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János Wagner's Tilia herbarium

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Abstract - WAGNER's Tilia collection containing primary and duplicate specimens has been re-arranged. The collection, presented to the Department of Botany of the Hungarian Natural History Museum by WAGNER, contains almost all the taxa of naturally occurring and cultivated Tilia of Hungary. WAGNER's Tilia monograph appeared between 1941 and 1944. The present arrangement of the collection makes it possible to incorporate the primary specimens into the Herbarium Carpo-Pannonicum.

János WAGNER was born in 1870 in Temeskeresztes and died in 1955 in Budapest. His Tilia collection is now deposited in the Department of Botany of the Hungarian Natural History Museum, presented there after completion of his linden monograph. Even after presenting his material, he continued to visit his collection to curate it and to further study it. The collection then had been in proper order, well-curated, but repeated translocations, moving of the whole department and transfer at the new site disordered the collection and caused the loss and damage of the marking slips of papers inserted into the files. Without these markers the original system cannot be recovered, and therefore the author undertook the task of completely reordering and curating the collection.

János WAGNER began to study lindens in 1918, when he repeatedly visited Szeged as supervisor of the two teachers' training colleges in the town, and it struck him that the lindens lining the streets and parks of the town were greatly variable. This diversity is quite understandable, as after the great flood Szeged received help, money, building material from all over the World, and even live plants, bushes and trees. Most of the labels were lost from the latter, thus happened that there are linden trees living even now in the town which were brought into the literature as new species. Such a species is, e.g. Tilia magyarica Wagn., which possesses very distinctive specific characters. The great varibility of the lindens prompted Wagner to study various herbaria. He was astonished to find that the dried samples of the collections were useless as in many cases the organs/parts indispensible for identification were missing. (The incomplete knowledge of trees was also probably connected with many of the dendrological discoveries in the recent decades.) He found that if he wanted to thoroughly study Tilia he would have to compile his own collection, in which the various taxa would be represented in sufficient number of samples and bear all the attributes suitable for identification, that is, several branches from a single tree with leaves, flowers and fruits. Thus he set himself to the task of collecting linden samples, which lasted from 1920 to 1933.

Rezső SOÓ appraised the collection in the second volume of his Synopsis, where in the treatment of lindens he followed János WAGNER's "extremely thorough and detailed" monograph and

accepted the great number of forms, though incorporated only the spontanously reproducing species into his system and merely listed the rest. He adapted the keys to the forms with some modification. His corrections of nomenclature are restricted only to changes which have taken place since the publication of the monograps. This is the greatest compliment on his part! Since then a number of forms described as cultivated ones have been shown to be spontaneously reproducing. Most of the saplings cultivated were raised from seeds collected in the wild, at most "improved", "domesticated" by selection. The next generation were grown at most in parks, fruits of trees lining roads. However, all these are found in the herbarium.

The number of new forms of Tilia described by János WAGNER is exactly 400, of these 150 are hybrids. If we look at this number, we may say with confidence that WAGNER's linden herbarium is unparalleled in the World! His contains the greatest number of taxa! The duplicate specimens are of great value for exchange!

János WAGNER compiled his "Exsicate of the lindens of Hungary", of 250 different forms of Tilia, which appeared in 5 fascicles between 1929 and 1934. This was his first study, the last one was his monograph on the lindens of Hungary, which appeared between 1940 and 1944.

It was primarily L. SIMONKAI, WAGNER's highly esteemed teacher in his secondary school in Arad, who encouraged WAGNER to do research. He himself passed on this inspiration to Pál GREGUSS in the teachers' training college in Arad. The author was so fortunate as to have been set on this profession by GREGUSS. This is how a teachers' motivations come to be fulfilled through several generations!

The oldest Tilia sheets of the herbarium are from 1896 from the collecting localities of Arad, Orsova, Malomviz, Gerebenc and Versec. (WAGNER's wife had come from Versec.) He did not actually purposefully collect lindens when he served as tutor in the teachers' training college in Kiskunfélegyháza. His systematical collections were obtained from the substantial linden stands of the country. Most of the speciemens, both as regards numbers and number of forms, came from Eszterháza (= Fertőd), from the famous park of the ESTERHÁZYs. This aristocratic family must have liked lindens, as there are great numbers of varieties in their park. Interestingly WAGNER did follow up this thought and had not visited other chateaux, parks, rows of trees and estates of the ESTERHÁZYs. Only in the county of Tolna there used to be roads lined by linden for 14 km between Kocsola and Dombóvár (very much thinned today), for 6 km between Szakály and Tamási (the whole row of trees was felled in the end of the 1960s for its valuable wood!), for 1 km between Tamási and Miklósvár (the area has been divided into housing plots but there is some of the tree line left), and there is a 1 km stretch between Fürged and Ozora which is untouched even today.

WAGNER had collected a lot in Budapest, in the following places: Gellért Hill, Zugliget, Sváb Hill (= Szabadság Hill), János Hill, Hármashatárhegy, Ördögorom, Remete Hill, Hárs Hill, Szemlő Hill, Vadaskert, Vérhalom, Szépilona, Fogaskerekü, Ujszentjános Hospital, Lipótmező, Horticultural Institute (University of Horticulture), Páfrány street, Apostol str, Zsámbéki str, Mátyásföld, Viziváros cemetary, Uj-Köztemető, Hunyadi square, Népliget. He repeatedly collected from several important localities: Kőszeg, Balatonfüred, Pécs, Gödöllő, Szentendre, Szeged, Királyhalom. He obtained excellent material from the following localities: Sopron, Sümeg, Zirc, Esztergom, Baja, Szentlőrinc (county of Baranya), Harkány, Harsány, WAGNER also had material from Nagykanizsa, Keszthely, Villány, Veszprém, etc.

There are, however, several regions which are not represented in the collections, such as Zala, Somogy, the greatest part of the Mecsek Hills, Hegyhát, Völgység, Mezőföld, Vértes Hills, Bakony Hills, Pilis Hills and the Northern Central Mountains. His collections were in fact rather sporadically obtained, and significant geographical and plant geographical regions were left out. It is possible, however, that in the collecting localities he had visited the characteristic forms of linden occurring in a wider region are found collected in a single locality.

Collecting sheets of other researchers who knew of his intentions also enriched WAGNER's linden material. Just to mention a few names and localities: Ádám BOROS (1900-1973), Nyirbátor, Árpád DEGEN (1866-1934), Vác, Kaludjerovno, Senj, Antal EGEY (1903-), Sárospatak, Nándor FILARSZKY (1858-1941), Borostyánkő, Gyula GAYER (1883-1932), Szombathely, Örállási-erdő, István GYŐRFFY (1880-1959), Kolozsvár, János HULJÁK (1883-1942), Abaujszin, Bükk mountains, Árpád KISS (1889-1968), Zemplén mountains, Telkibánya, Nagyhallgató, Kovácsvágási-huta, Ferenc PILLICH (1876-1948), Simontornya, Pálfa, Rácegres, Szilas-Balhás, Kajtár, Julius (Gyula) PRODÁN (1875-1959), Zombor, Péter WIERZBICKI (1794-1847), Oravica (the only person who had been his contemporary).

All of the abovementioned persons are well-known and the collecting localities are famous.

Foreign material is meagre in the collection, they have probably been included for comparison. The localities include the USA, England, Germany, Wien, Eastern Asia. The objective of WAGNER's study was to investigate the lindens of Hungary and not those of the whole World.

Aims of the present work

1) To know what the collection contains. The collection had contained 20 500 labelled identified sheets, and about 1 000 unidentified unsorted sheets tied in about 20 packages (study of the latter ones is the future task!). - The number of taxa according to WAGNER's monograph is 525. Of these 17 were not found in the collection. Fourteen taxa are represented by single sheets. Tilia Dominicana and T. aucta are not described in the monograph but listed in its "Register". There are 10 further taxa not treated in the monograph which are represented in the collection. They are of course undescribed!

2) To select a complete series for the Department of Botany! Two characteristic sheets are selected for each taxon, and one for each sample. These will be incorporated in the appropriate sections of the collection of the Department of Botany.

3) To sort and make accessible the duplicate specimens for exchange. This aim is achieved by the following arrangement. The taxa are kept in separate cardboard folders, with a slip of paper inserted into them. Large Roman numbers on these slips indicate the fascicle number (I-IV) of the monograph, the first Arabic number stands for the pagination (just as in the "Register"), the second one for the sequence on the page in question. Thus the retrieval of the taxon is a matter of only a few seconds if the name used in the "Register" is known.

Description of the herbarium

The collection had been contained in about 120 packages wrapped between cardboard covers with hemp strings. Now the duplicate specimens are stored in this fashion. Every package possesses a slip of paper with the inscription WAGNER written on it. In the course of the sorting the duplicate specimens have also been provided with slips of papers with the code written on them. A single package may contain more than one taxon, all of them kept in double cover. The herbarium sheets were cut from plain, brown wrapping paper. The samples are not glued to the sheets. The labels are not pasted to the sheets, either, and most of them are completed printed forms. In most of the cases all the plants are labelled; on a few thousand sheets the labels have become lost and need to be replaced. The pressing of the plants is exemplarily carefully, nicely done. The state of conservation of the sheets is almost faultless, there are hardly any specimens damaged.

As above mentioned there are 10 forms designated by WAGNER in his collection but they are undescribed. To make more complete WAGNER's big monograph here I give the descriptions of these new forms.

The author gives WAGNER's name as a marh of his esteem those taxa where WAGNER has given not only the new name but one typical character as well. Where appears only the author's name (VÖRÖSS) those taxa Wagner has not proposed name.

THE NEW FORMS

1. Tilia argentea Desf. var. colurnifolia Borb. f. subglobularis Wagn. ex Vörös (nov. form.). Sicut var. colurnifolia Borb., sed nuculis globosis, 7 mm diam. Vácrátót, September 9, 1924.

2. Tilia x pseudolongirostris Wagn. ex Vörös (nov. hybr.) (Tilia argentea x petiolaris). Sicut Tilia x pulchra Wagn., sed nuculis rostro 2 mm longo praeditis. Ságvári forest, August 19, 1925.

3. Tilia x pseudopulchra Wagn. ex Vörös (nov. hybr.). (Tilia argentea var. calvescens x petiolaris). Sicut Tilia pulchra Wagn., sed folia subtus minus tomentosa, viridiores quam apud Tilia argentea var. calvescens. Baja, near the serbian church, cult., August, 1930.

4. Tilia grandifolia Ehrh. var. copiosa Wagn. f. praestabilis Wagn. ex Vörös (nov.f.). Folia 8-10 cm longa, 7-9 cm lata, infima eorum basi cordata, suprema oblique cordata vel oblique desecta, dentibus 2 mm longis, acuminatis, in foliis supremis dentibus acutis. Cyma cum 2-4 cm longior quam bractea. Bractea usque ad 8 cm longa, et usque ad 2 cm lata, rudimentalis vel ab-

sens, in petiolum decurrens vel basi angusta, petiolo vel usque ad 2 cm longo. Nagykőrős, cult., June 17, 1926.

5. Tilia platyphyllos Scop. var. aenobarba (Borb.) Jáv. f. pseudo-trichogyna Vörösz (nov. f.). Folia 3-5 cm longa, apice acuta, infima eorum basi cordata, cetera desecta. Bracteae 5-6 cm longae, 10-12 mm latae, lanceolatae, petiolo nullo. Cymae cum 3-4 cm longiores quam bracteae. Stylus pilosus. Nuculae costis emergentibus, 8-9 x 7 mm. Szeged, Népkert, June 15, 1932.

6. Tilia platyphyllos Scop. var. tenuifolia (Host.) Simk. f. sublaevigata Wagn. ex Vörösz (nov. f.). Sicut var. tenuifolia (Host.) Simk., sed bracteae 9-12 cm longae, 1,5-2 cm latae, lineares vel lanceolatae, infimae breviter petiolatae, supremae earum apetiolatae, nuculae leniter costulatae, parum tomentosae, globosae 6 mm diam., parum apiculatae. Pápa. Tanitóképző, October 3, 1931., August 25, 1933.

7. Tilia platyphyllos Scop. var. tenuifolia (Host.) Simk. f. grandibracteata Vörösz (nov.f.). Sicut var. tenuifolia (Host.) Simk., sed bracteae 10 cm longae, 2 cm latae, nuculae 10 x 5 mm, rostro 1 mm longo. Mária-Radna (com. Arad), September, 1906.

8. Tilia caucasica Rupr. var. angulata Rupr. f. seiunctobracteaea Vörösz (nov. f.). Folia minora, pagina superiore atroviridia, inferiore pallidae viridia, 5-6 cm longa, folia suprema basi desecta, cetera cordata, aequaliter serrata dentibus aristatis. In angulis nervosum majorum barbula brunnea nudo oculo visibili. Bracteae 3-4 cm longae, 1 cm latae, ± lineares, petiolo 2 cm longo. Cyma e basi bracteae nascens, vel libera. Nuculae parum deplanatae parvae, 5-6 mm diam., cortis valde emergentibus, saepe deformatae cortis ve 8-10 praeditae. Jobbágyi, September 20, 1926.

9. Tilia euchlora C. Koch f. pseudo-multibracteata Vörösz (nov. f.). Sicut Tilia euchlora C. Koch, sed bracteae seape bracteola 25 mm longa 4 mm lata praeditae. Eszterháza (today Fertőd), August 19, 1931.

10. Tilia x praelustris Wagn. ex Vörösz (nov. hybr.). (Tilia Jakabiana x T. petiolaris). Folia usque ad 16 cm longa, 10 cm lata, basi oblique cordata, dentibus latis, apice breviter aristatis, aristis versus apicem folii curvatis, ad basim non barbata, sed in angulis nervorum lateraliumbarbula brunneola. Bracteae apetiolatae, 16 cm longae, 4 cm latae. Nuculae globosae, 8 mm diam., non alte sulcatae, emergentiis 5 praeditae, apice parum excavatae et in medio excavationis apiculo minuto. Szeged, September 18, 1924., July 3, 1927., and September 18, 1933.

There are some WAGNER's linden taxa, appear in monograph, which are not to be found at Herbarium Wagnerianum. The taxa are the following, using the name of the monograph:

Tilia offocinarum Crantz. ssp. platyphyllos Scop. var. propria Wagn., Tilia offocinarum Crantz. ssp. pseudorubra C. Schneid. var. obliquata Borb. f. macrogynia Borb., Tilia offocinarum Crantz. ssp. pseudorubra C. Schneid. var. subnemophilla Wagn. f. carlobagensis Deg. et Wagn., Tilia offocinarum Crantz. ssp. pseudorubra C. Schneid. var. corylifolia Host. f. eminens Wagn., Tilia offocinarum Crantz, ssp. pseudorubra C.Schneid. var. corylifolia Host f. eminens Wagn., Tilia placata Wagn., Tilia cordata Mill. typ. f. aureo-variegata Hort., Tilia cordata Mill. typ.f. rotundifolia Sp. Ravis., Tilia americana L. var. amelophylla V. Eng., and Tilia pseudostellata Wagn.

REFERENCE

WAGNER, J. (1941-1944): Magyarország hársai. - Kertészeti Közlem. 7-10 évf.

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