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Birth, burial, and rebirth of *Pinguicula hirtiflora* TENORE (Lentibulariaceae) – a reflection of the making of Flora Napolitana (1811–1838)

Summary

The varied history of nomen and taxon *Pinguicula hirtiflora* TENORE is discussed in view of the complicated publishing history of Flora Napolitana (1811–1838).

Zusammenfassung

Die wechselvolle Geschichte von Nomen und Taxon *Pinguicula hirtiflora* TENORE wird im Blick auf die verwickelte Publikationsgeschichte der Flora Napolitana (1811–1838) diskutiert.

1. Introduction

Flora Napolitana (1811–1838) is said to be one of the opera magna of Italian botany distinguished by its "imperial" format (2^o; in folio *atlantico*) and its meaningful botanical iconographs. Michele TENORE (1780–1861), director of the Royal Botanical Garden of Naples, professor of Botany at the University of Naples, and important member of the Reale Accademia delle Scienze Napoli, published the outstanding work over a period of more than 25 years with help of able artists. It consists of five volumes containing about 3,300 descriptions of plants (with more than 200 new species validly described) and 250 colour copper plates and has been delivered in fascicles between 1811 and 1838.

This paper will not discuss the manifold problems connected with the systematic position or the taxonomic value of *Pinguicula hirtiflora* TEN. These aspects will be presented in a separate article as the result of intensive studies on morphological, caryological, and molecular genetic aspects of the *P. crystallina-hirtiflora* aggregate. I want to show the controversial history of birth, burial and rebirth of nomen and taxon *Pinguicula hirtiflora* s.str. by TENORE in connection with the complex and up today not fully understood publishing history of Flora Napolitana (SABATO 1990).



Taf. 2 *Pinguicula balcanica*. Shtegu i Dhenve, 17. Juni 2005. Fig. 1 Bestand von *Pinguicula balcanica*; Fig. 2 Einzelpflanzen. – Fotos: Lulezim SHUKA.



Fig. 1: Flora Napolitana 5, Tav. CCI *Pinguicula hirtiflora* (1) and *P. grandiflora* (2)
 - The differential characteristics *corolla lobes deeply emarginate, lobe of the calyx lower lip undivided* (to 1) and *corolla lobes not emarginate, lobes of the calyx deeply divided* (to 2), respectively, are distinctly elaborated. Note length and curvature of the spur in (1). - Photocopy: Bildstelle FSU Jena.

2. Results

2.1 The creation of the nomen *Pinguicula hirtiflora*

Pinguicula hirtiflora appears for the first time in the *Prodromus of Flora Napolitana* 1 (TENORE "1811-1815"; 1811: p. VI).

SABATO (1990) has reconstructed the complicated publication history of Flora Napolitana volume I. It came out between 1811 and 1815 consisting of the *Introduzione* (I-IV; 1811), of the *Prodromio* (V-XXXII; 1811; XXXIII-LII, 1812; LIII-LVII, 1813) with *Supplemento primo* (LVIII-LXIII, 1813), all preceding the main text of the *Flora* and including the descriptions in Latin of about 200 new species. After *Flora* p. 288 follows the *Supplemento secondo* (LXX-LXXII, 1815) preceding the rest of the *Flora* (289-324). Therefore, the real *Flora* comprises the pages 1-316 (1-40, 1811; 41-60, 1812; 61-88, 1813; 89-208, 1814; 209-316, 1815). It is followed by various indices and appendices as *Indice della piante ...* (317-320), *Indice delle tavole ...* (321) and *Emend. et Add.* 322-324 (317-324, 1815). The whole volume is accompanied by 50 colour plates (1-10, 1811; 11-15, 1812; 16-20, 1813; 21-35, 1814; 36-50, 1815).

From an announcement by TENORE (1811: 203-215) himself we have detailed information of the first fascicle. He (I'm following SABATO 1990: 411-412) ... referred to the dedication, quoted several paragraphs of the *Introduction* and stated that the first two folios of the *Prodromus* (pp. V-XII) had been published, along with the first folios of the *flora* (pp. 1-20) and the first five plates... He ... also gave the Latin diagnoses of the new species published in the first two folios of the *Prodromus* [*Pinguicula hirtiflora*, op. cit. p. 208; text identical with the diagnosis in *Flora* 1, *Prodromus* 1811, p. VI; see below].

The diagnosis of *Pinguicula hirtiflora* without reference to any voucher or locality is as follows:

Pinguicula hirtiflora. Nectario subulato erecto, flora breviora, lobis superiore patente profunde bilobis, inferiore tripartito, fauce pilis hirta. Nobis.

It is evident, that TENORE based his new taxon on features not really suitable as differential characteristics on the species level in the genus *Pinguicula*. The length of the spur (his "nectario ... flore breviora"), the bilobed upper lip and trilobed lower lip of the corolla as well as the hair-covering of the corolla throat are wide spread features. The epithet *hirtiflora* [hair(s) = hairy] means nothing else than with hairy flowers (TENORE will later - 1824: 18 - write: [*Grasseilla*] a fiori irsuti), but nearly all *Pinguicula* species have hairy flowers.¹

Strange to say, TENORE listed on the same page of *Flora* 1, *Prodromus* directly above *P. hirtiflora* the two nomina *P. alpina* and *P. villosa*, "naked" without any diagnoses or additional notes. Perhaps he would give a kind of start later to be filled when the species in question would have been observed in the study region. Apparently, he has taken the two names from other sources indicating indirectly, that his treatment of the genus is preliminary. This unusual practice of listing

¹ In the following text *Flora* is used for Flora Napolitana, the different volumes are cited as *Flora* 1, *Flora* 2 etc; the more or less independent parts as *Flora* 1, *Prodromus* or *Flora* 2, *Supplement* etc.

² Nearly the same judgement about TENORE's diagnosis can be found on a label of a voucher collected by REINER 1818 (TIR; see below p. 37).

"naked" nomina of taxa of different taxonomical level (he listed "naked" nomina of species and genera) without additional remarks can be noticed several times in the Prodromus.

It's a complete mystery to me why TENORE didn't mention the diagnosis of his teacher Vincenzo PETAGNA (to whom he referred in the introduction¹):

2 *P. vulgaris* nectario cylindraceo longitudine petali ... copiose in montibus Vieti acquensis [i.e. Vico near Castellammare] crescit ... Corolla 5-fida, inequalibus: laciniis tribus supinis emarginatis, duabus minoribus integris: colore carneo (PETAGNA 1787, 2: 38).

PETAGNA's diagnosis is sufficient to distinguish the "Neapolitan" *Pinguicula* species from other ones: the features are much more true for the populations of *P. hirtiflora* occurring in the mountains between Castellammare and Salerno than TENORE's original diagnosis in *Flora* 1, *Prodromus* p. VI. Admittedly, he mistook corolla upper lip for lower lip and vice versa, but characterizing the corolla lobes as *emarginate* and the flower colour as *carneo* he is quite right. I have a strong suspicion that TENORE had not in his mind the populations of the Amalfitana today said to be the classical site of his *P. hirtiflora* (CASPER 1962, 1966; PERUZZI & al. 2004; see below paragraph 2.3). SACCARDO (1909: 261) was not right ascribing the detection of *Pinguicula hirtiflora* to TENORE as BÉGUINOT has pointed out (*Oss.* to no. 1752 of *Flora Italica Exsiccata Series II. curantibus Adr. Fiori et A. Béguinot*, coll. by G. PELLANDA in 1910 [WU]).

Studying the main text of *Flora* I we won't find *P. hirtiflora*. Unexpectedly, the new species has "disappeared". It has been deleted in the *Synopsis*² (TENORE 1815b) p. VI: *Pinguicula hirtiflora. dele.* (= deleatur) without any explanation. For a moment this deletion is surprising. Consequently, the new species together with the "naked" nomina *P. villosa* and *P. alpina* as well as the genus *Pinguicula* are not mentioned at all in *Flora* 1, *Ind. piante descritte* ... (TENORE "1811–1815"; 1815: 317) or in *Flora* 1, *Supplemento terzo* (TENORE "1811–1815"; 1815: 377). When finishing *Flora* 1 TENORE didn't accept his own new species. That means, *P. hirtiflora*, only just described, has been virtually "buried".

I believe, at the beginning of making his *Flora*, TENORE was not clear about the true nature of his new species *P. hirtiflora* and, moreover, of the genus *Pinguicula* at all. The butterworts are to a certain degree "strangers" in his study area. Although in great number in their habitats, they are rare.

But we should not look in amazement only to *Pinguicula*. About 50 taxa, described in the Prodrome with diagnosis or "naked", have been deleted, all of them without comment. The practice to present a diagnosis without any remarks about herbarium specimens, type localities or synonyms, not restricted to our taxon but common throughout *Flora* 1, *Prodromus*, came in for severe criticism even by TENORE's friends. The story of his nomen *P. hirtiflora* seems to have come to its end before the taxon belonging to it has come to life. Surprisingly, it will be reborn in 1824.

¹ In the *Synopsis*, TENORE collected the descriptions of the new species published in the *Prodromus* and its first two supplements. It came out in 1815 before the publication of the second supplement (SABAYO 1990: 413).

2.2 The rebirth of nomen and taxon *Pinguicula hirtiflora*

The first announcement of *P. hirtiflora* after its deletion in the *Synopsis* (TENORE 1815b) is found in *Flora* 3 (TENORE "1824–1829"; 1824: 18, nr. 923). TENORE gives an (insufficient) Latin diagnosis with supplementing paragraphs such as *descrizione*, *luogo natale* and *osservazione* discussing its putative relationship to *P. longifolia* DC. and *P. grandifolia* LAM., respectively, the latter being described sub nr. 922 on page 17/18. But, the differential characteristics are not yet precise enough (pointing out nearly the same features as in the original diagnosis and describing incorrectly – *pisils erectis glandulis albis* – the distinct yellow colour of the villose throat region; see below p. 33) and the annotations about the distribution areas are misleading. (Later he will exchange the *luogo natale* of both of the species; Sylloge, TENORE "1830"; 15⁴). Directly behind the Latin diagnosis the telltale passage *Ten. Fl. Nap. Prodr. p. 6. an. P. longifolia De Cand. Flor. Fl. t. III in addit. P. 728. ?* is cited which apparently means *P. hirtiflora* to be possibly (not really as the question mark indicates!) synonymic with *P. longifolia* RAMOND ex DC. *An* stands for *or*⁵ and the question mark at the end of the passage for *perhaps*.

The following paragraph *Osservazione* explains the deletion of *P. hirtiflora* (TENORE "1824–1829"; 1824: 18):

Dopo di avere annunziata questa specie nel Prodromo, credetti che non fosse del tutto diversa dalla P. grandifolia, e perciò non la riportai altrimenti nelle diverse edizioni del mio Synopsis. Avendo dipoi consultato le opere del Roemer e del De Candelie, che descrivono la P. longifolia, ho creduto dover nuovamente tener conto della mia specie, giacchè mi sono convinto che essa non è al certo la P. grandifolia. (Having announced this species in the Prodromo I couldn't believe it to be sufficiently distinguished from P. grandifolia, and therefore I have not mentioned it in the various issues⁶ of my Synopsis. After looking up the works of Roemer and De Candelie, who had described P. longifolia, I thought that I should consider again my new species, because I was convinced that it was not P. grandifolia.).

In quanto al rapporto che essa ha colla P. longifolia, osservo che nella mia pianta il nettario è molto più corto della corolla, ed il fiore ha la fauce e tutto il resto di colore azzurro-carico, nè affatto violetto con la gola gialla. (Regarding its relationship to P. longifolia, I observed that in my plant the spur is much shorter than the corolla, and the throat as well as the whole rest of the flower are of bold blue colour, not throughout violet with a yellow throat).

The flower colour used as diacritical characteristic is not recorded exactly. If TENORE had the Amalfitana populations before his eyes, he should have written *carneo* as PETAGNA did instead of *bold blue* or *violetto*. On the other hand, his *con la gola gialla* ("with a yellow throat") is typical for *P. hirtiflora*. Yellow or yellowish colours are unknown in *P. longifolia* (as well as in *P. grandifolia*).

Del resto considero la mia pianta come suscettibile di migliore esame, ev solo mi duole di non averne potuto dare la figura, perchè dai saggi senchi essa non può rilevarsi: nè mi è stato possibile ritornare negli stessi luoghi ova la raccolsi la prima volta nel 1806. (However, I consider my plant as suited to better examination, and I am sorry not to have been able to elaborate a figure, because from dried

⁴ TENORE's *Sylloge* was published as part of the folio (2°) edition of the *flora* and from 1831 onward independently as an octave (8°) issue. In both of the issues the text is identical, but the pages are different. I only refer to the octave edition.

⁵ *An.* is misleading up to a point. The full stop after *an* suggests abbreviation. But that is not meant. Surely, the full stop is a misprint (tip of H. MAXITZ, Jena).

⁶ For the various issues of the *Synopsis* see references. – See footnote 4.

specimens it cannot be studied adequately; I was not quite capable to return to those localities where I collected it for the first time in 1806⁷).

Consequently, in spite of all doubts, he will maintain the independent taxonomical status of his *P. hirtiflora*. He postponed the final decision after a better examination of living material of the taxon.

From his *Sylloge* (TENORE 1831: IV) we learn that the twenty years of collection and publication of the increasing number of taxa (on page V he speaks of about 3,300 species) led to confusion and uncertainty. He knows that without the "help" of the *Flora* the *Prodromus* will fail to have the intended effect. At the time when he was engaged in making *Flora* 4 he decided to give out the *Sylloge* intending ... in hac igitur ... de illis tantum plantis sermo erit, quas meis oculis inspicere et observare potui ... (TENORE 1831: IV).

Now, TENORE (1831: 15) calls our attention to the differential characteristic *lacinis subaequalibus subrotundis profunde bilobis* and corrects simultaneously his wrong annotations of its distribution given in *Flora* 3: 18 (1824). He refers for the first time to *P. vulgaris* Petag. *Inst.* *P.* 38 *ex loco natali*. In the following paragraph *Obs.* we read: *In utraque specie faux pilis obsita observatur, sed P. hirtiflora ab altera [i.e. P. grandiflora] differt corollae lacinis subaequalibus omnibus profunde bilobis. Characteres ex scapi pubescentia desumpti in huius generis speciebus variis nullius momenti existimandi sunt: ipsa enim P. hirtiflora scapo superne glabro vel villosa ludit.* He realized that he had wrongly attached great importance to features such as hair-covering of the throat or pubescens of the scape.

He also laid down this new knowledge in the *Enumeratio* (TENORE 1832b: 186) sub 8. *Pinguicula grandiflora*, where he – directly after *ludit* – continued: *Harum specierum diagnosim, synonymia et loca natalia sic denovo statuenda arbitror.* Any references to PETAGNA are missing. TENORE presented in a letter entitled *Succinta relazione* ... to the Academia Pontaniana on September 6, 1832, this *Enumeratio*, basing on the results of a collecting campaign in summer 1829 *per Aprutium, vel per Pontificiae ditionis finitimas provincias* ... and written together with E. MAURI and A. ORSINI. He pointed out that the fruit of the field campaign were 300 living plant species and nearly the same number of various seeds for the Royal Garden Naples as well as dried specimens for the herbarium. He was convinced that the important material would lead to a better understanding of plants rare or missing in the Neapolitan region. I believe that the *Enumeratio* might be written before the corresponding text in the *Sylloge*. The lack of any indication to PETAGNA is noticeable.

In *Flora* 4, *Appendix tertia*, TENORE (1833: 582) qualified again his statement. Comparing his findings with that of BERTOLONI in whose *Manitissa plantarum Florae alpinae Apuanarum* he comes across with *P. vulgaris* B. *alpicola* REICHB.: *Revera, tum in icone cl. Reich. Cent. I, tab. 84, fig. 176, tum in authenticis specimenibus ab helveticis botanicis acceptis, cultus conicum et incurvatum necnon corolla multo brevius compri. In tisdem*

characteribus igitur magis quam in corollae laciniarum incurvatus nostrae speciei a P. vulgaris differentiam quaerendum cuique patebit (cf. the corresponding text in *Flora* 4, p.1, col. 7: "1830").

Finally, from *Sylloge* app. *Quarta* (TENORE 1835: 1), we learn that *Pinguicula hirtiflora* Ten. *habet calycis lobum inferius integrum nec bifidum, ut in P. vulgaris. In P. grandiflora* [sensu TENORE *Flora* 3: 17] *calyx ex profunde 5-partitus.* The same passage can be found in *Flora* 5: 3, col. 1. (Tenore "1835–1838"; 1835) and on the label of a voucher in NAP, erbario GUSNONE: *Pinguicula hirtiflora, Monti di Castellammare, all'acqua Santa. 23 1833; differt a descriptione P. vulgaris florem colore: ... calycis laciniae inferiore integerrimi ... quae bipart. P. vulgaris.* The figs. 1 (*P. hirtiflora*) and 2 (*P. grandiflora*), respectively, later given on tab. 201 show about rightly the characters mentioned above.

2.3 The locus classicus of *Pinguicula hirtiflora*

When explaining the reasons for the deletion of *P. hirtiflora* (see above paragraph 2.2), TENORE (*Flora* 3: "1824–1829"; 1824: 18) writes "I wasn't quite capable to return to those localities where I collected it for the first time in 1806". This statement is dubious. Where did he collect his new species? I couldn't find any note on these localities, neither in the parts of the *Flora* nor in the reports of the excursions into "Abruzzo" or the "diversi luoghi dell provincie di Napoli" before 1830⁷ (see below p. 36). No voucher exists that could be referred to a collection of 1806 (CASPER 1962, 1966; PERUZZI & al. 2004).

If he had collected his *Pinguicula hirtiflora* in the mountains between Castellammare and Salerno (today Monti Lattari) in 1806, it couldn't be difficult for him to go by ship from Napoli to Castellammare di Stabia or Vico Equense. The localities named by him (*in monte Divi Angeli ad Stabias; all' Acqua Santa; in montibus Salernitanis, prope Urbem Cavaem; all' Avocatella*) are situated in the region in question. He had to ride the mountain trails only for a short distance. Quite another situation will arose when he collected in *montibus Aprutii et Umbriae*; today Appennino Abruzzese). Then he had to travel (ride or walk) right across the mountainous country for a long distance, indeed a tiring trip. Without any additional information, we are not sure where we have to localize *la mia Pinguicula hirtiflora*.

Specific reports about travels (*viaggi, peregrinazione*) into the study regions are not from 1806, but from spring 1825 (TENORE 1832a: 49–98 [*Memoria* ...]) and summer 1829 (TENORE 1832b: 147–184, [*Succinta relazione* ...]) and 185–236 [*Enumeratio plantarum*].

In his *Memoria sulle peregrinazioni botaniche ... nella primavera del 1825* (TENORE 1832a) he informs us about the results of his field campaign during spring into *regione montana* around Naples. In altitudes between 3000 e 1500

⁷ TENORE writes, that he had made field excursions from 1802 onward. Reports which could exist from 1812 onward I couldn't find in the literature available to me.

piedi ... al piano di Falto ... la mia Pinguicula hirtiflora among other interesting plants (op. cit. 72). Summarizing his findings in a special Fiorula Stabiana (op. cit. 73–98) he mentions on page 82 Pinguicula hirtiflora Ten. nella del Monte S. Angelo: all'acqua Santa presso gli stillicidi. These annotations are the most concrete and absolutely certain references to the Castellammare locus classicus area by TENORE in relation to own gatherings.

It is very likely to assume PETAGNA's *in montibus Vici aequensis* is about the same locality named *Monte di Castellammare*, the "locus classicus" given by TENORE. This assumption is based on whose own reference to PETAGNA's *P. vulgaris ...* where he is adding *ex loco natali* (TENORE 1831:15). Taking in account all the various and confounding statements of TENORE about his *Pinguicula hirtiflora* and its locus classicus we realize that the path he had to go to establish his species was long and tortuous. I believe that he not before 1825 or 1831/1832, respectively, began to understand the true nature of *la mia piante* and its classical habitat. Going back to the basics, i.e. to PETAGNA has been the key to success.

The date 1806 mentioned by TENORE is not represented in texts others than in *Flora* 3 (TENORE 1824: 18). From the context it doesn't become clear whether the date refers to *P. hirtiflora*, because the passages in Italian language following the Latin descriptions of 922. *Pinguicula grandiflora* (pp. 17–18) and 923. *Pinguicula hirtiflora* (p. 18) have been confounded as TENORE will write later in his *Sylloge* (TENORE 1831: 15). Only now he gives a corrected version of the habitats but without reference to any date of detection or collection; only now it becomes clear that the "locus classicus" is situated in the Amalfitanian region.

From the report about the field campaign into Appennino Abruzzese we learn that the plants found there - *a Grotta caprara della Majella, a Pietr' alta; al Pizzo della Cavaia* - have been collected by ORSINI (TENORE 1832b: 186). They represent nothing else than *P. grandiflora* sensu TENORE. At the end of the paragraph 8. *P. grandiflora* he summarizes the occurrence of the species in *Abruzzum: alla Majella, al Vallone di S. Spirito, a Grotta Caprara, alla Valle due Orfani; a Monteorno: presso Pietraruicella; a Pietralla, a Rosetto, al Pizzo della Cavaia etc.* One of them (*Majella*) is nowadays known as "locus classicus" of *P. fiorii* TAMM. et PACE, a species quite different from *P. grandiflora* LAM. as well as from *P. hirtiflora* TEN. I have not seen any voucher collected undoubtedly by TENORE from this study site. But it is possible, that the two specimens on one and the same voucher in NAP. herbario TENORE, named a) *P. grandiflora* 114: *Majella* and b) *P. grandiflora* 101: *P. hirtiflora* 1: *Majella Pietr' alta - Monti di Roseto* have to be referred to the plants collected by ORSINI.

I add a list of all the sites mentioned by TENORE in his various publications and now being related to *P. hirtiflora*:
1824 ("1824 29"): 18. *Luogo natale. ex: Nasce presso i stillicidi di acqua alla Cava, nel luogo detto la Molina, al Monte S. Angelo di Castellammare, all' Acqua Santa... (wrongly sub P. grandiflora).*
1831, 7: *Ad fontium scarutiginis montium Stabianum et Principatus Citerioris: all' Acqua Santa di Monte S. Angelo di Castellammare, all'Avvocetella, alla Molina presso la Cava, è presso la Trinità di Cava.*
1832a, 72: *Nella regione montana che al piano di Falto è sottoposta, è che vien raccolta tra i 4000 e 4500 piedi sul livello del mare, si raccolgono [primavera del 1825] ... la mia Pinguicula hirtiflora.*
1832a, 82: *Pinguicula hirtiflora Ten. nella vetta del Monte S. Angelo. all' acqua Santa presso gli stillicidi.*

1832b, 186. *Habitat ad fontium scarutiginis, in monte Divi Angeli ad Stabias: all' Acqua Santa: in montibus Stabianis, prope Urbem Cavae: all' Avvocetella.*
1832c, 76/77: *Indirect reference to Monti di Falto e di S. Angelo dei tre pizzi in connection with his remarks on 111. Castellammare the nuove specie nelle flora napoletana per la prima volta descritte, che nel suddetti monti potranno nati cogliendo. Esse sono le seguenti ... Pinguicula hirtiflora ...*

The earliest herbarium specimen I have seen is of REINER (FIR) collected in 1818 and named *P. hirtiflora Ten.* without any note of the collection site. On the label we will find the following note:

La gorge de la fleur est velue; le caractère est commun à d'autres espèces du même genre et n'est pas un écarté pas distinctif (cf. footnote 2).

REINER, if he had written the passage, was aware of the insufficient features used by TENORE in distinguishing his new species from other ones in the genus. In the herbario GUSSENE (NAP; GUSSENE was a pupil of TENORE) the collection date is 1823 and the site Monti di Castellammare. The locality rochers de La Cava pres Salerno is noted on a label written by PASSY from 1827. Specimens collected by TENORE (NAP) at Acqua Santa are from 1831, 1833 and 1835.

2.4 Tavola 201 and the illustration of Pinguicula hirtiflora (Fig. 1)

At the beginning of the *Enumeratio iconum* (TENORE, *Sylloge* 1831: 505) we read that *Plantae quarum icones exhibentur sunt num. 365. Icones jam evulgatae, a tab. 1. ad tab. 180, sunt num. 217.* That means, at this time plate 201 with the figure of our *Pinguicula hirtiflora* had not yet been published. This agrees with TENORE's annotation in *Flora* 3 (TENORE 1824: 18) where he regrets having been not able to present the new species by a figure: *... solo mi duole di non averne potuto dare la figura, perchè da' saggi vecchi essa non può rilevarsi ... (... I'm sorry not being able to give the figure, because from dried specimens it can't be observed ...).*

The plate in question is indicated in the *Enumeratio iconum* (TENORE, *Sylloge* 1831: 513) as *Tav. 201* containing *fig. 1 Pinguicula grandiflora Lam. - fig. 2 Pinguicula hirtiflora. - fig. 3 Crocus longiflorus Rafin. C. odoratus Biv. (cf. Flora 4. "1830": 147 and 451, respectively).* This contradicts *Tav. 201* definitely published in *Flora* 5 (TENORE 1835–1838; "1835–1836") with the two *Pinguicula* species in reverse order and the additional figures 3 *Crocus longiflorus* and 4 *Koeleria Barrelieri* (the latter species mentioned as *fig. 1* of *tab. 208* on page 514). The corresponding captions to the whole plate I couldn't find in the issues of the *Flora* available to me. In the following alphabetical index taxa and plates in question appear as *Pinguicula grandiflora* LAM. as *fig. 1* and *P. hirtiflora* as *fig. 2* of *tab. 201* (p. 526). The *Crocus* species are missing, and *Koeleria Barrelieri* is said to be illustrated as *fig. 1* on plate 208 (p. 523).

In *Flora* 5 (TENORE "1835–1838"; 1838) on page 313 I found *Crocus longiflorus nella tavola 206, col nome di C. odoratus* and on page 314 *Spiegazione della tavola 201. Fig. 3. Pianta di C. longiflorus: a. Fiore aperto. Koeleria Barrelieri* was indicated as *fig. 1* of *tab. 208*.

The fact that the table or plate numbers, respectively, are often erroneously quoted leads to the conclusion, that the numbering was arbitrarily made by TENORE before they were elaborated.

TENORE's head gardener FEDERIGO DEHNHARDT has drawn the figures of tab. 201, perhaps from living material. The differential characteristics *corolla lower lip lobes distinctly emarginate*, *lower calyx lobes undivided* in *Pinguicula hirtiflora* and *lobes of the corolla lower lip not emarginate*, *all calyx lobes deeply divided* in *P. grandiflora* are elaborated well. But the illumination is not really adequate to nature.

4. Conclusions

The nomen *Pinguicula hirtiflora* was created by TENORE in 1811. It was (together with the other two species of *Pinguicula* mentioned in his *Flora* and with the genus at all) deleted by him in 1815 because he was not clear about the relationship to or the identity with *P. grandiflora* LAM. or *P. longifolia* DC. (and *P. vulgaris* L.). Not until 1824 the rebirth of *P. hirtiflora* started. The long and confused process came to its end in 1831, when TENORE corrected the wrong distribution annotations of his new species excluding the sites in *Abruzzo* and focussing its distribution area *ad fontium scaturigines montium Stabianum and Principatus Citerioris*. The nomen *P. hirtiflora* has been definitely accepted by him in his *Flora Neapolitana*.⁸ SCHINDLER (1907/08), CASPER (1962, 1966) and PERUZZI & al. (2000) were right following TENORE's statements after the rebirth of the taxon and acknowledging his nomen.

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altura 557-577]. (*2. *P. hirtiflora*, p. 15: description, synonyms, habitat, different characteristics, observations, and corrections; p. 513).

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NICOLAS ROBIN

The *Hortus Botanicus Jenensis*

Discussing the first systematic arrangement of the herbaceous beds

“Wir wollen diese Anstalt als einen Vorboten des Friedens ansehen und uns derselben zum Besten freuen!”¹

Summary

The aim of this paper is to clarify a point in the history of the foundation of the botanic garden in Jena in 1794. Actually, the existing literature on the subject is clearly contradictory, especially regarding the first systematic arrangement of the beds as developed by A. J. G. C. Batsch (1761-1802). On the one hand Batsch could be considered as the figurehead of an original German thought about the natural affinities of plant families. However, could Batsch's garden also simply have been the expression of the reception of the French “méthode naturelle” in Weimar and Jena? In order to answer this question we base our thought on a simple and accurate analysis of the botanical contents of the unique sketch of the garden available in Batsch's *Conspectus horti botanici* (1795). In that way, we are able to finally offer an exact description of the first systematic disposition of the beds of the botanic garden in Jena.

Zusammenfassung

Dieser Aufsatz soll einen bestimmten Punkt in der Gründungsgeschichte des botanischen Gartens in Jena näher beleuchten und verdeutlichen. Tatsächlich sind die Ausführungen in der verfügbaren Literatur zum Thema widersprüchlich, insbesondere die erste systematische Anordnung der Beete von A. J. G. C. Batsch (1761-1802) betreffend. Batsch kann einerseits als eine Gallionsfigur deutscher Ideen hinsichtlich der natürlichen Verwandtschaften der Pflanzen angesehen werden. Auf der anderen Seite stellt sich die Frage, ob Batschs Garten nicht vielmehr Ausdruck der Rezeption der französischen „méthode naturelle“ in Weimar-Jena war. Eine einfache und genaue Analyse der botanischen Konzepte einer einzigartigen Skizze des Gartens aus Batschs *Conspectus horti botanici* (1795) soll diese Frage beantworten. Als Ergebnis wird eine exakte Beschreibung

¹ Letter from J. W. von Goethe to A. J. G. C. Batsch, February 26th, 1794; see Eibl, K. ed. (1991): *Johann Wolfgang Goethe Sämtliche Werke Briefe, Tagebücher und Gespräche*. Frankfurt am Main: Deutscher Klassiker Verlag: Bd. 40, II(3), 715-716.