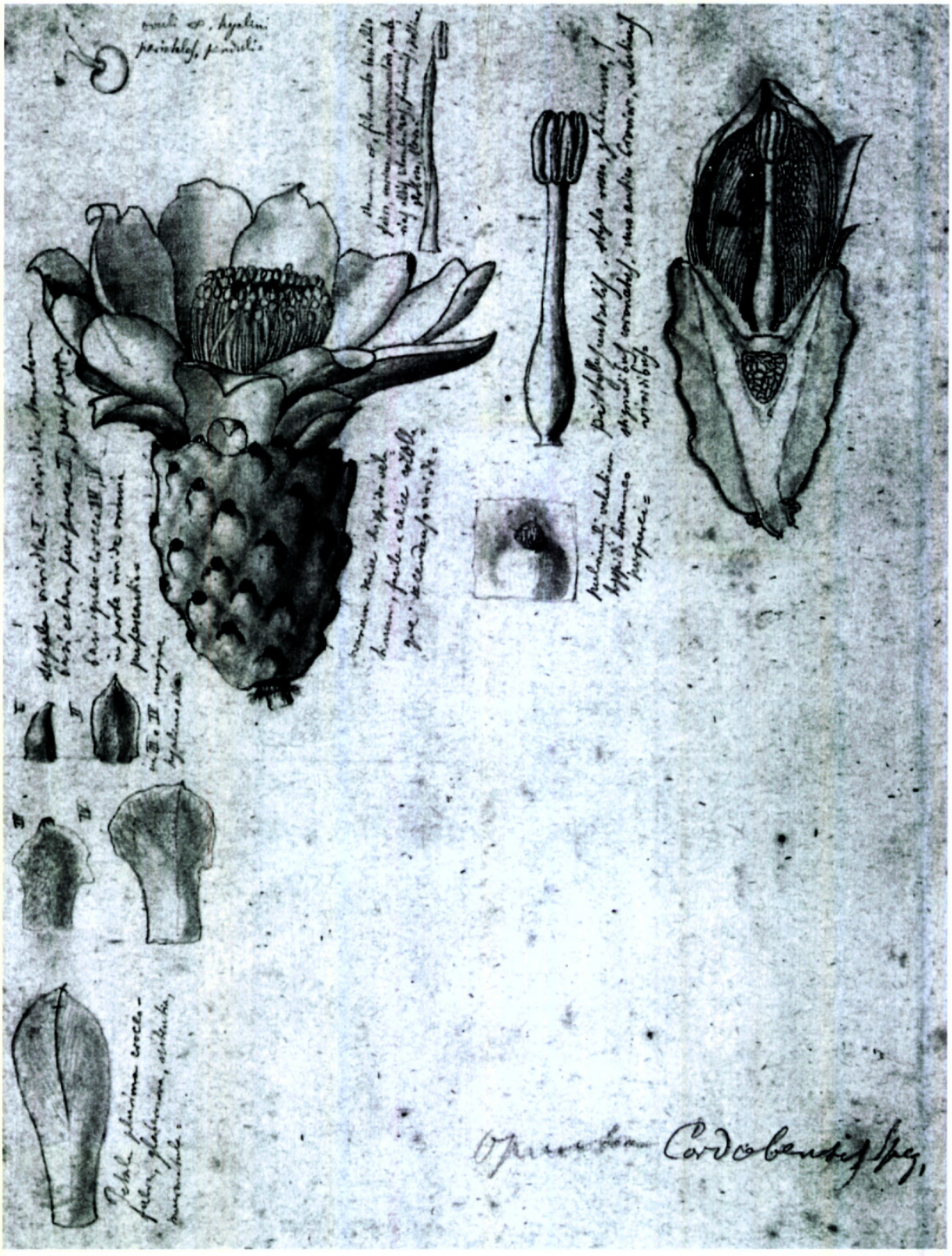

Figure 5. Accompanying drawing of a plant specimen made by Spegazzini.

made up of syntypes. Types are housed in a separate collection in LP, but it is probable that some types still remain in the general herbarium. The search for these specimens is another step in the production of the catalogue mentioned above.

Spegazzini's Publications

Carlos Spegazzini published 332 papers from 1878 to 1926, and ca. 100 refer to vascular plants. Almost all of them were published in such Argen-

Table 2. New taxa in their corresponding families described by Carlos Spegazzini, as cited in *Index Kewensis* (Anonymous, 1997), and the Gray Card Index Database. The number of taxa described in each taxonomic category is in parentheses. Spegazzini is the authority of all names except where marked. The designation of comb. illeg., comb. nov., comb. superfl., hom. illeg., nom. illeg., nom. inval., nom. nud., and a change in the authority of the name other than Spegazzini (marked with *) follows Zuloaga et al. (1994) and Zuloaga & Morrone (1996, 1999a, b).

AIZOACEAE. Species (1): *Tetragonia ameghinoi.* Total (1).

ALISMATACEAE. Species (1): *Echinodorus patagonicus.* Total (1).

AMARANTHACEAE. Genera (1): *Amarantellus.* Species (4): *Amarantellus argentinus, Amaranthus cristulatus, A. vulgatissimus, Amarantus edulis.* Infraspecific taxa (1): *Blutaparon portulacoides* var. *commersonii**. Total (6).

AMARYLLIDACEAE. Species (3): *Zephyranthes lilacina, Z. melanopotamica, Z. oxitepala.* Infraspecific taxa (2): *Hippeastrum bagnoldi* var. *minor, H. hesperius* var. *pallida.* Total (5).

ANACARDIACEAE. Species (4): *Lithrea chichita**, *Schinus chichita, S. longifolia* (Lindl.) Speg. comb. nov., *S. praecox.* Infraspecific taxa (1): *Schinus dependens* var. *patagonica.* Total (5).

APIACEAE. Genera (1): *Notiosciadium.* Species (13): *Asteriscium fimbriatum, Azorella ameghinoi, A. bovei, A. fuegiana, A. patagonica, A. plantaginea, Hydrocotyle cryptocarpa, Mulinum lycopodioides, M. morenonis* (Kuntze) Speg. comb. nov., *M. patagonicum, M. valentinii, Notiosciadium pampicola, Sanicula patagonica.* Infraspecific taxa (4): *Azorella patagonica* var. *compacta, Bowlesia tropaeolifolia* var. *heterophylla, B. tropaeolifolia* var. *patagonica, Hydrocotyle araucana* var. *patagonica.* Total (18).

APOCYNACEAE. Species (5): *Aspidosperma chakensis, A. crotalorum, A. horco-kebracho, A. missionum, Rauvolfia schuelii.* Infraspecific taxa (1): *Aspidosperma quebracho-blanco* var. *pendula.* Total (6).

AQUIFOLIACEAE. Species (1): *Ilex tucumanensis* nom. nud. Total (1).

ARACEAE. Genera (1): *Lilloa.* Species (2): *Lilloa puki, Staurostigma vermicida.* Total (3).

ARECACEAE. Species (2): *Maximiliana argentinensis, M. orenocensis.* Total (2).

ARISTOLOCHIACEAE. Species (2): *Aristolochia melanoglossa, A. stuckertii.* Total (2).

ASCLEPIADACEAE. Genera (1): *Dicarpophora.* Species (4): *Astephanus fruticulosus, Dicarpophora mazzuchii, Oxypetalum suaveolens* hom. illeg., *Vincetoxicum bulligerum.* Infraspecific taxa (1): *Philibertia gilliesii* var. *pubescens.* Total (6).

ASTERACEAE. Genera (2): *Ameghinoa, Strongylomopsis.* Species (58): *Achyrophorus leucanthus, Ameghinoa patagonica, Aplopappus (= Haplopappus?) moyanoi, A. mustersi, A. patagonicus, A. struthionum, A. tehuelches, Aster scorzonerifolius, Baccharis chubutensis, B. melanopotamica, B. tandilensis, Brachyclados caespitosus* (Phil.) Speg. comb. nov., *B. megalanthus, B. stuckertii, Chuquiraga argentea* (Speg.) Speg. comb. nov., *Culcitium gilliesii* (Hook. & Arn.) Speg. comb. nov., *C. sessile, Doniophyton argenteum, Erigeron erianthus, E. platensis, E. remyanus**, *Flotovia stiffioides, Gutierrezia ameghinoi, Haplopappus ameghinoi, H. illinii, H. moyanoi, H. mustersii, H. patagonicus, H. struthionum, H. tehuelches, Hieracium chubutense, Leuceria eriocephala, L. patagonica, Mutisia chubutensis, M. moyanoi, M. pulchella, Nassauvia ameghinoi, N. chubutensis, N. patagonica, N. pentacaenoides, Perezia megalantha, P. pampeana, P. patagonica, P. sessiliflora, Psilocarphus globiferus, Senecio argentinensis, S. capillarifolius, S. choiquelahuensis, S. chubutensis, S. colu-huapensis, S. diabolicus, S. inutilis, S. julianus, S. mustersii, S. sagittarioides, S. sericeo-nitens, Strongylomopsis fuegiana, Vernonia oreophila.* Infraspecific taxa (37): *Baccharis trimera* var. *viscosissima, Chiliotrichum diffusum* var. *angustifolia, Chiliotrichum diffusum* var. *media, Chiliotrichum diffusum* var. *typica, Chuquiraga argentea* var. *dusenii, Erigeron gayanus* var. *leptophyllus, E. philippii* var. *elatior, E. philippii* var. *humilis, Gnaphalium affine* var. *medium, G. affine* var. *parvulum, G. affine* var. *pusillum, G. purpureum* var. *sphacelatum* (Kunth) Speg. comb. nov., *Grindelia speciosa* var. *integrifolia, Gutierrezia paniculata* var. *patagonica, Hieracium antarcticum* f. *fuegiensis, Hypochaeris arenaria* var. *coronopifolia* (Sch. Bip.) Speg. comb. nov., *H. arenaria* var. *integrifolia* (Sch. Bip.) Speg. comb. nov., *H. variegata* var. *acutibracteata, H. variegata* var. *glaucescens, H. variegata* var. *nana, H. variegata* var. *typica, H. variegata* var. *pinnatifida, Leuceria ibari* var. *glabrata, L. ibari* var. *glandulosa, L. ibari* var. *sessiliflora, Nassauvia abbreviata* var. *azorelloides, N. axillaris* var. *contracta, N. patagonica* var. *elatior, N. struthionum* var. *robusta, Panargyrum abbreviatum* var. *subspinosa, Perezia patagonica* var. *intermedia, Senecio desideratus* f. *elatiuscula, S. linariifolius* var. *angustissimus* (Phil.) Speg. comb. nov., *S. miser* var. *tehuelches, S. trifurcatus* var. *pentadactylus* (Phil.) Speg. comb. nov., *S. xanthoxylon* var. *araneosula, Solidago linearifolia* var. *brachypoda.* Total (97).

BEGONIACEAE. Species (1): *Begonia argentinensis.* Total (1).

BIGNONIACEAE. Species (1): *Tecoma avellanedae.* Infraspecific taxa (1): *Argylia potentillaefolia* var. *australis.* Total (2).

BORAGINACEAE. Genera (3): *Oxyosmyles, Valentina, Valentiniella.* Species (10): *Amsinckia patagonica, A. pseudolycopsicoides, Echinospermum patagonicum, Eritrichium diffusum* hom. illeg., *E. mesembryanthemoides, E. pampeanum, Heliotropium lithospermifolium, Oxyosmyles viscosissima, Valentina patagonica, Valentiniella patagonica* (Speg.) Speg. comb. nov. Infraspecific taxa (1): *Amsinckia angustifolia* var. *microcarpa.* Total (14).

Table 2. Continued.

BRASSICACEAE. Genera (2): *Delpinoella, Delpinophytum.* Species (40): *Braya cachensis, B. glebaria, B. lycopodioides, B. patagonica, B. pectinata, B. pycnophylloides, Cardamine argentina, C. callitrichoides, C. patagonica, Delpinoella patagonica, Delpinophytum patagonicum* (Speg.) Speg. comb. nov., *Descurainia deserticola* (Speg.) Speg. comb. nov., *D. glabrescens* (Speg.) Speg. comb. nov., *D. heterotricha, Draba ameghinoi, D. argentina, D. chubutensis, D. glebaria* Speg. ex O. E. Schulz, *D. graminifolia, D. karr-aikensis, D. oligosperma, D. pectinata* Speg. ex O. E. Schulz, *Menonvillea patagonica, Nasturtium pamparum, N. philippianum* nom. illeg., *N. platense, Schizopetalum fuegianum, Sisymbrium ameghinoi, S. andinum* hom. illeg., *S. deserticola, S. fuegianum* (Speg.) Speg. comb. nov., *S. glabrescens, S. glanduliferum, S. maclovianum, S. patagonicum, S. perenne* hom. illeg., *S. pinnatum, S. subscandens, S. tehuelches, Thlaspi chionophilum.* Infraspecific taxa (21): *Braya lycopodioides* var. *contracta, Cardamine rostrata* var. *dichondroides, C. tuberosa* var. *velutina, Descurainia canescens* var. *patagonica, D. canescens* var. *purpureola, Draba argentina* var. *grandiflora, D. argentina* var. *latifolia, D. karr-aikensis* var. *major, D. karr-aikensis* var. *media, D. karr-aikensis* var. *minor, D. magellanica* var. *glabrata* Gilg. ex Speg., *D. magellanica* var. *subglabrata, Lepidium pubescens* var. *salinicola, L. pubescens* var. *typica, Sisymbrium fuegianum* var. *glabrum, S. fuegianum* var. *hispidum, S. sagittatum* var. *commune, S. sagittatum* var. *exauriculatum, S. sagittatum* var. *glaucum, S. sagittatum* var. *normalis, S. sagittatum* var. *purpurascens.* Total (63).

BROMELIACEAE. Species (6): *Aechmea thyrsigera, Puya flora, P. formosa, Tillandsia chlorantha, T. euosma, Vriesea argentinensis.* Infraspecific taxa (1): *Dyckia montevidensis* var. *tandilensis.* Total (7).

CACTACEAE. Genera (4): *Aylostera, Brittonrosea, Maihueniopsis, Parodia.* Species (113): *Austrocactus dusenii**, *A. intertextus, Aylostera pseudominuscula* (Speg.) Speg. comb. nov., *Brittonrosea albata, B. anfractuosa, B. arrigens, B. confusa, B. coptonogona, B. crispata, B. dichroacantha, B. gladiata, B. grandicornis, B. hastata, B. heteracantha, B. lamellosa, B. lancifera, B. lloydii, B. multicostata, B. obvallata, B. pentacantha, B. phyllacantha, B. violaciflora, B. wippermanni, B. zacatecasensis, Cereus dayami, C. dusenii**, *C. guelichii, C. patagonicus**, *C. platygonus* hom. illeg., *C. roseiflorus, C. santiaguensis, C. silvestrii, C. smaragdiflorus**, *C. thelegonoides, Echinocactus arechavaletai, E. baldianus, E. cachensis, E. caespitosus, E. catamarcensis* hom. illeg., *E. chionanthum, E. famatinensis, E. haematanthus, E. loricatus* hom. illeg., *E. pampeanus, E. parvulum, E. platensis, E. pseudominusculus, E. pygmaeus, E. saltensis, E. sanjuanensis, E. stellatus, E. stuckertii, E. thionanthum, Echinopsis ancistrophora, E. baldiana, E. cachensis, E. cordobensis, E. intricatissima, E. melanopotamica, E. minuana, E. mirabilis, E. molesta, E. pseudominuscula, E. saltensis, E. silvestrii, E. spegazzinii* K. Schum. ex Speg.*, *Frailea bruchii, F. odieri, F. pulcherrima, Gymnocalycium baldianum* (Speg.) Speg. comb. nov., *G. brachypetalum, G. chubutense* (Speg.) Speg. comb. nov., *G. leptanthum, G. loricatum, G. parvulum* (Speg.) Speg. comb. nov., *G. stellatum, Leocereus paulensis, Lobivia areopegon* Speg. ex Hosseus, *L. hyalacantha, L. oreopepon, L. shaferi**, *Maihuenia tehuelches, M. valentinii, Maihueniopsis molfinoi, Malacocarpus sanjuanensis, Opuntia anacantha, O. arechavaletae, O. atro-virens, O. bonarensis, O. bruchii, O. canina, O. chaquensis, O. cordobensis, O. halophila, O. hypsophila, O. kiska-loro, O. molinensis, O. montevidensis, O. pampeana, O. penicilligera, O. prasina, O. retrorsa, O. schumannii, O. subsphaerocarpha, O. tuna-blanca, O. utkilio, O. weberi, Parodia brasiliensis, P. microsperma* (F. A. C. Weber) Speg. comb. nov., *P. paraguayensis, Pilocereus rhodacanthus* (Salm-Dyck) Speg. comb. nov., *Pterocactus valentinii, Rebutia famatinensis* (Speg.) Speg. comb. nov., *Tephrocactus hickeni* (Britton & Rose) Speg. comb. nov. Infraspecific taxa (35): *Cereus lamprochlorus* var. *salinicola, Echinocactus acuatus* var. *corynodes, E. acuatus* var. *depressus, E. acuatus* f. *erinacea, E. acuatus* var. *sellowii, E. acuatus* var. *tetracantha, E. catamarcensis* var. *obscura, E. catamarcensis* var. *pallida, E. gibbosus* var. *cerebriformis, E. gibbosus* var. *chubutensis, E. gibbosus* var. *platensis, E. gibbosus* var. *typica, E. gibbosus* var. *ventanicola, E. mammulosus* var. *hircina, E. mammulosus* var. *pampeanus, E. mammulosus* var. *submammulosa, E. mammulosus* var. *typica, E. microspermus* var. *erythranthus, E. microspermus* var. *thionanthus, E. platensis* var. *leptanthus, E. platensis* var. *parvulus, E. platensis* var. *quehlianus, E. platensis* var. *typica, E. pygmaeus* var. *phaeodiscus, Echinopsis leucantha* var. *brasiliensis, Opuntia bruchii* f. *macracantha, O. diademata* var. *inermis, O. diademata* var. *oligacantha, O. diademata* var. *polyacantha, O. ficus-indica* var. *decumana, O. ficus-indica* var. *gymnocarpa**, *Tephrocactus bruchi* f. *brachyacantha, T. bruchii* f. *macracantha, T. glomeratus* var. *inermis, T. glomeratus* var. *oligacanthus.* Total (152).

CALYCERACEAE. Species (12): *Boopis ameghinoi, B. chubutensis, B. filifolia, B. leptophylla, B. patagonica, B. raffaellii, Gamocarpha ameghinoi, G. caleofuensis, G. patagonica, G. subandina, Nastanthus chubutensis, N. patagonicus.* Infraspecific taxa (3): *Boopis crassifolia* var. *spinuligera, B. gracilis* var. *lazulina, Gamocarpha subandina* var. *glaucescens.* Total (15).

CAMPANULACEAE. Species (1): *Downingia pusilla**. Total (1).

CAPPARACEAE. Species (1): *Cleome titubans.* Total (1).

Table 2. Continued.

CARYOPHYLLACEAE. Genera (1): *Philippiella*. Species (7): *Lychnis argentina*, *L. chubutensis*, *L. patagonica*, *Melandrium chubutense* (Speg.) Speg. comb. nov., *M. patagonicum* (Speg.) Speg. comb. nov., *Philippiella patagonica*, *Stellaria chubutensis*. Infraspecific taxa (11): *Arenaria serpens* var. *andicola**, *Arenaria serpens* var. *microphylla* (Phil.) Speg. comb. nov., *Arenaria serpens* var. *palustris* (Naudin) Speg. comb. nov., *Arenaria serpens* var. *patagonica* (Phil.) Speg. comb. nov., *Arenaria serpens* f. *robusta*, *Arenaria serpens* var. *serpylloides*, *Sagina apetala* var. *melanopotamica*, *S. apetala* var. *paludosa*, *Silene inflata* var. *patagonica*, *Stellaria media* var. *apetala*, *S. media* var. *normalis* nom. inval. Total (19).

CELASTRACEAE. Species (2): *Schaefferia argentinensis*, *S. uruguayensis*. Total (2).

CHENOPODIACEAE. Species (18): *Atriplex ameghinoi*, *A. argentina*, *A. espostoi*, *A. flavescens* hom. illeg., *A. frigida*, *A. macrostyla*, *A. mendozaensis*, *A. platensis*, *A. robusta* Speg. nom. nud., *A. sagittifolia*, *A. vulgatissima*, *Chenopodium ameghinoi*, *C. antarcticum* (Hook. f.) Speg. comb. superfl., *C. fuegianum*, *C. scabricaule*, *Holmbergia tweedii* (Moq.) Speg. comb. nov., *Spirostachys olivascens*, *Suaeda patagonica*. Infraspecific taxa (20): *Atriplex sagittifolia* var. *heterophylla*, *A. sagittifolia* var. *macrophylla*, *A. sagittifolia* var. *microphylla*, *A. sagittifolia* var. *typica* nom. inval., *Blitum rubrum* var. *hypoleuca*, *B. rubrum* var. *macrosperma* (Hook. f.) Speg. comb. nov., *Chenopodium ambrosioides* var. *oblanceolata*, *C. ambrosioides* var. *chilensis**, *C. ambrosioides* var. *graveolens* (Willd.) Speg. comb. nov., *C. ambrosioides* var. *oboyata*, *C. ambrosioides* var. *typica*, *C. scabricaule* f. *megalosperma*, *C. scabricaule* f. *pusilla*, *C. scabricaule* f. *robusta*, *Lerchea fruticosa* var. *brachyphylla*, *L. fruticosa* var. *megalosperma*, *Salicornia corticosa* var. *procumbens*, *S. corticosa* var. *typica* nom. inval., *S. fruticosa* var. *doeringii* (Lorentz & Niederl.) Speg. comb. nov., *S. fruticosa* var. *macrostachya*. Total (38).

CONVOLVULACEAE. Species (3): *Convolvulus platigena*, *C. platincola*, *Ipomoea argentinensis*. Total (3).

CYPERACEAE. Species (3): *Carex patagonica*, *C. subantarctica*, *Eleocharis funebris*. Infraspecific taxa (3): *Carex darwinii* var. *urolepis**, *Eleocharis acicularis* var. *lilliputiana*, *Uncinia phleoides* var. *brachytricha*. Total (6).

ELATINACEAE. Species (1): *Elatine nivalis*. Total (1).

ERICACEAE. Species (3): *Pernettya chubutensis*, *P. patagonica*, *P. philippiana*. Total (3).

EUCRYPHIACEAE. Species (1): *Eucryphia patagonica*. Total (1).

EUPHORBIACEAE. Genera (1): *Aonikena*. Species (9): *Aonikena patagonica*, *Aporosella chacoensis* (Morong) Speg. comb. nov., *Colliguaja patagonica*, *Croton ventanicolus*, *Euphorbia pampeana*, *E. pseudopeplus*, *Jatropha antisyphilitica*, *J. guaranitica*, *Phyllanthus marginivillosus*. Infraspecific taxa (1): *Euphorbia portulacoides* var. *obtusifolia**. Total (11).

FABACEAE. Genera (7): *Anadenanthera*, *Cavaraea*, *Chiovendea*, *Manganaroa*, *Pirottantha*, *Pithecodendron*, *Ramorinoa*. Species (93): *Acacia etilis*, *A. nitidifolia*, *Adesmia ameghinoi*, *A. aphanantha*, *A. canescens* (A. Gray) Speg. comb. nov., *A. graminidea*, *A. karraikensis*, *A. leptopoda*, *A. pampeana*, *A. patagonica*, *A. rudolfi*, *A. salicornioides*, *A. tehuelcha*, *Anadenanthera falcata*, *A. peregrina*, *Anarthrophyllum patagonicum*, *A. subandinum*, *Astragalus aconcaguensis*, *A. ameghinoi*, *A. benthamianus*, *A. bungeanus*, *A. chubutensis*, *A. grandis* (Kuntze) Speg. comb. nov., *A. hohenackeri*, *A. hurtadensis*, *A. maulensis*, *A. megalocarpus*, *A. meyenianus*, *A. moyanoi*, *A. nuttalianus*, *A. philippii*, *A. reichei*, *A. rhudolphii*, *A. sanctae-crucis*, *A. santiagensis*, *A. subandinus*, *A. tarapacanus*, *A. tehuelches*, *A. valparadisiensis*, *A. watsonianus*, *Calliandra brachyandra*, *C. grisebachiana* (Harms) Speg. comb. nov., *C. parvifolia* (Hook. f. & Arn.) Speg. comb. nov., *Cassia carnaval*, *Cavaraea elegans*, *Chiovendea eriantha*, *C. hypoleuca*, *Erythrina chacoensis* nom. nud., *Hoffmanseggia patagonica*, *Manganaroa alemquerensis*, *M. altiscandens*, *M. articulata*, *M. furcata* (Gillies ex Hook. & Arn.) Speg. comb. nov., *M. martii* (Benth.) Speg. comb. nov., *M. monacantha* (Willd.) Speg. comb. nov., *M. paniculata* (Willd.) Speg. comb. nov., *M. paraensis*, *M. platensis* (Manganaro) Speg. comb. nov., *M. subsericea*, *M. velutina*, *Mimosa ostenii* Speg. ex Burkart, *M. striata* (Benth.) Speg. comb. nov., *M. tandilensis*, *Patagonium ameghinoi*, *P. aphananthum*, *P. berteroi*, *P. canescens*, *P. carnosum* (Dusén) Speg. comb. nov., *P. filipes*, *P. graminideum*, *P. griseum*, *P. karraikense* (Speg.) Speg. comb. nov., *P. leptopodum*, *P. patagonicum*, *P. rudolphi*, *P. salicornioides* (Speg.) Speg. comb. nov., *P. serrazzianum*, *P. silvestrii*, *P. simonsi*, *P. tehuelches*, *P. triphyllum*, *P. vallis-pulchrae*, *P. villosum*, *Pirottantha modesta*, *Pithecodendron argentinensis*, *Prosopis patagonica*, *Pterocarpus valentinii*, *Ramorinoa girolae*, *Trifolium argentinense*, *Vachellia astringens* (Gillies ex Hook. & Arn.) Speg. comb. nov., *Vicia platensis*, *V. sericella*, *Xerocladia pampeana*. Infraspecific taxa (64): *Acacia adhaerens* var. *parviceps*, *A. praecox* f. *armata*, *A. praecox* f. *inermis*, *A. riparia* var. *argentinensis*, *Adesmia filipes* var. *obtusifolia*, *A. lotoides* var. *brachypoda*, *A. lotoides* var. *elata*, *A. lotoides* var. *normalis*, *A. lotoides* var. *petiolulata*, *A. lotoides* var. *typica*, *A. patagonica* var. *nana*, *Anarthrophyllum desideratum* var. *bergii* (Hieron.) Speg. comb. nov., *A. desideratum* var. *morenonis* (Kuntze) Speg. comb. nov., *A. desideratum* var. *mustersii*, *A. desideratum* var. *typica*, *A. rigidum* var. *toninii*, *Astragalus moyanoi* var. *villosula*, *A. palenae* var. *grandiflorus*, *A. rengifoi* var. *lejocarpa*, *A. sanctae* var. *crucis*, *Calliandra grisebachiana* var. *carolae*, *Erythrina crista-galli* var. *inermis* nom. nud., *Hoffmanseggia trifoliata* var. *glaberrima*, *H. trifoliata* var. *glandulosa*, *H. trifoliata* var. *microphylla*, *H. trifoliata* var. *normalis*, *H. trifoliata* var. *pentaphylla*, *Lathyrus cicera* var. *patagonica*, *L. magellanicus* var. *glaucescens*, *L. magellanicus* var. *oxyphylla*, *L. pubescens* var. *glaucescens*, *L. pubescens* var. *leptophylla*, *L. pubescens* var. *normalis*, *L.*

Table 2. Continued.

stipularis var. *patagonica*, *Lonchocarpus neuroscapha* var. *pubescens*, *Manganaroa paniculata* var. *paraguayensis*, *M. velutina* var. *glabrescens*, *Patagonium lanatum* var. *axillaris*, *P. lanatum* var. *parvifolia*, *P. villosum* var. *acutifolia*, *P. villosum* var. *glabratum*. *P. villosum* var. *typica*, *Vachellia farnesiana* f. *armata*, *V. farnesiana* f. *brachypoda*, *V. farnesiana* f. *cavenia* (Molina) Speg. comb. nov., *V. farnesiana* f. *inermis*, *V. farnesiana* f. *micrantha*, *V. farnesiana* f. *microcarpa*, *V. farnesiana* f. *stenocarpa*, *V. farnesiana* f. *typica*, *V. lutea* f. *aroma* (Gillies ex Hook. & Arn.) Speg. comb. nov., *V. lutea* var. *aroma*, *V. lutea* f. *leptocarpa*, *V. lutea* f. *moniliformis* (Griseb.) Speg. comb. nov., *V. lutea* f. *oocephala*, *V. lutea* f. *pachycarpa*, *V. lutea* f. *thlipsacantha*, *Vicia bijuga* var. *longipes*, *V. patagonica* var. *depauperata* (Clos) Speg. comb. nov., *V. sericella* var. *glabrata*, *V. vicina* var. *azurea*, *V. vicina* var. *luteiflora*, *V. vicina* var. *pallidiflora*, *V. vicina* var. *tricolor*. Total (164).

FLACOURTIACEAE. Species (1): *Banara glandulosa* (Desv.) Speg. comb. nov. Total (1).

FRANKENIACEAE. Species (3): *Frankenia chubutensis*, *F. pampeana*, *F. patagonica*. Infraspecific taxa (3): *Frankenia microphylla* var. *juniperinoides* (Hieron.) Speg. comb. nov., *F. microphylla* var. *relaxata*, *F. microphylla* var. *typica*. Total (6).

GENTIANACEAE. Species (1): *Erythraea ameghinoi*. Infraspecific taxa (5): *Gentiana magellanica* var. *darwinii* (Griseb.) Speg. comb. nov., *G. magellanica* var. *typica*, *G. magellanica* f. *albiflora*, *G. magellanica* f. *cyanescens*, *G. magellanica* f. *pumila*. Total (6).

GERANIACEAE. Species (1): *Geranium melanopotamicum*. Infraspecific taxa (2): *Erodium cicutarium* var. *arenicola* (Steud.) Speg. comb. nov., *Geranium dissectum* var. *patagonica*. Total (3).

HALOPHYTACEAE. Genera (1): *Halophytum*. Species (1): *Halophytum ameghinoi* (Speg.) Speg. comb. nov. Total (2).

HYDNORACEAE. Species (2): *Prosopanche bonacinae*, *P. mazzuchii*. Infraspecific taxa (2): *Prosopanche burmeisteri* var. *bettfreundii*, *P. burmeisteri* var. *minor*. Total (4).

IRIDACEAE. Species (3): *Cypella elegans*, *C. oreophila*, *Symphyostemon patagonicus*. Infraspecific taxa (1): *Sisyrinchium striatum* var. *microspathum* (Phil.) Speg. comb. nov. Total (4).

JUNCACEAE. Species (1): *Luzula patagonica*. Total (1).

JUNCAGINACEAE. Species (1): *Triglochin monanthos*. Total (1).

LAMIACEAE. Species (2): *Scutellaria platensis*, *Sphacele pampeana*. Infraspecific taxa (5): *Micromeria darwinii* var. *imbricatifolia*, *M. darwinii* var. *pallida*, *M. darwinii* var. *pusilla* (Phil.) Speg. comb. nov., *M. darwinii* var. *typica* nom. inval., *M. darwinii* var. *virescens*. Total (7).

LENTIBULARIACEAE. Species (1): *Utricularia platensis*. Total (1).

LILIACEAE. Genera (2): *Schickendantzia*, *Schickendantziella*. Species (7): *Brodiaea ameghinoi*, *B. patagonica* hom. illeg., *Schickendantzia trichosepala*, *S. pygmaea*, *Schickendantziella trichosepala* (Speg.) Speg. comb. nov., *T. eremophyllum*, *T. pulchellum*. Infraspecific taxa (2): *Brodiaea patagonica* var. *angustiloba*, *Triteleia patagonica* var. *angustiloba*. Total (11).

LOASACEAE. Species (1): *Loasa patagonica*. Infraspecific taxa (2): *Blumenbachia silvestris* var. *leptocarpa*, *Loasa pinnatifida* var. *gracilis*. Total (3).

LYTHRACEAE. Species (1): *Pleurophora patagonica*. Total (1).

MALVACEAE. Genera (1): *Lecanophora*. Species (13): *Abutilon eriocarpum* Speg. ex Stuckert nom. nud., *A. vidalii* (Phil.) Speg. comb. nov., *Cristaria kuntzei*, *C. linoides* (Hieron.) Speg. comb. nov., *Hibiscus argentinus* hom. illeg., *H. pulcherrimus*, *Lecanophora patagonica* (Kuntze) Speg. comb. nov., *Sida ameghinoi*, *S. chubutensis*, *S. linoides* (Hieron.) Speg. comb. nov., *S. tehuelches*, *Sphaeralcea australis*, *S. patagonica* (Niederl.) Speg. comb. nov. Infraspecific taxa (4): *Sphaeralcea patagonica* var. *argentea*, *S. patagonica* var. *cinerascens*, *S. patagonica* var. *normalis*, *S. patagonica* var. *oxyodonta*. Total (18).

MARTYNIACEAE. Species (1): *Craniolaria argentina*. Total (1).

MELASTOMATACEAE. Species (1): *Comolia platensis*. Total (1).

MISODENDRACEAE. Species (1): *Misodendrum patagonicum*. Total (1).

MORACEAE. Species (1): *Urostigma quintuplinerve*. Infraspecific taxa (1): *Brosimum gaudichaudii* var. *longifolia*. Total (2).

MYRTACEAE. Species (4): *Calyptranthes lilloi*, *C. oreophila*, *Eugenia guili*, *E. perorebi* Parodi ex Speg. & Girola. Infraspecific taxa (1): *Tepualia stipularis* var. *philippiana* (Griseb.) Speg. comb. nov. Total (5).

NYMPHAEACEAE. Species (1): *Cabomba australis*. Total (1).

ONAGRACEAE. Species (1): *Oenothera pygmaea*. Infraspecific taxa (3): *Oenothera odorata* var. *glabrescens*, *O. odorata* var. *media*, *O. odorata* var. *undulata*. Total (4).

ORCHIDACEAE. Species (11): *Chloraea albo-rosea* Kraenzl. ex Speg., *C. chica* Speg. ex Kraenzl., *C. cholilensis* Speg. & Kraenzl.*, *C. hookeriana* Speg. & Kraenzl.*, *C. hystrix* Speg. & Kraenzl., *C. phoenicea*, *C. pleistodactyla* Kraenzl. & Speg., *C. praecincta* Speg. & Kraenzl., *Epidendrum argentinense*, *Pleurothallis aurantio-lateritia*, *Restrepia cogniauxiana* Speg. & Kraenzl. Total (11).

OXALIDACEAE. Species (4): *Oxalis chubutensis* Speg. ex R. Knuth, *O. nahuelhuapiensis*, *O. patagonica*, *O. stenophylla*. Infraspecific taxa (1): *Oxalis valdiviensis* var. *humilis*. Total (5).

Table 2. Continued.

PHYTOLACCACEAE. Species (1): *Seguieria guaranitica*. Total (1).

PLANTAGINACEAE. Species (4): *Plantago carrenleofuensis*, *P. oxyphylla*, *P. pulvinata*, *P. tehuelcha*. Infraspecific taxa (10): *Plantago macrostachys* var. *subandina*, *P. maritima* var. *macrophylla*, *P. maritima* var. *pauciflora*, *P. myosuros* var. *hirta*, *P. myosuros* var. *latifolia*, *P. myosuros* var. *taraxacoides*, *P. patagonica* var. *gracilescens*, *P. patagonica* var. *minuscula*, *P. patagonica* var. *typica* nom. inval., *P. pauciflora* var. *taraxacoides*. Total (14).

PLUMBAGINACEAE. Species (1): *Statice patagonica*. Total (1).

POACEAE. Species (102): *Agrostis eremophila*, *A. kufuim*, *A. moyanoi*, *A. pyrogea*, *A. santacruzensis*, *A. tehuelcha*, *Andropogon agrostoides*, *Aristida pampeana*, *Atropis battandieri*, *Calamagrostis fuegiana*, *C. modesta*, *C. suka*, *Cortaderia dioica* (Spreng.) Speg. comb. nov., *Cryptochloris spatacea* nom. nud., *Deyeuxia ameghinoi*, *D. freticola*, *D. patagonica*, *Elymus chubutensis*, *E. leptostachyus*, *E. patagonicus*, *Festuca chubutensis*, *F. pampeana*, *F. pyrogea*, *F. shuka*, *F. ventanicola*, *Glyceria antarctica*, *G. fuegiana*, *G. leptostachys*, *Lappago oplismenoides*, *Leptocoryphium penicilligerum*, *Milium juncoides*, *Monanthochloe australis*, *Oplismenus oplismenoides* (Speg.) Speg. comb. nov., *Oryzopsis bicolor* (Vahl) Speg. comb. nov., *O. grisebachii*, *O. hackelii* (Arechav.) Speg. comb. nov., *O. lasiantha* (Griseb.) Speg. comb. nov., *O. lejocarpa*, *O. lejopoda*, *O. napostaensis*, *O. ovata*, *O. panicoides* (Lam.) Speg. comb. nov., *O. ruprechtiana* (E. Desv.) Speg. comb. nov., *O. stipoides* (Trin. & Rupr.) Speg. comb. nov., *O. tuberculata* (E. Desv.) Speg. comb. nov., *O. uruguayensis* (Griseb.) Speg. comb. nov., *O. verrucosa* (Phil.) Speg. comb. nov., *O. verruculosa*, *Panicum bambusoides* Speg. ex Arechav. hom. illeg., *P. guaraniticum*, *Poa argentina*, *P. chubutensis*, *P. erinacea*, *P. pungionifolia*, *P. yaganica*, *Savastana antarctica* (Labill.) Speg. comb. nov., *Spartina patagonica*, *Stipa ambigua*, *S. ameghinoi*, *S. arcaensis*, *S. arechavaletae*, *S. argentina*, *S. argentinensis*, *S. bavioensis*, *S. brachychaetoides*, *S. cacheutensis*, *S. caespitosa* (Griseb.) Speg. comb. nov., *S. calchaquia*, *S. chubutensis*, *S. cordobensis*, *S. curamalalensis*, *S. dasyantha*, *S. dasycnemis*, *S. gracilis*, *S. hypsophila*, *S. hystericina*, *S. jujuyensis*, *S. juncoides*, *S. leptothera*, *S. ligularis* (Griseb.) Speg. comb. nov., *S. molfinoi*, *S. nana*, *S. nubicola*, *S. oreophila*, *S. pampagrandensis*, *S. pampeana*, *S. paramilloensis*, *S. patagonica*, *S. perrigida*, *S. plagiostephana*, *S. psittacorum*, *S. psylantha*, *S. puelches*, *S. sanluisensis*, *S. scirpea* Speg. emend. Roig, *S. sublaevis*, *S. tehuelches*, *S. torquata*, *S. uruguaycola*, *S. uspallatensis*, *Triticum fuegianum*, *T. magellanicum* (Desv.) Speg. comb. nov. Infraspecific taxa (75): *Agrostis airoides* var. *flaccidifolia*, *A. moyanoi* var. *major*, *A. moyanoi* var. *plicatifolia*, *A. moyanoi* var. *puberigluma*, *Bromidium andinus* var. *scabrivalvus*, *Bromus andinus* var. *scabrivalvus*, *B. coloratus* var. *vivipara*, *B. unioloides* var. *hirsuta*, *B. unioloides* var. *humilis* hom. illeg., *B. unioloides* var. *micrantha*, *B. unioloides* var. *rupestris*, *Cortaderia quila* var. *patagonica*, *Danthonia picta* var. *patagonica*, *Deyeuxia hygrometrica* var. *tandilensis* (Kuntze) Speg. comb. nov., *Festuca erecta* var. *cirrosa*, *F. gracillima* var. *brevifolia*, *F. gracillima* var. *patagonica*, *F. myuros* var. *muralis* Kunth ex Speg., *Hierochloe redolens* var. *major*, *Hordeum murinum* var. *velutina*, *Oryzopsis bicolor* var. *major*, *O. bicolor* var. *media*, *O. bicolor* var. *minor*, *O. lejocarpa* var. *major*, *O. montevidensis* f. *brasiliensis*, *O. montevidensis* f. *trachycarpa*, *O. montevidensis* f. *typica*, *O. napostaensis* var. *brachyphylla*, *O. napostaensis* var. *brachysperma*, *O. napostaensis* var. *macrophylla*, *O. napostaensis* var. *typica*, *Poa bergii* var. *chubutensis*, *P. lanuginosa* var. *elata*, *P. scaberula* var. *gracillima*, *Polypogon elongatus* var. *patagonica*, *Stipa bavioensis* var. *minor*, *S. brachychaeta* var. *major*, *S. brachychaeta* var. *minor*, *S. caespitosa* var. *elata*, *S. caespitosa* var. *subelata*, *S. caespitosa* var. *subtypica*, *S. caespitosa* var. *typica*, *S. clarazii* var. *bulbosa*, *S. clarazii* var. *typica* nom. inval., *S. filiculmis* var. *major*, *S. filiculmis* var. *minor*, *S. humilis* var. *major*, *S. humilis* var. *minor*, *S. manicata* var. *latifolia* (Hack. & Arechav.) Speg. comb. nov, *S. manicata* var. *media*, *S. manicata* var. *typica* nom. inval., *S. megapotamia* var. *juncoides* (Speg.) Speg. comb. nov., *S. megapotamia* var. *typica* nom. inval., *S. papposa* var. *major*, *S. papposa* var. *minor*, *S. plumosa* var. *gracilis*, *S. plumosa* var. *media*, *S. plumosa* var. *micrura*, *S. setigera* var. *hispidula*, *S. setigera* f. *pallida*, *S. setigera* f. *purpurascens*, *S. setigera* f. *versicolor*, *S. speciosa* f. *major*, *S. speciosa* var. *minor*, *S. tenuis* var. *argentina* (Speg.) Speg. comb. nov., *S. tenuis* var. *typica*, *S. tenuissima* var. *oreophila* (Speg.) Speg. comb. nov., *S. tenuissima* var. *planicola*, *Triticum fuegianum* var. *patagonicum*, *T. magellanicum* var. *condensata* (J. Presl.) Speg. comb. nov., *T. magellanicum* var. *festucoides*, *T. magellanicum* var. *glabrivalva*, *T. magellanicum* var. *lasiopoda*, *T. magellanicum* var. *pubiflora* (Steud.) Speg. comb. nov., *T. magellanicum* var. *secunda* (J. Presl.) Speg. comb. nov. Total (177).

POLEMONIACEAE. Species (3): *Collomia chubutensis*, *C. patagonica*, *Gilia patagonica*. Infraspecific taxa (4): *Gillia gracilis* subvar. *spathulifolia*, *Navarretia involucrata* var. *pumila*, *N. involucrata* var. *trichophylla*, *Polemonium antarcticum* f. *violascens**. Total (7).

POLYGALACEAE. Species (6): *Acanthocladus moyanoi*, *A. tehuelchum*, *Polygala moyanoi* (Speg.) Speg. comb. nov., *P. oedipus*, *P. pamparum*, *P. tehuelchum* (Speg.) Speg. comb. nov. Total (6).

POLYGONACEAE. Species (3): *Coccoloba argentinensis*, *Eriogonum ameghinoi*, *E. bonaerense*. Infraspecific taxa (1): *Polygonum spectabile* var. *patagonica*. Total (4).

PORTULACACEAE. Species (8): *Calandrinia chubutensis*, *C. macrocarpa*, *C. patagonica*, *Portulaca amilis*, *P. cryptopetala*, *P. platensis*, *P. rosae*, *Talinum paraguayense*. Infraspecific taxa (3): *Portulaca cryptopetala* f. *phenopetala*, *P. oleracea* var. *macrantha**, *P. oleracea* var. *micrantha**. Total (11).

Table 2. Continued.

RANUNCULACEAE. Species (6): *Anemone myriophylla, Myosurus patagonicus, Ranunculus bovei, Ranunculus fuegianus, R. oligocarpus* hom. illeg., *R. potamogetonoides.* Infraspecific taxa (6): *Caltha sagittata* f. *latifolia, C. sagittata* f. *typica, Myosurus aristatus* var. *brachypoda, M. aristatus* var. *gracilis, Ranunculus bovei* var. *potamogetonoides* (Speg.) Speg. comb. nov., *R. peduncularis* var. *alboffiana.* Total (12).

RHAMNACEAE. Species (4): *Discaria andina*, D. cognata* (Miers.) Speg. comb. illeg., *D. foliosa* (Hook. & Arn.) Speg. comb. illeg., *D. integrifolia.* Infraspecific taxa (4): *Colletia ferox* var. *puberula, Condalia lineata* var. *erythrocarpa, C. lineata* var. *melanocarpa, C. lineata* var. *xanthocarpa.* Total (8).

ROSACEAE. Species (10): *Acaena platyacantha, A. tehuelcha, Fragaria pampeana, Margyricarpus acanthocarpus, M. ameghinoi, M. niederleinii, M. patagonicus, Prunus argentinensis, Tetraglochin acanthocarpum* (Speg.) Speg. comb. nov., *T. ameghinoi* (Speg.) Speg. comb. nov. Infraspecific taxa (12): *Acaena multifida* var. *glaberrima, A. pinnatifida* var. *glabrata, A. platyacantha* f. *elata, A. platyacantha* var. *parvifolia, A. platyacantha* f. *typica, A. platyacantha* f. *villosa, Margyricarpus setosus* var. *patagonica, Tetraglochin acanthocarpum* var. *dasycarpa, T. acanthocarpum* var. *lasiocarpa, T. acanthocarpum* var. *leiocarpum, T. acanthocarpum* var. *macropoda, T. acanthocarpum* var. *typica* nom. inval. Total (22).

RUBIACEAE. Species (1): *Oreopolus patagonicus.* Infraspecific taxa (1): *Galium aparine* var. *pseudoaparine* (Griseb.) Speg. comb. nov. Total (2).

SAMYDACEAE. Genera (1): *Arechavaletaia.* Species (1): *Arechavaletaia uruguayensis.* Total (2).

SANTALACEAE. Species (2): *Acanthosyris platensis, Arjona ameghinoi.* Infraspecific taxa (4): *Arjona patagonica* var. *tandilensis* (Kuntze) Speg. comb. nov., *Quinchamalium chilense* var. *gracile* (Brongn.) Speg. comb. nov., *Q. chilense* var. *majus* (Brongn.) Speg. comb. nov., *Q. chilense* var. *patagonicum* (Berg.) Speg. comb. nov. Total (6).

SAPOTACEAE. Species (2): *Sideroxylon ligustrinum, S. myrtifolium* (Mart.) Speg. comb. nov. Total (2).

SAXIFRAGACEAE. Infraspecific taxa (3): *Saxifraga caespitosa* var. *pavonii, S. magellanica* var. *trilobata, S. trigyna* var. *patagonica.* Total (3).

SCROPHULARIACEAE. Infraspecific taxa (2): *Calceolaria bellidifolia* var. *angustifolia, C. lanceolata* var. *glabrata.* Total (2).

SIMAROUBACEAE. Species (1): *Picrasma palo-amargo.* Total (1).

SOLANACEAE. Genera (3): *Benthamiella, Pantacantha, Saccardophytum.* Species (27): *Benthamiella acutifolia, B. azorelloides, B. longifolia, B. patagonica, B. pycnophylloides, Fabiana patagonica, Grabowskia ameghinoi* (Speg.) Speg. comb. nov., *G. megalosperma, Himeranthus ameghinoi, H. patagonicus, Jaborosa desiderata, J. leptophylla, J. oxipetala, Lycium acanthocladium, L. ameghinoi, L. halophilum, L. lasiopetalum, L. repens, Nicotiana acaulis, N. ameghinoi, N. deserticola, N. sylvestris* Speg. & Comes, *Nierembergia patagonica, Pantacantha ameghinoi, Saccardophyton pycnophylloides, Solanum sidifolium, Trechonaetes leucotricha.* Infraspecific taxa (7): *Fabiana patagonica* var. *brachyloba, F. patagonica* var. *foliosa, F. patagonica* var. *gracilis, F. patagonica* var. *nana, F. patagonica* var. *typica* nom. inval., *Nicotiana alpina* var. *deserticola, N. alpina* var. *patagonica.* Total (37).

TROPAEOLACEAE. Species (1): *Tropaeolum patagonicum.* Infraspecific taxa (1): *Tropaeolum polyphyllum* var. *incisum.* Total (2).

VALERIANACEAE. Species (7): *Phyllactis carnosa, P. clarionifolia* (Phil.) Speg. comb. nov., *P. regularis, P. salicariaefolia* (Vahl) Speg. comb. nov., *Valeriana bonariensis, V. chubutensis, V. moyanoi.* Infraspecific taxa (3): *Phyllactis macrorhiza* var. *pumila, P. magellanica* var. *azorelloides, Plectritis samolifolia* var. *pusilla.* Total (10).

VERBENACEAE. Genera (1): *Monopyrena.* Species (15): *Lippia darwinii* (Benth. & Hook. f.) Speg. comb. nov., *Monopyrena serpyllifolia, Verbena ameghinoi, V. aurantiaca, V. azorelloides, V. carro, V. chubutensis, V. macrosperma, V. mulinoides, V. nubigena, V. patagonica, V. serpyllifolia* (Speg.) Speg. comb. nov., *V. silvestrii, V. struthionum, V. tandilensis.* Infraspecific taxa (3): *Verbena crithmifolia* var. *latiloba, V. flava* var. *angustiloba, V. flava* var. *latiloba.* Total (19).

VIOLACEAE. Species (1): *Viola argentinensis.* Infraspecific taxa (5): *Viola maculata* f. *calliantha, V. maculata* var. *tenuifolia, V. microphylla* f. *fimbriata, V. microphylla* f. *macropoda, V. microphylla* f. *micropoda.* Total (6).

ZYGOPHYLLACEAE. Species (1): *Larrea ameghinoi.* Total (1).

LYCOPODIACEAE. Infraspecific taxa (1): *Lycopodium scariosum* var. *patagonicum.* Total (1).

OPHIOGLOSSACEAE. Infraspecific taxa (1): *Botrychium lunaria* var. *antarctica.* Total (1).

Total: 33 genera; 696 species; 386 infraspecific taxa. TOTAL TAXA: 1115.

tinian journals as *Anales de la Sociedad Científica Argentina, Comunicaciones del Museo Nacional de Buenos Aires, Physis,* and *Revista de la Facultad de Agronomía de la Universidad Nacional de La Plata.* There are two papers listing all of Spegazzini's publications: one ranges from 1878 to 1919 (Scala, 1919) and the other from 1919 to 1926 (Molfino, 1929). The subjects of Spegazzini's publications are diverse: algae, fungi, vascular plants, anthropology, zoology, and medicine. His work on vascular plants

deals with agriculture, floristics, morphology, paleobotany, phytochemistry, phytopathology, taxonomy, botanical travels, and xylology.

Although his taxonomic work on vascular plants covers numerous families, he had a special interest in Cactaceae (Senet, 1926; Kiesling, 1984), Fabaceae, Orchidaceae, and Poaceae. As mentioned by Hauman (1923), his publications of new taxa have been subject to criticism because many of them were based on taxa already described by other botanists. Table 2 shows a total of more than 1000 names at the rank of genus, species, variety, subvariety, and form listed as Spegazzini new names in *Index Kewensis* (Anonymous, 1997) and the Gray Card Index Database. Relevant literature (Zuloaga et al., 1994; Zuloaga & Morrone, 1996, 1999a, b) has been consulted for determining the current status of these names. As a consequence, some of them resulted in illegitimate or invalid names, or illegitimate, superfluous, or new combinations. A more detailed analysis of the vascular plant names published by Carlos Spegazzini will be obtained with the production of the type specimens catalogue (Katinas et al., in prep.).

Carlos Spegazzini made some local floristic studies, mainly within the Province of Buenos Aires, such as in La Plata city, and in the mountain ranges of Tandil and Ventana. Although he started the first floristic study of the flora of the whole Buenos Aires Province, he did not finish this work.

Most of his travel accounts were first written as reports for his sponsoring institution, and then usually published in contemporary journals. His accounts of the trips were thorough and amusing, with plenty of details ranging from his salary to the phytogeography of the area. When he died, many publications remained unfinished, e.g., a new issue of *Revista Argentina de Botánica*, iconographies of the family Commelinaceae in Argentina, a monograph of the genus *Prosopis* (Fabaceae), a work on the genus *Senecio* (Asteraceae), a flora of Patagonia, and a catalogue of the vascular plants of Argentina with their scientific and vernacular names, including the Indian names (Senet, 1926).

Carlos Spegazzini was a hard worker who published practically every year of his scientific life, with 1925 being his most productive (with 20 papers), just one year before his death.

The Legacy

Carlos Luis Spegazzini was an influential force in the botanical community of Argentina. As a professor he nurtured enthusiasm and dedication among his students, extending his influence beyond botanical instruction and encouragement. Inspired by his knowledge of agriculture, he helped to solve many serious pest problems in Argentina. Moreover, Spegazzini's fascination with Patagonia led him to the creation of one of the most interesting and complete collections of vascular plants of this part of the world. His herbarium of vascular plants constitutes a fundamental witness to the past vegetation of Argentina, a valuable source of information that contributes to portraying the present-day loss of biodiversity. His work has been pivotal in awakening botanical science in Argentina and a general consciousness of the significance of plant and fungal systematics. Those in the botanical community who knew Carlos Spegazzini emphasized his clear judgment, accessibility, and sense of duty. The Institute and Arboretum in La Plata, his lectures, his publications, and prolific herbaria form the backbone of the legacy of Carlos Spegazzini, an Italian botanist who loved Argentina as his own country.

Literature Cited

Anonymous. 1925. Movimiento social. Physis (Buenos Aires) 7: 135–138.

———. 1930. Inauguración del Museo Spegazzini. Revista del Museo de La Plata 32: 387–394.

———. 1997. Index Kewensis on CD-Rom, version 2.0 for Windows. Oxford Univ. Press, Oxford.

Arambarri, A. N. & H. A. Spinedi. 1996. Carlos Luis Spegazzini: Micólogo. Revista Museo (Argentina) 2: 15–17.

Del Vitto, A., E. M. Petenatti & M. N. Correa. 1998. Evolución del conocimiento botánico de la Patagonia Argentina. Pp. 167–265 *in* M. N. Correa (dir.), Flora Patagónica, Vol. 8. INTA, Buenos Aires, Argentina.

Hauman, L. 1923. La obra botánica del Dr. Carlos Spegazzini. Physis (Buenos Aires) 6: 303–308.

Holmgren, P. K., N. H. Holmgren & L. C. Barnett (Editors). 1990. Index Herbariorum. Part I, The Herbaria of the World, 8 ed. Regnum Veg. 120.

Hosseus, C. C. 1915. Algunas plantas de Cabo Raso (Chubut). Physis (Buenos Aires) 1: 534–540.

Kiesling, R. 1984. Recopilación, en edición facsimilar, de todos los trabajos o referencias sobre Cactaceas publicadas por el Dr. Carlos Spegazzini. Librosur ediciones, Quilmes, Buenos Aires, Argentina.

———. 1994. Historia del conocimiento de la flora sanjuanina. Pp. 8–15 *in* R. Kiesling (editor), Flora de San Juan, Vol. 1. Vázquez Mazzini Editores, Buenos Aires, Argentina.

Lazzari, G. 1973. Storia della Micologia Italiana. Ed. Arti Grafiche Saturnia S. A. S., Trento, Italia.

———. 1929. Carlos Spegazzini: Su vida y su obra. Anales Soc. Ci. Argent. 108: 7–81.

———. 1951. Semblanza del doctor Carlos Spegazzini. Comun. Ci. Mus. La Plata 2: 1–6.

Moore, D. M. 1983. Flora of Tierra del Fuego. Antony Nelson, Shropshire, England, and Missouri Botanical Garden, St. Louis, U.S.A.

Parodi, L. R. 1961. Ciento cincuenta años de Botánica en la República Argentina. Bol. Soc. Argent. Bot. 11: 1–68.

Ragonese, A. 1986. Desarrollo de los estudios botánicos e investigaciones sobre pastizales naturales en la República Argentina. Ed. Libro del Centenario, Buenos Aires, Argentina.

Ringuelet, E. J. 1960. Bosquejo histórico de los naturalistas extranjeros en Argentina. Boletín del Laboratorio de Botánica, Facultad de Agronomía, Universidad Nacional de La Plata 4: 3–67.

Scala, A. C. 1919. La labor científica del doctor Carlos Spegazzini. Anales Soc. Ci. Argent. 88: 231–237.

Senet, R. 1926. La labor del doctor Carlos Spegazzini. Diario La Prensa, edición del 1° de agosto, Buenos Aires, Argentina.

Spegazzini, C. L. 1880. Plantae argentinae novae vel criticae. Anales Soc. Ci. Argent. 10: 209–223.

———. 1883a. Plantae novae nonnullae Americae australis. Anales Soc. Ci. Argent. 16: 1–16.

———. 1883b. Relazione preliminare sulle collezioni botaniche fatte in Patagonia e nella Terra del Fuoco. Pp. 3–16 *in* S. Bove, Rapporto, Genova, Italia.

———. 1884a. Costumbres de los Patagones. Anales Soc. Ci. Argent. 17: 221–240.

———. 1884b. Las lenguas de la Tierra del Fuego. Anales Soc. Ci. Argent. 18: 3–16.

———. 1895a. El polvillo de la caña de azúcar en Tucumán. Revista Azucarera (Buenos Aires) 16: 5–29.

———. 1895b. Una nueva enfermedad de las peras. Revista Fac. Agron. Univ. Nac. La Plata 1: 1–13.

———. 1896. Plantae per Fuegiam a Carolo Spegazzini anno 1882 collectae. Anales Mus. Nac. Hist. Nat. Buenos Aires 5: 39–104.

———. 1897a. Contribución al estudio de la Flora de la Sierra de la Ventana. Revista Fac. Agron. Univ. Nac. La Plata 32/33: 591–633.

———. 1897b. Plantae Patagoniae australis. Revista Fac. Agron. Univ. Nac. La Plata 30/31: 485–589.

———. 1897c. Primitiae Florae Chubutensis. Revista Fac. Agron. Univ. Nac. La Plata 32/33: 591–633.

———. 1897d. Plantae novae nonnullae Americae Australis. I. Comun. Mus. Nac. Buenos Aires 2: 46–55.

———. 1898. Sobre una nueva enfermedad del tabaco. Oficina Químico-Agrícola de la provincia de Buenos Aires 4: 3–14.

———. 1899a. Nova Addenda ad Floram Patagonicam. Anales Mus. Nac. Hist. Nat. Buenos Aires 1: 44–59.

———. 1899b. Plantae novae nonnullae Americae Australis. II. Comun. Mus. Nac. Buenos Aires 1: 81–90.

———. 1901a. Contribución al estudio de la flora del Tandil. Ed. Sessé, Larrañaga y Renovales, La Plata y Buenos Aires, Argentina.

———. 1901b. Stipeae platenses. Anales Mus. Nac. Montevideo 19: 1–56.

———. 1901c. Nova Addenda ad Floram Patagonicam. I. Imprenta y Casa Editora de Coni Hermanos, Buenos Aires, Argentina.

———. 1901d. Plantae novae nonnullae Americae Australis. III. Comun. Mus. Nac. Buenos Aires 1: 312–324, 343–350.

———. 1902a. Nova Addenda ad Floram Patagonicam. II. Anales Mus. Nac. Hist. Nat. Buenos Aires 3/4: 135–308.

———. 1902b. Nova Addenda ad Floram Patagonicam. II. Anales Soc. Ci. Argent. 30: 13–18, 136–144, 166–185, 275–291.

———. 1902c. Nova Addenda ad Floram Patagonicam. III. Anales Mus. Nac. Hist. Nat. Buenos Aires 7: 135–308.

———. 1905. Flora de la provincia de Buenos Aires. Anales del Ministerio de Agricultura, Sección Biología Vegetal 1: 1–161.

———. 1909. Al través de Misiones. Revista Fac. Agron. Univ. Nac. La Plata 5: 9–95.

———. 1914a. Sobre algunas parásitas fanerogámicas de la República Argentina. Anales Soc. Ci. Argent. 77: 3–8.

———. 1914b. Notas y apuntes sobre plantas venenosas para los ganados. Anales Soc. Ci. Argent. 77: 159–164.

———. 1914c. La verdenasquina, nueva variedad de caucho. Anales Soc. Ci. Argent. 78: 71–73.

———. 1916a. Una nueva especie de Cachiyuyo del Perú. Physis (Buenos Aires) 2: 241–244.

———. 1916b. Aceitunas de manantial (*Nostoc pruniforme* C. A. Agard var. *andicola* Speg. n. var.). Physis (Buenos Aires) 2: 282–283.

———. 1916c. Algunas Orquidáceas argentinas. Anales Mus. Nac. Hist. Nat. Buenos Aires 28: 131–140.

———. 1917a. Ramillete de plantas argentinas nuevas o interesantes. Physis (Buenos Aires) 3: 37–47.

———. 1917b. Ramillete de plantas argentinas nuevas o interesantes (continuación). Physis (Buenos Aires) 3: 155–179.

———. 1917c. Ramillete de plantas argentinas nuevas o interesantes (conclusión). Physis (Buenos Aires) 3: 325–351.

———. 1917d. Espigando en el herbario. Imprenta y Casa Editora de Coni Hermanos, Buenos Aires, Argentina.

———. 1921a. Plantas nuevas o interesantes. Imprenta y Casa Editora de Coni Hermanos, Buenos Aires, Argentina.

———. 1921b. Sobre algunas enfermedades y hongos que afectan a las plantas de "agrios" en Paraguay. Imprenta y Casa Editora de Coni Hermanos, Buenos Aires, Argentina.

———. 1923a. Fitoadémonas. Physis (Buenos Aires) 6: 325–327.

———. 1923b. Nota sobre Alpa-Sandia. Physis (Buenos Aires) 7: 135–138.

———. 1923c. Acácieas Argentinas. Bol. Acad. Nac. Ci. 27: 162–334.

———. 1924. Relación de un paseo hasta el Cabo de Hoorn. Bol. Acad. Nac. Ci. 27: 26–404.

———. 1925a. Stipeae platenses novae v. criticae. Revista Argent. Bot. 1: 9–51.

———. 1925b. Calliandras Argentinas. Revista Argent. Bot. 1: 180–199.

———. 1926. Ramillete patagónico. Revista Argent. Bot. 1: 111–117.

Stafleu, F. A. & R. S. Cowan. 1985. Taxonomic Literature. Vol. 5, pp. 776–785. Bohn, Scheltema and Holkema, Utrecht.

Stearn, W. T. 1996. Botanical Latin. Timber Press, Portland, Oregon.

Venturi, S. 1925. Supercherías Spegazzinianas, o palos y más palos. Miguel Violetto y Cia., Tucumán, Argentina.

Zuloaga, F. O. & O. Morrone (Editors). 1996. Catálogo de las plantas vasculares de la República Argentina. I. Pteridophyta, Gymnospermae y Angiospermae (Monocotyledoneae). Monogr. Syst. Bot. Missouri Bot. Gard. 60: 1–323.

——— & ——— (Editors). 1999a. Catálogo de las plantas vasculares de la República Argentina. II. Acanthaceae–Euphorbiaceae (Dicotyledoneae). Monogr. Syst. Bot. Missouri Bot. Gard. 74: 1–621.