Rev. Biol. Trop., 23(2): 137-153, 1975

An unpublished letter from La Gasca to De Candolle

by

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(Received for publication October 1, 1973)

ABSTRACT: A letter in Latin from Mariano La Gasca to A. P. De Candolle is presented in English and Spanish translations. La Gasca, whose bicentennial will be celebrated in 1976, was a patriot and one of the most important Spanish botanists of the early XIX Century. He played a significant role in the development of the classification of the Umbelliferae; the letter, dealing mainly with this subject, was written from London during his years in exile, and came to light among specimens of Umbelliferae loaned to the senior author by the Conservatoire de Botanique, Genève.

Included with specimens received on loan from the Conservatoire de Botanique, Genève, by the senior author when he was studying certain South American Umbelliferae some years ago, was a crude hand-colored drawing of *Pozoa coriacea* Lag. accompanied by a letter in Latin from its author to A. P. De Candolle (11). This was the second time the name of La Gasca had come forcibly to our attention: the first time was as describer of the genus *Eriophyllum* (Compositae: Helenieae (7). We were unsuccessful in finding any biographical account of La Gasca in English, and thereupon conceived the project of translating the letter, together with a brief account of this Spanish botanist, whose abbreviated designation as "Lag." is a familiar one in American botanical literature, but about whom we found ourselves to be profoundly ignorant. The letter (Fig. 1) was translated by the junior author with the gratefully acknowledged assistance of Prof. Clara Cornelli of the University of Costa Rica. At a later date, the senior author made his own rough translations of La Gasca's rather extensive and important writings concerning Umbelliferae.

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LA GASCA

Mariano La Gasca y Segura (Fig. 2), the most important Spanish botanist, after Cavanilles, of the first half of the Nineteenth Century, was born in the village of Encinacorva, in the old kingdom of Aragón, in 1776. Although his landowning parents were determined that he follow a career in the Church, he early developed an overwhelming enthusiasm for natural history and decided instead to pursue a career in medicine, even without the benefits of family assistance. Under these circumstances he was fortunate in obtaining the patronage of others (plus some secret assistance from his mother) while furthering his preparatory and medical education at Tarragona, Zaragoza, Valencia, and finally Madrid.

When Antonio José Cavanilles was named Director and First Professor of Botany in the Botanical Garden of Madrid in 1801, he found places for La Gasca and José Demetrio Rodríguez as aides on his staff. Here La Gasca and such young contemporaries as Rodríguez, Simón Rojas Clemente, and Donato García now had an opportunity to continue their already extensive field work and to begin publication on the inadequately known native flora of Spain, including cryptogams, as well as exotic plants. After the premature death of Cavanilles three years later, Francisco Antonio Zea was appointed to occupy the professorial chair. La Gasca became Vice-professor in the Botanical Garden and in 1807 was elevated to the position of Professor of Medical Botany. He successfully conducted a course of lectures, published a botanical textbook, and proceeded actively to gather material for the eventual production of a comprehensive *Flora Española,* which remained his lifelong but tragically unfulfilled objective.

This promising career was cruelly interrupted by the spread of the Napoleonic wars and the French invasion of the Iberian Peninsula in 1808. Although invited to collaborate with the puppet Bonapartist government (to whom he had been favorably recommended by Alexander von Humboldt), La Gasca patriotically chose instead to serve the loyalist cause in his capacity of physician. Even during the period of hostilities, he found occasion to add to his rich herbarium collections and to publish the first number of his *Amenidades* (6), in which he included an important treatise on Spanish agriculture and a monographic treatment of the mutisioid Compositae. As a medical man, he correctly identified the invading yellow fever, which came to southern Spain as one of the ravages of war, and published several essays with regard to it. At the end of the war, La Gasca was named Professor and Director of the Botanical Garden of Madrid, and resumed an active and productive career, continuing his studies in taxonomic and applied botany. Although he would seem to have had his hands full with his instructional, administrative, and scientific responsibilities, as an unselfish and patriotic citizen he accepted election to the chief legislative body of Spain, the strongly liberal *Cortes* of 1822 and 1823. This proved to be his undoing as a productive scientist.

After the French-aided absolutist reaction of 1823, the members of the

Cortes were forced to flee from Madrid to Cádiz. The fugitives narrowly escaped being massacred in Sevilla only by abandoning all their equipment, which was first pillaged by mobs and then burned or thrown into the river. La Gasca lost all his possessions, but managed to escape to England by way of Gibraltar. In London he was warmly befriended by such leading botanists as Lambert, Robert Brown, William Anderson, James E. Smith, Lindley, Bentham, David Don, and Webb, to the undying gratitude of the unfortunate Spaniard. The Austrian botanist Schultes, who encountered him in Lambert's apartment, thus describes him in a letter to Sternberg: "Poor Lagasca! he had not only lost all his domestic happiness, (his wife and five children being in Cádiz) and his fortune; but also his great herbarium; the manuscript of his Flora of Spain, on which he had been employed for more than twenty years, and which was ready to be printed; even the manuscript of his Monograph of the *Cerealia,* with the dried specimens belonging to it, on which he had laboured at Seville and there completed it, —all, all were destroyed! He saved nothing from the great shipwreck of that Cortes to which his talents and virtue had raised him, but his own life. Far from his beautiful country, and from his beloved relations, he now lives in the foggy and expensive London, where he participates in the afflictions of so many of his worthy and exiled countrymen!" (4). This account dates from the same year as the attached letter.

Through the influence of botanical friends La Gasca was enabled to obtain modest employment and eventually to bring his family to Britain to join him. He resumed botanical studies and local collecting with his customary vigor, and cultivated cereals and Umbelliferae at Chelsea Garden, through the courtesy of Anderson. Various proposed editorial assignments failed to materialize because of his faulty command of English; nor did he pursue Smith's recommendation that he accept appointment to a botanical professorship in a university in the United States! La Gasca wrote numerous articles in emigré publications, including his third version of a monograph of Umbelliferae. He also dealt with the state of Spanish agriculture in *The Gardener's Magazine* (8) and translated and revised de Candolle's *Éléments de Botanique.* Failing health and the London climate, however, finally forced him to move to the milder Isle of Jersey.

After eleven years of exile, an amnesty permitted La Gasca to return to Spain in 1834 and to procure materials for the botanical garden. This he accomplished by visiting Paris, where he was fêted by his French correspondents, and Barcelona, where he stayed for a month among old friends. In Madrid he resumed his professorship and once again took up his teaching. His hopes of restoring and improving the now delapidated garden and of resuming his work on the flora of Spain were destined to be thwarted by the legacy of bitter factionalism and governmental financial instability that continued to plague his country. A rare consolation was the establishment of a Museum of Natural History in Madrid, of which he was chosen Dean and President by his colleagues. He was also awarded the Order of Isabella the Catholic for his scientific accomplishments. By this time, also, he had been honored by election to member-

ship in most of the appropriate cultural and scientific societies of Europe. But declining health forced him to seek refuge in Barcelona, where he died in 1839 at the age of sixty-three. The Academy of Barcelona held two memorial services for him and voted to erect a monument to his memory as a token of the esteem in which he was held by his colleagues (Fig. 3). He was survived by his widow, Doña Antonia Carrasco, and by two sons.

COLMEIRO (3) summed up his career as follows: "La Gasca, digno sucesor de Cavanilles, fue el primer botánico de nuestro siglo y el único que durante muchos años sostuvo en el mundo científico el honor de la Botánica española".

THE LETTER

"To the most illustrious A. P. de Candolle S. P.

"Most illustrious and dearest Sir: It gladdens me greatly to know you are well; I, on the contrary, have had poor health; still, I shall perhaps be well at the last, providing my beloved homeland achieve its freedom.

"Your most excellent work, *Cinquième Mémoire sur la Famille des Ombellifères* (2) I received with the greatest joy, and I thank you for this gift; yet I had already purchased it and read it avidly. Much you have accomplished, still, if I am not mistaken, more remains to be done; the task is certainly difficult! And it is the more amazing that you, being weighed down with so many affairs, have been able to complete it in so short a time. I thought I had sent you a specimen of *Pozoa coriacea*[1], but as you have none, I am sending you a colored drawing; the artist, to be sure, loves to make colored drawings, yet I should not like to eat specimens dry like the drawings. Besides, I am sending brief descriptions of species of this genus mentioned in my opuscle on Umbelliferae and not described therein, and two others seen by me in London (11). Most of them, whose petals I had not seen in Madrid, belong to *Asteriscium* Chamisso & Schlecht., and I placed them under section 2. In fruit they agree completely, although in *Asteriscium* the sides are more convergent and consequently the commissure is narrower than in the true *Pozoa;* in *Asteriscium* there are no true emarginate petals[2], but they are pseudo-emarginate on account of the inflexed tip: hence, in my opinion, these two genera, providing they are held separate, are distinguished as much by the presence or absence of callus and by the features of the petal tip as by the characters of the fructifications.

"You separate *Daucus* from *Caucalis*[3] on the shape of the cleft albumen[4], and divide the caucales into three genera like Koch and Hoffmann, but suppressing *Platyspermum*[5]. I confess such a division pleases me little; in fact, as far back as 1806 I first of all examined *Caucalis* and *Daucus* carefully lest I make a mistake, and I thought their features[6] gave no definite limits on which to distinguish genera; and I still think so, for the reasons published in the London opuscle *Observaciones sobre las Aparasoladas,* p. 30[7]. This was particularly because I had rejected the shape of the albumen from the chosen[7] generic characters for, once accepted, *pour être conséquents avec nous même,* it

would be necessary to accept it for all genera, and then I believed it seemed to disrupt natural affinities. *Physospermum cornubiense* (*Ligusticum* Lin.) and *Physos. nudicaule* (*Smyrnium nudicaule* Marsch.-a Bieb.) differ in the shape of the albumen, yet they are considered species of the same genus. Four years ago I observed the vittae in *Heracleum*[8], and these I am convinced extend neither to the calyx, nor to the epicarp joined to the calyx, nor to the endocarp, but to the mesocarp, since there is an oily liquor before maturity in the cellular tissue, the cells at this time scarcely broken, but on ripening the cells break up and the receptacle appears properly unilocular, clavate[8]. In *Heracleum,* furthermore, [and] in other plants where the vittae resemble collars or ribbons, it must be concluded that the cells do not break up at all. In *Pleurospermum* Hoffm., where epicarp and endocarp are seen separate from each other, the external surfaces of the endocarps are touching[9]. I saw vittae, but inconstant, in *Bupleurum,* and for this I rejected them for the same reason I did not accept the shape of the albumen; perhaps I quote myself too much: my dear student Esteban Eugenio Vela urged me to include them among the generic characters; I think I also saw Cusson's vittae[10] and called them *striae.* I suspect no fruit considered evittate has oil in the cellular structure making up the mesocarp but that it forms distinct vittae.

"I am most sorry to see that you keep the chaotic genus *Hydrocotyle* undivided[11] while you have separated *Erigenia*[12]—the true Hydrocotyles have 5-costate achenes as well as stipulate leaves: while Centellas have 7-9-costate achenes; they have palaceous leaves, the stipules adnate to the petiole [and] sessile involucrate compound umbels. Besides, two other *Hydrocotyle* species conserved in Banks' Herbarium have the corolla with imbricate aestivation[13]. Adverse fortune allowed but little to be achieved from the observations on *Hydrocotyle* carried out until about 1826. I have no doubt that the species of *Caldasia* collected by D. Balth. Boldo grew in the isle of Cuba [14] (10), and I thought it agreed with *Cald. chaerophylloides;* but as in London I had no Cuban specimens at hand, I ventured to say nothing about it in the monograph sent to you.

"I offered my first opuscle on Umbelliferae to my students in 1806: it was copied by many others[15] as well as used by D. José de León in public lectures and by other public professors in Spain. Again I give you the greatest possible thanks for your kindness to me and to dear D. Steph. Vela[15], who nowadays works in commerce temporarily. But now let us pass on to other matters.

"I had already translated your work, *Théorie élém. de la Botanique* (1) in 1816 and 17, and had the drawings to illustrate it, but fate never allowed its publication — a few days ago I brought the taxonomy and the phytography to send to the printer[16] and I know not whether they will be really published. I added quite a few examples and some notes, especially to the phytography: I added a catalogue containing the nat. orders you published in vol. 3 *Prodr. Syst. nat.,* and also the ordinal characters of the Ranunculaceae as well as the characters of the genera of that same order, published by you, that they may

serve as a norm to the students: your work will be made clear by your [own] examples. The praise which you give to the famous artists Poiteau[17] and Turpin[18], I give principally to Mutis's artists[19]; witness the pictures of *Plant. Aequinoct.* and *Monogr.* of *Rhexia* and *Melastoma* selected from the plates of *Flora Bogotensis* conserved in the Madrid Garden. = I had, besides, translated the Glossology into Spanish, and planned to publish it illustrated with the drawings and examples, with the order, however, changed; that is, reducing[20] the terms pertaining to cellular plants included in the little treatise and bringing the work to a close: however, while at Gabstol[21]. I renewed the work of revising[22], six months back; I saw easily much that should be changed, especially in chapter 2 dealing with organographic terms; and other modern terms I thought should also be added. Apart from these innovations, I added many others to chap. 1, belonging to the Spanish language, as Spanish is scarcely inferior to the Latin tongue in translating botanical terms, if not a little richer. Hence it is easily seen that in place of a translation I had written a book, perhaps elementary, of my own, and for this reason [it] will be published with my name, if fate permits; but the matter will be persisted in only if your approval is expressed, lest the project proposed to you[23] should be given up; naturally[24], as though it were the general Prologue of the works published after your well-known Theory. Your dear son D. Alphonse approved, and I am anxious that you too approve. Your work is hardly elementary, it should rather be called a Philosophia Botanica.

"During the period of my convalescence from the fever, I examined the species of *Rheum* grown in the Chelsea Garden, and found many wholly new ones, and am sending you seeds of all of them.

"Farewell, most illustrious friend, and try to love me.

Yours ever obedient,

Mariano La Gasca

London, August 10, 1830
15 Johnson Street
Somniers Town

P. S. I send also a little description of *Mulinum spinescens,* written from memory six years ago."

COMMENTARY

Thus the letter is a commentary both on de Candolle's important memoir on Umbelliferae and also on his *Théorie Elémentaire.* Whatever may have been de Candolle's response to La Gasca's request to publish his modified Spanish translation of the latter work, it was destined, like so many other of La Gasca's writings, to remain unpublished.

We are particularly concerned with his remarks on Umbelliferae. La Gasca had himself published no fewer than three "systems" of Umbelliferae, but without any illusions that he had constructed a final one. "It is necessary

to disillusion oneself: there is no perfect system, no system so bad that it does not offer some advantages. All these are scaffoldings formed by human understanding in order to raise the edifice of science, and the thread of trust that leads us not to lose ourselves in the intricate labyrinth of nature, whose innumerable precincts we are intent to discover and classify by such feeble methods. Thus it is that nature frequently mocks the best combined efforts of human investigations; and thus the absolute necessity in natural history for the formation of many systems in order to get to know all objects, since experience shows that those which are not determinable by one, are customarily easily so by another" (6).

The basis for all these treatments of Umbelliferae goes back to a memoir read to the botany class at the Madrid Botanical Garden in 1806 by one of his students. However, this arrangement was not actually published until 1821, when it appeared in the guise of a dissertation by another of his students, — Esteban Vela — given under the same circumstances in 1815[15] and printed in the *Amenidades* (6). Accompanying the Vela version is a detailed discussion of La Gasca's then current views, followed by a summary key. His most complete published work on the family is his rare 43-page *Observaciones* (8) printed in London in 1826, in which he reviews the treatments of all previous authors. Of these, Cusson is accorded the greatest honor although he died with his work unpublished. La Gasca saw close parallels with his own system in the papers of SPRENGEL (12) and KOCH (5), and was understandably careful to establish his own priority. "I have made much of having been able to clarify the genera of this most difficult and little known family, although it is one of the most interesting of the vegetable kingdom. My efforts do not fill the great vacuum that all recognize as existing in this part of the science, which owes in large measure to the lack of materials, and perhaps more particularly to having taken on my weak shoulders an endeavor superior to my strength. He who for his abilities, and for having in view the greatest possible number of objects, believes himself supplied with sufficient natural fitness to bring to perfection a major enterprise, dedicates himself from that moment forward, employing in perfecting it all his forces and, if he completes it felicitously, science and human genius acknowledge so important a service and inscribe his name in the temple of immortality" (5).

We beg a little of that immortality for the ill-starred but intrepid Don Mariano La Gasca[25], as his countrymen and his colleagues prepare to celebrate the bicentennial of his birth.

TRADUCCION DE UNA CARTA DE M. LA GASCA A A.P. DE CANDOLLE

"Al ilustrísimo A. P. De Candolle S. P.

"Preclaro y amiguísimo Varón: Me alegro grandemente de saber que estás bien; yo, al contrario, he estado mal de salud; pero acabaré por curarme, con tal que mi patria amadísima alcance su libertad.

"Recibí tu muy excelente trabajo, *Cinquième Mémoire sur la famille des Ombellifères* (2) con la mayor alegría, y te agradezco este obsequio, aunque ya lo había comprado y leído con avidez. Mucho has realizado, aunque si no me equivoco, queda mucho por hacer: ¡la tarea es bien difícil! Y es tanto más asombroso que tú, agobiado con tantos asuntos, lo hayas podido terminar en tan poco tiempo. Creía haberte enviado un ejemplar de *Pozoa coriacea*[1], pero como no tienes ninguno, te envío un dibujo iluminado; al dibujante le gusta, ciertamente, hacer dibujos a colores, pero no quisiera comer ejemplares tan secos como los dibujos. Te envío, además, breves descripciones de especies de dicho género, mencionadas sin describirlas en mi opúsculo sobre Umbelíferas, y de otras dos que vi en Londres(11). La mayoría, cuyos pétalos no había visto en Madrid, pertenecen a *Asteriscium* de Chamisso & Schlecht., y las coloqué en la sección 2. En fruto se semejan por completo, aunque en *Asteriscium* los costados son más convergentes, y por lo tanto la comisura es más angosta, que en la verdadera *Pozoa;* en *Asteriscium* no hay pétalos verdaderamente emarginados[2], sino que son pseudoemarginados por tener la punta inflexa: luego, en mi opinión, estos dos géneros, si se les mantiene separados, se distinguen tanto por la presencia o ausencia de callo y por las características del ápice del pétalo como por los caracteres de las fructificaciones.

"Separas a *Daucus* de *Caucalis*[3] por la forma del albumen hendido y divides las caucales en tres géneros como Koch y Hoffmann, pero suprimiendo a *Platyspermum*[5]. Confieso que tal división me place poco; ya en 1806, antes que todo, examiné con cuidado a *Caucalis* y *Daucus* para no equivocarme, y me pareció que sus caracteres[6] no daban límites definidos para distinguir los géneros; y todavía soy de esa opinión, por las razones publicadas en el opúsculo de Londres, *Observaciones sobre las Aparasoladas* (8), pág. 30. Esto era en particular porque había rechazado la forma del albumen de entre los caracteres genéricos escogidos[7] pues, ya aceptada, *pour être conséquents avec nous même,* sería necesario aceptarla para todos los géneros, y entonces creí que parecía romper afinidades naturales. *Physospermum cornubiense* (*Ligusticum* Lin.) y *Physos. nudicaule* (*Smyrnium nudicaule* Marsch - a Bieb.) difieren en la forma del albumen, y sin embargo se les considera especies del mismo género. = Hace cuatro años observé las vitas de *Heracleum*[8], y estoy convencido de que no son del cáliz, ni del epicarpio unido al cáliz, ni del endocarpio, sino del mesocarpio, puesto que hay un licor aceitoso antes de la madurez en el tejido celular, estando entonces las células escasamente rotas, pero al madurar las células se rompen y el receptáculo se ve propiamente unilocular, claviforme[8]. En *Heracleum,* además y en otras plantas donde las vitas parecen collares o cintas, debe concluirse que las células no se rompen del todo. En *Pleurospermum* Hoffm., donde epicarpio y endocarpio se ven separados entre sí, las superficies externas de los endocarpios se tocan[9]. Vi vitas, pero inconstantes, en *Bupleurum,* y por esto las rechacé, por la misma razón por que rechacé la forma de albumen; tal vez me cito a mí mismo demasiado: mi querido discípulo Esteban Eugenio Vela me instó a incluirlas entre los caracteres genéricos; creo que también ví las vitas de Cusson[10] y las

llamé *estrías*. Sospecho que ninguna fruta considerada sin vitas tiene aceite en la estructura celular del mesocarpio sin formar vitas definidas.

"Siento mucho que mantengas el caótico género *Hydrocotyle* sin dividir[11] mientras separas *Erigenia*[12]. Las *Hydrocotyle* verdaderas tienen aquenios de 5 costillas, así como hojas estipuladas: mientras que las *Centellas* tienen aquenios de 7-9 costillas, tienen hojas paláceas, estípulas adnatas al pecíolo y umbelas compuestas involucradas sésiles. Además, dos otras especies de *Hydrocotyle* conservadas en el Herbario de Banks tienen la corola con estivación imbricada[13]. La fortuna adversa no permitió que completara sino poco de las observaciones hechas hasta por ahí de 1826. No dudo de que la especie de *Caldasia* recogida por D. Balth. Boldo creciera en la isla de Cuba[14](10), y me pareció que concordaba con *Cald. chaerophylloides;* pero como en Londres no tenía ante mí ningún ejemplar cubano, no osé decir nada de ello en la monografía que te envié.

"Les ofrecí mi primer opúsculo sobre Umbelíferas a mis discípulos, manuscrito, en 1806: muchos otros lo copiaron, así como fue utilizado por D. José de León en conferencias públicas y por otros profesores públicos en España. De nuevo te doy las mayores gracias posibles por tu bondad para conmigo y con el buen D. Esteban Vela[15], el que por ahora trabaja temporalmente en comercio. Pero pasemos a otras cosas.

"Ya había traducido tu obra, *Théorie elém. de la Botanique* (1) en 1816 y 1817, y tenía los dibujos para ilustrarla, pero el destino no permitió nunca publicarla—hace pocos días traje la taxonomía y la Fitografía para mandarlas al impresor[16] y no sé si en verdad lleguen a publicarse. Les añadí bastantes ejemplos y algunas notas, especialmente a la Fitografía: añadí un catálogo conteniendo los órdenes naturales que publicaste en el vol. 3 del *Prodr. Syst, nat.,* y también los caracteres ordinales de las Ranunculáceas así como los caracteres de los géneros del mismo orden que publicaste, para que sirvan como normas a los discípulos: así tu obra aclarará tus propios ejemplos. Las alabanzas que les das a los celebérrimos artistas Poiteau[17] y Turpin[18] se las doy principalmente a los artistas de Mutis[19], como atestiguan las láminas de *Plant. Aequinoct.* y *Monogr.* de *Rhexia* y *Melastoma,* escogidas de las láminas de *Flora Bogotensis* conservadas en el Jardín de Madrid. = Además, había traducido la Glosología al español y pensaba publicarla ilustrada con los dibujos y ejemplos pero cambiando el orden; es decir, reduciendo[20] los términos pertenecientes a las celulares incluidos en el pequeño tratado y dándole fin a la obra: pero mientras estaba en Gabstol. [21] reanudé la labor de revisar[22], hace seis meses; vi fácilmente mucho que habría que cambiar, especialmente en el capítulo 2 en que se trata de términos organográficos; y otros términos recientes vi que deberían añadirse. Fuera de estas innovaciones añadí muchas otras al cap.1 pertenecientes a la lengua española, pues el español es a duras penas inferior al latín, si no algo más rico al traducir términos botánicos. De aquí es fácil ver que en vez de una traducción había escrito un libro propio, tal vez elemental, y por esto se publicará con mi nombre, si el destino lo permite; pero se seguirá en esto sólo con tu aprobación expresa,

no sea que el proyecto propuesto a tí[23] se abandone; naturalmente[24] como prólogo general de los trabajos publicados después de tu conocida Teoría. Tu carísimo hijo, D. Alfonso, aprobó, y ansío que tú también apruebes. Tu obra no es nada elemental, debería llamarse una Filosofía Botánica.

"Durante mi convalescencia de la fiebre examiné las especies de *Rheum* cultivadas en el Jardín de Chelsea; encontré muchas nuevas y te envío semillas de todas.

Adiós, ilustrísimo Varón, y trata de amarme.

Tu siempre obsecuente

Mariano La Gasca

Londres, a 10 de agosto de 1830
15 Johnson Street
Somniers Town

P.S. Te mando también una descripción de *Mulinum spinescens* escrita de memoria hace seis años".

RESUMEN

Se presenta una reseña biográfica del patriota e insigne botánico español D. Mariano La Gasca y Segura, quien ocupa un lugar importante en el desarrollo de la sistemática de las Umbelíferas en el primer tercio del siglo XIX, y traducciones al inglés y al español de una carta en latín de La Gasca a A. P. Candolle, hallada entre ejemplares de Umbelíferas sudamericanas enviadas en préstamo del Conservatoire de Botanique, de Ginebra, en la que se refleja el esfuerzo por comprender el valor y el significado de los caracteres que actualmente se utilizan para delimitar los géneros de dicha familia.

Con esta publicación los autores rinden homenaje a la memoria de La Gasca al cumplirse el bicentenario de su nacimiento.

AGRADECIMIENTOS

A los señores don Mario Zaragoza, Secretario Técnico del Instituto Costarricense de Cultura Hispánica, y a don J. Ibáñez Cerdá, Director de la Biblioteca del Instituto de Cultura Hispánica de Madrid, agradecemos su pronta y gentil ayuda en la obtención de las figuras 2 y 3.

NOTES

1 De Candolle lists *Pozoa* in a footnote as among the four genera he recognizes but has not had opportunity to examine. In the body of the Mémoire *Pozoa* is listed as genus Nº 19 and *Asteriscium* as Nº 20. *Pozoa* is included but there is no discussion.

2 De Candolle said of *Asteriscium*: "Ce genere a des grands rapports avec le *Mulinum* et le *Pozoa*, mais il en diffère et se distingue de toute la tribu par ses pétales échancrés au sommet."

[3] In De Candolle's treatment, *Daucus* is part of the Orthospermées. Of the tribe Daucinées he says: "Cette tribu, par ses rapports avec les Caucalinées, établit une bonne transition des Ombellifères Orthospermées aux Campylospermées."

[4] "Fissus" in the letter obviously refers to the "Campylospermous" endosperm of the Caucalinées : "... campylospermées, qui ont l'albumen silloné en long du coté interieur par la courbure des bords."

[5] *Platyspermum* Hoffm. is submerged in *Daucus* by Koch, and de Candolle follows him. De Candolle lists as Caucalinées the genera *Caucalis, Turgenia* and *Torilis,* and comments: "Cette tribu représente parmi les Campylospermées ce que les Daucinées sont dans les Orthospermées."

[6] "Eorumque species" in the letter: it was at first assumed he meant the species of both genera; but "species" may also mean aspect or figure or features in the modern American meaning. This way the whole sentence easily makes sense.

[7] "Desumptas": he may have used the word in the sense of "accepted generic characters."

[8] In the general discussion, de Candolle mentions clavate or tear-shaped vittae in *Heracleum,* which he attributes to the "membrane pericarpique ou carpellaire". On page 3 he mentions the work of Ramond on the vittae of *Heracleum,* and that Hoffmann had established the presence of vittae in Umbelliferae generally. In the systematic treatment, *Heracleum* is listed without discussion. Regarding the expression, "cells break up", as well as "cellular structure" further on, it should be noted that the Mémoire and the letter are barely contemporaneous with the formulation of the Cell Theory.

[9] "Applicitae": it is assumed that this means "applicatae", and that the outer endocarp walls touch the outer structures. In de Candolle's Mémoire genus N° 15, *Pleurospermum* Hoffm. carries this annotation: "J'ignore d'après quel document M. Lagasca a avancé que ce genre était le vrai *Physospermum* de Cusson. Celui-ci dit au contraire formellement que son *Physospermum* correspond au *Ligusticum alterum Lobelii,* le quel est bien le genre *Physospermum* des modernes." *Pleurospermum* is followed by N° 16, *Smyrnium* Koch, N° 17, *Physospermum* Cuss. = *Danaa* All. non Smith, = *Haenselera* Lag.

[10] De Candolle credits Pierre Cusson with the first careful study of the fruit of Umbelliferae including the distinction between the primary and secondary ribs. Cf. A. L. de JUSSIEU, 1782, Extrait d'un mémoire de M. Cusson sur les plantes Ombellifères. *Mém. Soc. Roy. Med.,* 1782.

[11] In the Mémoire, *Hydrocotyle* includes *Centella* and *Solandra* L. f.

[12] De Candolle accepts *Erigenia* Nutt. as separate from both *Sison* and *Hydrocotyle,* where several authors had placed it because of its simple umbel.

[13] De Candolle says in the Mémoire that scarcely any Umbelliferae have valvate petals.

[14] De Candolle remarks of *Caldasia* Lag.: "..les deux espèces de M. Lagasca sont aussi originaires des Andes du Pérou (et non de la Havane, comme il l'avait d'abord établi pour l'une d'elles)."

Fig. 1. The letter from La Gasca to De Candolle.

Clariss. A. P. De Candolle S. P.

Praclariss. amicissimeque Vir: te bene valere valde laetor; ego autem male de salute valui; sed in posterum forte bene valebo dummodo charissima patria libertatem adipiscatur.

Opusculum tuum praestantissimum Cinquieme Memoire sur la famille des Ombelliferes. Lubentissime accepi, tibique pro hoc dono gratias ago: id autem prius emeram, avideque legeram. Multa perfecisti, at ni fallor, restant alia perficienda; opus certe difficile! Miror que te tantis obrutum negotiis, tantaque, tamque brevi temporis spatio perficere valuisse. = Ad te quondam misisse specimen Pozoae coriaceae putabam, sed cum illud non possideas, iconem coloribus fucatam ad te mitto; Pictor enim fucatas figuras facere amat, etsi mihi non placeat e speciminibus siccis similes icones edere. Mitto etiam breves descriptiones specierum hujus generis, in meo de Umbelliferis opusculo nominatas, nec ibi descriptas, duasque aliarum Londini a me visarum. Harum plerique ad Asteriscium Chamiss. et Schlecht. pertinent quarum petala Marisii non viderant, et sub Sectione 2a posui. Fructu omnino conveniunt, lacinula tamen in Asteriscio magis convergentia sunt, proindeque commissura angustior quam in Pozois veris: petala revera emarginata non sunt in Asteriscio, sed ob acumen inflexum pseudoemarginata: hinc meo sensu hoc duo genera, dummodo distincta serventur, tantam praesentia vel absentia calli et proportione acuminis petalorum distincta sunt, quoad fructificationis characteres.

Albuminis figura fisus Daucum a Caucali separas, Caucalesque in genera tria dividis uti Kochius et Hoffman, Platyspermo tamen suppresso. Fateor me talem divisionem minime probare: anno enim 1806. Caucalim et Daucum propriimis examinavi, sedulo ni fallor, eorumque species certos limites minime praebere ad genera distinguenda censui; et censeo; ob rationes in opusculo Observaciones sobre las aparasoladas Londini editas pag. 30. Id praesertim in causa fuit ut notas ab albuminis figura desumptas in generum characteribus rejicerem, nam semel assumptis, pour etre consequents avec nous meme in omnibus assumere generibus necessum foret, tuneque affinitates naturales dirumpi me vidisse credebam. Physospermum cornubiense (Ligusticum Lin), et Physos. nudicaule (Smyrnium nudicaule Marsch-a Bieb.) albuminis figura differunt, ejusdem tamen generis species esse reor. = Quatuor abhinc annis vittas in Heracleo observavi, easque nec calyci neque epicarpio calyci accreto, neque endocarpio pertinere persuasum habeo, sed Mesocarpio, siquidem oleosus liquor adest ante maturitatem in textu cellulari, cellulis tunc minime dirruptis, maturitate autem cellulae dirrumpuntur, et receptaculum tunc apparet proprium uniloculare, clavatum. Id in Heracleo obtinet: in aliis vero plantis, ubi vittae teniae aut torques figuram simulantur, cellulas minime dirrumpi concludere fas est. In Pleurospermo Hoffm. ubi Epicarpium et Endocarpium inter se separata cernuntur, endocarpii superficiei externo applicatae Fuerunt. vittas vidi, sed inconstantes in Bupleuro, et ideo Deserens eamdem ob causam, propter quam albuminis figuram non assumpsi; forte nimis cito. charissimus Diazpaliz

Stephanus Eugenius Vela eas in characteribus genericis assumi urgebat. Cur-
sorium vittas etiam vidisse reor, easque strias nuncupavisse. Suspi-
cor fructus nonnullos, qui vittati dicuntur oleum habere totam-
textus cellularis compagem mesocarpium constituentem occupantis, ne-
que vittas distinctas efformans.

Maxime doleo te chaoticum Hydrocotyles genus indi-
visum conservare tantumque Crantziam abeo separasse. Hydrocotyles vere ache-
niis gaudent tantum quinquecostatis, foliisque stipulatis. Centella autem ache-
niis 7-9-costatis donantur, folia habent paleacea, stipulas petiolo adnatas, um-
bellas compositas sessiles involucratas. Praeterea duae aliae Hydrocot. species
in herbario Banks. asservato corollae aestivationem imbricatam habent.
Observationes de Hydrocotyle fere ad finem usque perductas ann. 1826
perficere fata adversa minime permiserunt. — Caldasia speciem
à D. Balth. Boldo lectam, in Cuba insula crescere minime dubito,
eamque cum Cald. cherophylloide convenire censebam; sed cum
Bordini specimina cubentia ante oculos non haberem, in Mo-
nographia ad te missa nihil de ea dicere ausus sum.

Primum meum de Umbelliferis opusculum manuscriptum
dedi discipulis anno 1806: id transcripserunt plures alii; atque
in praelectionibus publicis eo usus est D. Jos. de Leon, aliique pu-
blici Professores in Hispania. Gratias tibi repeto quas possum
maximas propter tuum erga me benevolentiam, et erga charissi-
mum D. Steph. Vela, qui nunc temporis commercio operam dat.
Sed nunc ad alia transeamus.

Opus tuum Theorie elem. de la Botanique in hispani-
cam linguam jam ann. 1816. et 17. transtuleram, et icones quibus illus-
trarem possidebam; sed fata minime permiserunt in lucem edere. Taxo-
nomiam et Phytogr. typis mandandas paucis abhinc diebus tradidi at nes-
cio utrum revera in lucem venient. Exempla nonnulla et notas aliquas
addidi, praesertim in Phytographia: addidi Catalogum ordines nat. a te
in 3. Prodr. Sys. nat. voluminibus editos continentem, atque etiam cha-
racterem ordinalem Ranunculacearum, uti et generum characteres
ejusdem ordinis à te editos, ut tanquam normae discipulis in-
servirent. Sic opus tuum tuis exemplis dilucidatur. Laudem quam cele-
berr. Pictoribus Poiteau et Turpin tribuis, pictoribus Matritensibus prae-
que tribuendam assero; siquidem icones Plant. aequinoct. et Monogr.
Rhexiae et Melastomae desumptae sunt ex iconibus Florae Bogoten-
sis in Horto Matritensi asservatis. = Glossologiam habebam etiam in
hisp. sermonem translatam, eamque edere decreveram, exemplis et iconibus
illustratam, ordine tamen mutato, terminis scilicet, ad cellulares pertinentibus
in tractatulum collectis, et ad operis calcem positum: at dum Glossol. perfectioni
operam navarem, ex abhinc mensibus, multa innovari facile perspexi, praeser-
tim in capite 2°. in quo de term. organograph. agitur; aliosque recentiores termi-
nos addi debere vidi. Praeter has innovationes, alias multas addidi in Cap. 3.
ad hispanicum sermonem pertinentes, siquidem ad Botanices terminos transferen-
dum hisp. lingua latino sermoni minime inferior, quin subinde eodem ditior
est. Hinc facile est videre, me translationis loco opus proprium, et fer-
te elementare, scripsisse; ideoque meo nomine in lucem publicam ve-
nient, si fata sinunt; ea tamen ratione habita, ut in eo placita tua
exhibeantur, ne conditio à te proposita desit; nempe, ut tanquam Proto-
qui generalis sit operum post theoriam vulgatam à te editorum
id charss. filius tuus D. Alphonsus probabit, teque probare ma-
me cupio. Opus tuum minime elementare, imo potius Philo-
sophia botanica dicendum.

Jam a febri convalescerem vere proxime elapso,
Rhei species in horto Chelseiano multas examinavi, multasque prorsus
novas inveni, omniumque semina ad te mitto.

Vale vir praeclarissime, meque amare perge.

Dat. Londini, Die 10. Augusti, ann. 1830

Tui semper obseq.

15. Johnson street,
Sommers Town.

Marianus LaGasca

P.S. Mitto etiam dissertatiunculam Matritensi [illegible] memoriter scriptam sex abhinc annos.

[15] Probably refers to a remark in the Mémoire: on page 4 de Candolle cites La Gasca's Observaciones of 1806 and says that M. Vela read a "dissertation sur les genres dont les bases, et peut-être les détails, paraisent dûs a M. Lagasca." De Candolle's "kindness" is his mention of La Gasca's and Vela's contributions, or is it a more substantial kindness to the exiled Spaniard?

[16] "Typis" in the letter is obscure unless it can be understood as referring to the printer.

[17] Pierre-Antoine Poiteau (1776-1854) is credited by W. BLUNT (1950. *The Art of Botanical Illustration,* pp. 180-181) with befriending young Turpin and encouraging him as a botanical artist. Poiteau and Turpin collaborated "in some of the most important botanical publications of the early years of the nineteenth century, notably those of Humboldt, Bonpland and Kunth."

[18] Turpin is P. J. F. Turpin (1775-1840), who drew the plates for *Icones selecta plantarum quas in Systemate Universali descripsit A. P. De Candolle,* which was sold in two quarto volumes, 200 figures, for 70 francs. See advertisment on the flyleaf of the succeeding Mémoires. BLUNT (*op. cit.,* pp. 180--181) refers to him as "possibly the greatest natural genius of all the French botanical painters of his day."

[19] The Mutis drawings are only now being published in their full glory: *Flora de la Real Expedición Botánica del Nuevo Reino de Granada* (1954 -) Vol. I *et seq.,* Madrid and Bogotá.

[20] This is another difficult sentence. It seems to imply that La Gasca reduced the number of terms dealing with Cellulares, or eliminated a good part of them.

[21] "Gabstol." is confusedly written in the manuscript, and being itself abbreviated, is somewhat vague. The only interpretation we find possible is that it is a place name, although we cannot identify it. Could it conceivably be "Gibraltar"?

[22] "Perfectioni operam novarem": I renewed the work of perfecting. We assume it means revising, in the light of the following details.

[23] "Ne conditio a te proposita desit": apparently the aceptance of another project was pending.

[24] The translation of this sentence is questionable.

[25] Most of the details of La Gasca s life are taken from M. CARREÑO, 1840. Notice sur la vie et les écrits du botaniste espagnol D. Mariano La-Gasca. *Ann. Sci. Nat Paris,* II. 14: 146-161; and D. A. YÁÑEZ Y GIRONA, 1842. *Elojio histórico de D. Mariano La-Gasca y Segura.* Barcelona, 60 pp. The portrait is from the latter account.

Fig. 2. Don Mariano La Gasca y Segura 1776-1839.

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Fig. 3. Statue of Don Mariano La Gasca.

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