



Typification of *Lilium Jankae* A. Kern. and *Lilium Martagon* Var. *Cattaniae* Vis.

Authors: & , Ivana Rešetnik, and Bogdanović, Sandro

Source: *Candollea*, 68(1) : 151-154

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: <https://doi.org/10.15553/c2013v681a21>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Typification of *Lilium jankae* A. Kern. and *Lilium martagon* var. *cattaniae* Vis.

Ivana Rešetnik & Sandro Bogdanović

Abstract

REŠETNIK, I. & S. BOGDANOVIĆ (2013). Typification of *Lilium jankae* A. Kern. and *Lilium martagon* var. *cattaniae* Vis. *Candollea* 68: 151-154. In English, English and French abstracts.

The names of *Lilium jankae* A. Kern. and *Lilium martagon* var. *cattaniae* Vis. (*Liliaceae*) are typified. Comments on the taxonomical characters useful for the differentiation of these taxa are also provided.

Key-words

LILIACEAE – *Lilium* – Typification

Résumé

REŠETNIK, I. & S. BOGDANOVIĆ (2013). Typification de *Lilium jankae* A. Kern. et *Lilium martagon* var. *cattaniae* Vis. *Candollea* 68: 151-154. En anglais, résumés anglais et français.

Les noms *Lilium jankae* A. Kern. et *Lilium martagon* var. *cattaniae* Vis. (*Liliaceae*) sont typifiés. Des commentaires sur les caractères taxonomiques utiles pour la différenciation de ces taxons sont aussi présentés.

Addresses of the authors: IR: Department of Botany and Botanical Garden, Faculty of Science, University of Zagreb, Marulićev trg 9a, 10000 Zagreb, Croatia.
Email: ivana.resetnik@biol.pmf.hr

SB: Department of Agricultural Botany, Faculty of Agriculture, University of Zagreb, Svetosimunska 25, 10000 Zagreb, Croatia.

Submitted on May 3, 2011. Accepted on November 1, 2012.

Edited by P. Bungener

Introduction

Lilium L. (*Liliaceae*) is a Northern Hemisphere bulbous genus that includes approximately 100 species, which have been subdivided based on morphology by different authors into five to eleven sections (ENDLICHER, 1836-1840; COMBER, 1949; BARANOVA, 1988). The most authoritative classification (COMBER, 1949) is based on 13 morphological characters and 2 germination types. It supports the existence of 7 sections: sect. *Lilium* [= sect. *Liriotypus* Asch. & Graebn.], sect. *Martagon* Rchb., sect. *Pseudolirium* Endl., sect. *Archelirion* Baker, sect. *Sinomartagon* H. F. Comber, sect. *Leucolirion* E. H. Wilson and sect. *Daurolirion* H. F. Comber. Phylogenetic investigations using molecular data only partially supported this classification, indicating that further research is needed in order to clarify relationships within the genus (NISHIKAWA & al., 1999; HAYASHI & KAWANO, 2000; RØNSTED & al., 2005). The two taxa typified here, *Lilium jankae* A. Kern. and *L. martagon* var. *cattaniae* Vis., belong to sect. *Lilium* and sect. *Martagon*, respectively.

Lilium jankae A. Kern. in Oesterr. Bot. Z. 27: 402. 1877.

= *Lilium carniolicum* subsp. *jankae* (A. Kern.) Asch. & Graebn., Syn. Mitteleur. Fl. 3: 181. 1905.

Lectotypus (here designated): **ROMANIA**: “Zwiebel aus Siebenbürgen, bei Verespatak von Janka gesammelt und mir nach Innsbruck gesandt. Blühte im bot. Garten in Innsbruck”, 6.VI.1876, *Kerner s.n.* (WU [35594]!) (Fig. 1).

History. – *Lilium jankae* was described by KERNER (1877) although Janka was the first who, several years earlier, noticed that this lily was somewhat different from species described thus far (JANKA, 1868b). In 1868 Janka found this lily in Verespatak (Romania) while searching for *L. albanicum* Griseb. (JANKA, 1868a). Although the plants were already in fruits, after comparing them with the description of *L. albanicum* he concluded that they did not correspond with those of *L. albanicum* and that the plants best fit the description of *L. pyrenaicum* Gouan proposed by GRENIER & GORDON (1855). Consequently he deduced that until close examination of flowering individuals would produce new evidence, the name *L. pyrenaicum* for the plants from Verespatak should be used. Janka also states that he brought 50 bulbs from Verespatak with him in order to plant them in his garden and see them in flower to definitely determine the correct taxonomic status of this lily.

Nine years later, KERNER (1877) described the new species, which he names *L. jankae* in honour of Victor Janka. In Kerner’s personal herbarium at WU, we traced three herbarium sheets with plants collected by Janka in Verespatak under the name “*L. pyrenaicum* Baumg. / *L. albanicum* Heuff.” and revised by Kerner as *L. jankae*. Two of them, *Kerner s.n.* (WU [35591]) and *Kerner s.n.* (WU [35593]), have the collection

date 6 and 7 July 1868 and are in fruit stage while one sheet has the collection date 19 June 1869 and a fragment of the inflorescence is still present (*Kerner s.n.*, WU [35592]). In the protologue KERNER (1877) states that some bulbs collected from Verespatak were sent by Janka to Innsbruck Botanical Garden where they flowered successfully. In WU, one sheet with the plant in flower, under the name *L. jankae* was found and the herbarium label states: “Zwiebel aus Siebenbürgen, bei Verespatak von Janka gesammelt und mir nach Innsbruck gesandt. Blühte im bot. Garten in Innsbruck 6/6 1876. Kerner” (*Kerner s.n.*, WU [35594]). Comparing the description of *L. jankae* with the before mentioned herbarium specimens it can be assumed that KERNER (1877) based his original description on both plants first collected by Janka in 1868 at Verespatak together with the plants growing at the Innsbruck Botanical Garden from bulbs collected by Janka. Therefore all mentioned specimens can be designated here as syntypes. Kerner also describes the distribution of this taxon, but without specifying the exact type locality: “In den mit hohen Gräsern und üppigen Stauden bewachsenen Schluchten unter dem Gipfel des Bohodei im Petrosaezuge des Bihariagebirges und an der Ostgrenze des hier behandelten Gebietes auf den “Gaur” genannten Wiesen bei Verespatak.” In Kerner’s personal herbarium we also found specimens corresponding to his citation of the distribution in Biharia (Romania) and, although they are under the name *L. jankae*, the collection date was not specified (*Kerner s.n.*, WU [35589]; *Kerner s.n.*, WU [35590]). Therefore there is no direct evidence showing if particular specimen had been collected prior to the publication of the new species. However, there are several indications that those plants were also examined by Kerner while writing the original diagnosis and can be ascribed as syntypes. In the protologue he states that the plants growing at higher altitudes are shorter and with broader leaves, which corresponds to altitudes of Bohodei at Biharia (Romania) and to the appearance of herbarium specimens collected there by Kerner.

Taxonomic discussion. – *Lilium jankae* is a member of the *L. carniolicum* group which consists of seven European taxa belonging to sect. *Lilium* (= sect. *Liriotypus* Asch. & Graebn.) (COMBER, 1949; IKINCI & al., 2006; REŠETNIK & al., 2007). The relationships between the taxa in this group are still insufficiently understood and various taxonomic treatments exist.

Recent molecular studies (IKINCI & al., 2006; REŠETNIK & al., 2007) showed that *L. jankae* is closely related to *L. carniolicum* Koch and *L. chalcidonicum* L. Since detailed morphometric study including all members of *L. carniolicum* group is still lacking, the taxonomic conclusion remains uncertain and further research is required. However, most local floras, which cover the distribution range of *L. jankae* (Romania, Bulgaria and Serbia) treat it as an independent species (JANEV, 1964; SĂVULESCU & NYÁRÁDY, 1966; DIKLIĆ, 1975). Nonetheless, if one agrees that the taxon *L. jankae* is better treated at

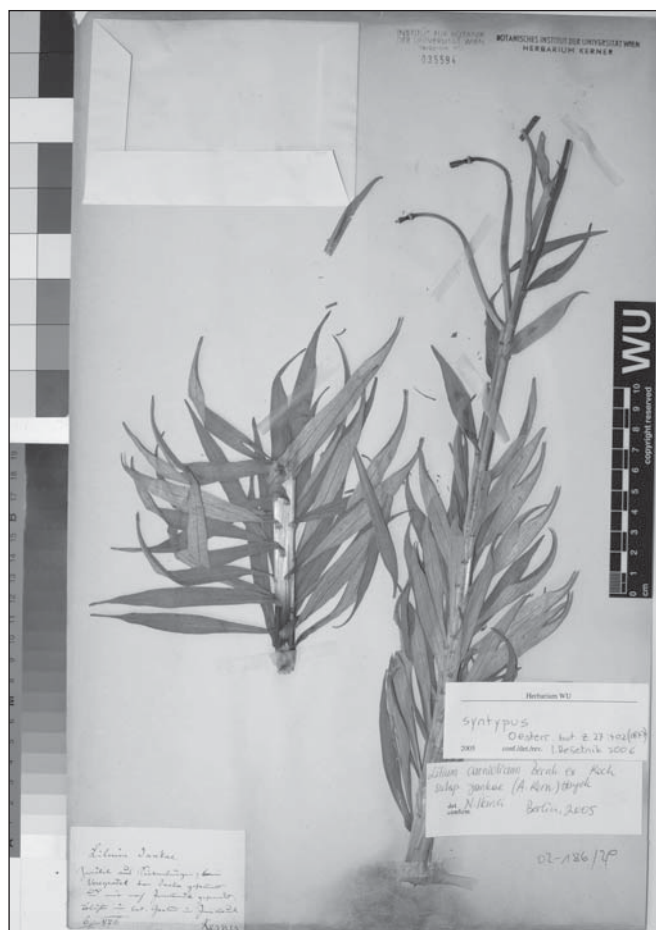


Fig. 1. – Lectotype of *Lilium jankae* A. Kern.
[Kerner s.n., WU] [© Universität Wien Herbarium. Reproduced with permission]

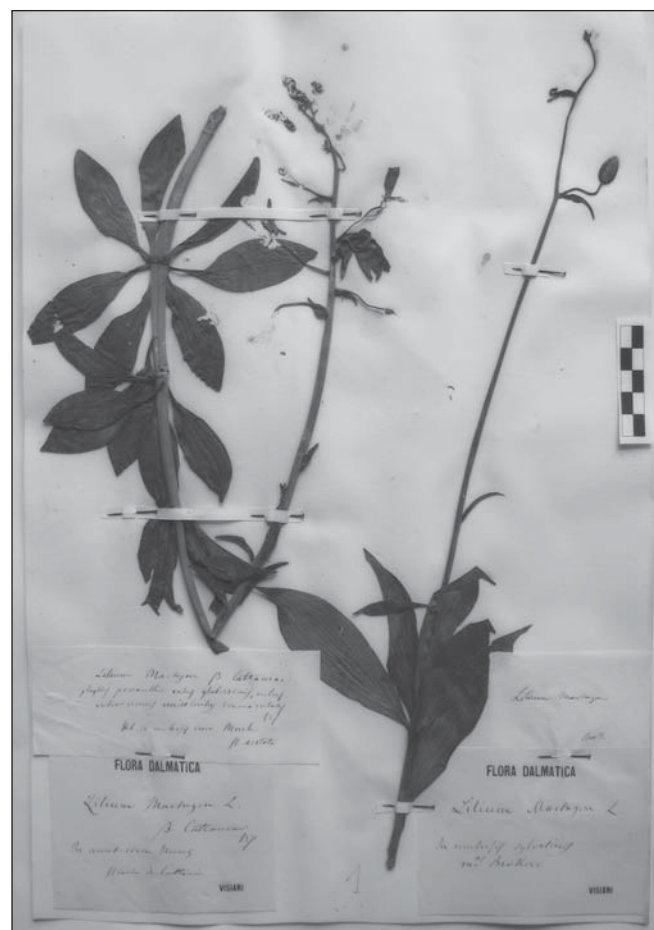


Fig. 2. – Lectotype of *Lilium martagon* var. *cattaniae* Vis. [specimen on the left side].
[Maria de Cattani s.n., PAD] [© Erbario Patavinum, Università degli Studi di Padova. Reproduced with permission]

the subspecific level, as suggested by molecular data (REŠETNIK & al., 2007), one have to accept the combination: *L. carniolicum* subsp. *jankae*, proposed by ASCHERSON & GRAEBNER (1905-1907), which gives priority to this epithet at the subspecific rank.

***Lilium martagon* var. *cattaniae* Vis.** in Amico Campi 1: 113. 1865.

Lectotypus (here designated): **CROATIA:** In mont. Circa Much, s.d., *Maria de Cattani* s.n. (PAD!) (Fig. 2).

History. – In the protologue VISIANI (1865) distinguished this variety from typical *L. martagon* L. in having “*L. phyllis perianthii extus glaberrimis, intus rubro-venosis unicoloribus*”. In PAD we traced a specimen (individual on the left side) having the original Visiani’s autograph description of this taxon which is identical to the description given in the protologue. Moreover, Visiani refers to Maria de Cattani as the collector

and Much (Muć) locality (Croatia) as the collection site, both of which are mentioned on the herbarium label. Thus this specimen can be considered as original material collected from the “locus classicus” and is designated here as the lectotype. On the same herbarium sheet (specimen on the right side) is also a plant referable to *L. martagon* collected on Biokovo (Croatia): “*Lilium Martagon* L. / In umbrosis sylvarum s. n.”.

Taxonomic discussion. – The selected lectotype fully confirms the close relationship between *L. martagon* and *L. martagon* var. *cattaniae* and therefore the varietal rank is the most appropriate, which is also suggested by recent molecular analysis as it failed to distinguish the two taxa at a specific level (MURATOVIĆ & al., 2010). The Linnaean taxon *L. martagon* was also recently typified by PERUZZI & JARVIS (2009) and the specimen from LINN (sheet No. 420.5) was selected as lectotype.

Acknowledgements

We are thankful to Rossella Marcucci, curator of the PAD and to Walter Till, curator of the WU for kind help and assistance in our examination of original herbarium material and photographic documentation. We are also most grateful to Walter Gutermann for valuable advice and comments.

References

- ASCHERSON, P. & P. GRAEBNER (1905-1907). *Syn. Mitteleur. Fl.* 3. Leipzig.
- BARANOVA, M. V. (1988). A synopsis of the system of the genus *Lilium* (Liliaceae) [in Russian]. *Bot. Zhurn.* 73: 1319-1329.
- COMBER, H. F. (1949). A new classification of the genus *Lilium*. *RHS Lily Yearb.* 13: 86-105.
- DIKLIĆ, N. (1975). Liliaceae A. L. Juss. In: JOSIFOVIĆ, M. (ed.), *Fl. Srbije* 7: 492-568.
- ENDLICHER, S. (1836-1840). *Genera plantarum secundum ordines naturales disposita*. Wien.
- GRENIER, M. & M. GODRON (1855). *Fl. France* 3. Paris.
- HAYASHI, K. & S. KAWANO (2000). Molecular systematics of *Lilium* and allied genera (Liliaceae): Phylogenetic relationships among *Lilium* and related genera based on the rbcL and matK gene sequence data. *Pl. Sp. Biol.* 15: 73-93.
- IKINCI, N., C. OBERPRIELER & A. GÜNER (2006). On the origin of European lilies: phylogenetic analysis of *Lilium* section *Liriotypus* using sequences of the nuclear ribosomal transcribed spacers. *Willdenowia* 36: 647-656.
- JANEV, A. (1964). *Lilium*. In: JORDANOV, D. & al. (ed.), *Fl. Bulgaria* 2: 247-254.
- JANKA, V. (1868a). Correspondenz. *Oesterr. Bot. Z.* 18: 265-267.
- JANKA, V. (1868b). *Lilium pyrenaicum* Baumg. *Oesterr. Bot. Z.* 18: 273-274.
- KERNER, A. (1877). Die Vegetations-Verhältnisse des mittleren und östlichen Ungarns und angrenzenden Siebenbürgens. *Oesterr. Bot. Z.* 27: 401-404.
- MURATOVIĆ, E., O. HIDALGO, T. GARNATJE & S. SILJAK-YAKOVLEV (2010). Molecular phylogeny and genome size in European lilies (genus *Lilium*, Liliaceae). *Advanced Sci. Lett.* 3: 180-189.
- NISHIKAWA, T., K. OKAZAKI, T. UCHINO, K. ARAKAWA & T. NAGAMINE (1999). A molecular phylogeny of *Lilium* in the internal transcribed spacer region of nuclear ribosomal DNA. *J. Molec. Evol.* 49: 238-249.
- PERUZZI, L. & C. E. JARVIS (2009). Typification of Linnaean names in Liliaceae. *Taxon* 58: 1359-1365.
- REŠETNIK, I., Z. LIBER, Z. ŠATOVIĆ, P. CIGIĆ & T. NIKOLIĆ (2007). Molecular phylogeny and systematics of the *Lilium carniolicum* group (Liliaceae) based on nuclear ITS sequences. *Pl. Syst. Evol.* 265: 45-58.
- RØNSTED, N., S. LAW, H. THORNTON, M. F. FAY & M. W. CHASE (2005). Molecular phylogenetic evidence for the monophyly of *Fritillaria* and *Lilium* (Liliaceae; Liliales) and the infrageneric classification of *Fritillaria*. *Molec. Phylogen. Evol.* 35: 509-527.
- SĂVULESCU, T. & E. I. NYÁRÁDY (1966). *Fl. Romania* 11: 274-275.
- VISIANI, R. DE (1865). Di un nuovo giglio nella Dalmazia. *Amico Campi* 1: 113-115.