

Types of Joseph Freyn's names in the family Leguminosae based on collections by Ove Paulsen

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SUTORÝ K. 2014: Types of Joseph Freyn's names in the family *Leguminosae* based on collections by Ove Paulsen. *Acta Musei Moraviae. Scientiae biologicae* (Brno) 99(1): 77–86. – A complete list is provided of the names employed by Joseph Freyn to describe the family Leguminosae using material collected by Ove Paulsen in the course of a Danish expedition to northern Persia and the Pamir in 1888–1889; it contains 34 names (28 at specific level, 6 at subspecific). Lectotypes are designated for 14 of them in the genera *Astragalus*, *Colutea*, *Kostyczewa* (*Chesneya*), *Lotus*, *Oxytropis* and *Trigonella*. Most of the specimens involved are deposited in three herbaria: Brno, Copenhagen and St. Petersburg.

Keywords. Types, *Astragalus*, *Colutea*, *Kostyczewa* (*Chesneya*), *Lotus*, *Oxytropis*, *Trigonella*, Ove Paulsen

Introduction

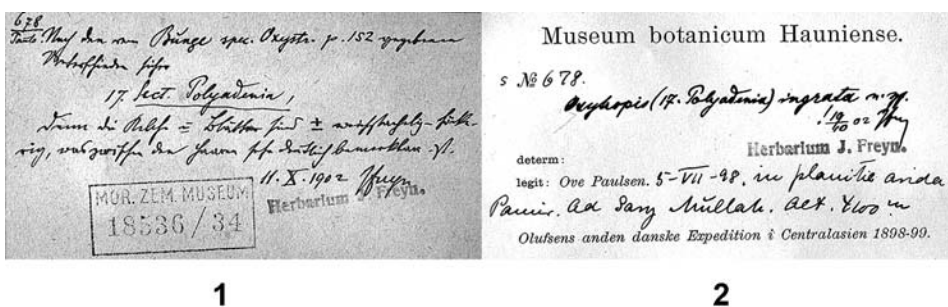
Danish botanist Ove Vilhelm Paulsen (22 March 1874–29 April 1947) studied at the University of Copenhagen under Professor E. Warming. He was a curator at the Botanical Museum of the University of Copenhagen from 1905 to 1920, when he became professor of botany at the Pharmaceutical College in Copenhagen, a position he held until 1947. He studied the flora of Denmark, the plankton of the North Atlantic and the flora of Central Asia. He took part in an expedition to northern Persia and the Pamir mountains from 23 March 1898 to November 1899 (JESSEN 1947), under the leadership of the explorer Ole Olufsen. The Austrian botanist Joseph Franz Freyn (7 Dec 1845–16 Jan 1903) worked up the *Leguminosae* collected and validly described 34 new taxa (28 at the specific level and 6 at the subspecific) based on this material (FREYN 1904). He published these in a series of articles under the running title *Plantae ex Asia media* published posthumously in three instalments (FREYN 1903, 1904, 1905). All Freyn's names were republished by PAULSEN (1909) with corrections by V. I. Lipsky. Only 10 of his names are in widespread use today. The material concerned is preserved in three herbarium collections: BRNM (Brno, Czech Republic), where Joseph Freyn's herbarium is held, at C (Copenhagen, Denmark), where the collector was resident, and at LE (St. Petersburg, Russia), where the material revised by V. I. Lipsky is still deposited.

Specimens at BRNM are provided with labels transcribed by Freyn (see Fig. 1) and often with small envelopes with parts of flowers, seeds, etc, as well. Only one specimen is accompanied by an original label written by the collector (see Fig. 2), with the preprinted heading *Museum botanicum Hauniense*. Specimens at C bear original collector's labels with Freyn's writing and identification labels by Lipsky ("*W. Lipsky, Notae criticae*"). This material is searchable at <http://130.225.211.158/typedatabase/>

search.htm). At LE the specimens are often fragmentary and have labels transcribed in Russian and bearing the preprinted heading “*Herbarium Horti botan. Imperialis Petropolitani*”. The handwriting is V. I. Lipsky’s and his identification labels are often added.

In selecting the types, preference was given to specimens deposited at BRNM, following recommendation 9A.1. of the International Code of Nomenclature for algae, fungi and plants (ICN 2012). “*Typification of names for which no holotype was designated should only be carried out with an understanding of the author’s method of working; [...]*”. From what appears above, the trajectory of the collected specimens is clear. Freyn saw all the material involved. After identification, he kept one part with transcribed labels in his herbarium and returned the remaining plants to the collector. The material was sent to Lipsky who also kept part of it for himself, with transcribed labels. The herbarium of the Moravian Museum (BRNM) in Brno purchased Freyn’s herbarium in 1905. The material is often accompanied by study notes (descriptions drafts, drawings of details, etc.) and proof-sheets. In this respect, the priority of the collection in BRNM has not always been respected. The presence of duplicates in other herbaria cannot be ruled out, but seems quite accidental (see *Astragalus latistylus* at TUH, Teheran, *Lotus* at JE, Jena). The protologue of *Trigonella eremophila* cites, in addition to Paulsen’s material, a gathering by Sintenis; duplicates of the latter may occur more frequently in other herbaria.

Abbreviations for herbaria follow THIERS [continuously updated]. Most names in *Astragalus* have already been typified by PODLECH (1998, 1999). If a name published by Freyn is not currently accepted, the valid name follows PODLECH & ZARRE (2013). Accepted names in other genera are given below the name.



Figs 1–2. 1 – Label transcribed by Joseph Freyn. 2 – Original collector’s label.

List of published names

Astragalus alaicus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 766. 1904.

Type: BRNM 17674/34 (PODLECH 1998: 248); isotypes: C, LE (fragmentary).

Astragalus alpinus subsp. *ferghanicus*

Freyn in Bull. Herb. Boissier Ser. 2, 4: 453. 1904.

Type indication: Prov. Ferghana; Syk Bulak ad flum. Langor, 16.6.1898 (Paulsen 357).

Lectotype (designated here): “No. 367. Prov. Ferghana; Syk Bulak ad flum. Langor, 16.6.1898 leg. Ove Paulsen” BRNM 17893/34. Specimen including a transcribed label and a small envelope; isolectotype: C. On one sheet combined with the gathering of the subspecies that follow.

Note: PODLECH & ZARRE (2013) do not cite the type.

Astragalus alpinus subsp. *olginensis*

Freyn in Bull. Herb. Boissier Ser. 2, 4: 454. 1904.

Type indication: In sylvia Juniperi Olgin-Bug [sic! recte Lug] in montibus Alai alt. 2600 m., 20.6. [year omitted], blühend (O. Paulsen 440).

Lectotype (designated here): “No. 440. In sylvia Juniperi Olgin-Lug in montibus Alai alt. 2600 m., 20.6.1898 leg. Ove Paulsen!” BRNM 18093/34. Specimen bearing a transcribed label; isolectotype: C. On one sheet combined with the gathering of the previous subspecies.

Note: PODLECH & ZARRE (2013) do not cite the type.

Astragalus charguschanus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 764. 1904.

Type: C (PODLECH 1988: 392); isotypes: BRNM 17716/34, LE.

Astragalus danieli-kochii

Freyn in Bull. Herb. Boissier Ser. 2, 6: 558. 1905.

= *A. masenderanus* Bunge

Type: C (PODLECH 1999: 179); isotypes: BRNM 17848/34, LE.

Astragalus dolichopodus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 1120. 1904.

Type: BRNM 17870/34 (PODLECH 1999: 179); isotypes: BRNM 17870, C, LE.

Astragalus enantiotrichus

Frey in Bull. Herb. Boissier Ser. 2, 6: 561. 1905.

= *A. alitschuri* O. Fedtsch.

Type: C (PODLECH 1999: 180, exs. 1109); isotypes: BRNM 748563, LE; syntype: BRNM 17881/34 (exs. 849).

Astragalus latistylus

Frey in Bull. Herb. Boissier Ser. 2, 4: 1106. 1904.

= *A. lasiosemius* Boiss.

Type: BRNM 18000/34 (PODLECH 1999: 182); isotypes: C, LE, TUH.

Astragalus latistylus* subsp. *aridus

Frey in Bull. Herb. Boissier Ser. 2, 4: 1107. 1904.

= *A. lasiosemius* Boiss.

Type: BRNM 17748/34 (PODLECH 1999: 183); isotypes: C, LE.

Astragalus lipskyanus

Frey in Bull. Herb. Boissier Ser. 2, 4: 755. 1904.

= *A. scheremetevianus* B. Fedtsch.

Type: C (PODLECH 1999: 183, Paulsen exs. no 1075); syntypes: BRNM 18014/34, C.

Astragalus lorinserianus

Frey in Bull. Herb. Boissier Ser. 2, 6: 565. 1905.

Type: BRNM 18018/34 (PODLECH & ZARRE 2013: 1905); isotype: C.

Astragalus mendax

Frey in Bull. Herb. Boissier Ser. 2, 4: 770. 1904.

= *A. taldicensis* Franch.

Type: BRNM 18050/34 (PODLECH 1999: 184); isotypes: C; LE (fragmentary).

Astragalus olufsenii

Frey in Bull. Herb. Boissier Ser. 2, 4: 450. 1904.

= *A. tibetanus* Bunge

Type: BRNM 18096/34 (PODLECH 1999: 185, exs. No. 1168); isotype: C; syntypes: BRNM 18094/34, C (No. 421), BRNM 18095/34, C (No. 973).

Astragalus oophorus

Freyn in Bull. Herb. Boissier Ser. 2, 5: 1019. 1905.

= *A. breviscapus* B. Fedtsch.

Type: BRNM 18097/34 (PODLECH 1999: 185); isotypes: C, LE.

Astragalus orophacoides

Freyn Bull. Herb. Boissier Ser. 2, 6: 563. 1905.

= *A. muschketovii* B. Fedtsch.

Type: BRNM 18103/34 (PODLECH 1999: 185. exs. 730); isotypes: C, LE; syntypes: BRNM 18104/34, C.

Astragalus orthanthus

Freyn in Bull. Herb. Boissier Ser. 2, 5: 1018. 1905, nomen illegitimum, non A. Gray 1865.

= *A. nivalis* Kar. & Kir.

Type: BRNM 18105/34 (PODLECH 1999: 185, exs. 1103); isotypes: C, LE; Syntypes: BRNM 18106/34, C, LE (exs. 754).

Astragalus paulsenii

Freyn in Bull. Herb. Boissier Ser. 2, 4: 445. 1904.

= *Ophiocarpus paulsenii* (Freyn) Ikonn. (*A. ophiocarpus* Bunge)

Type: C (IKONNIKOV 1977: 232); the later lectotypification by PODLECH (1994: 162) was superfluous. Isotypes: BRNM 18122/34, LE.

Note: Lectotype of this species is also the type of the genus *Ophiocarpus* (PODLECH 1994: 161).

Astragalus polychromus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 454. 1904.

= *A. beketovii* (Krasn.) B. Fedtsch.

Type: C (PODLECH 1999: 186); isotypes: BRNM 18135/34, LE.

Astragalus samarkandinus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 763. 1904.

= *A. macronyx* Bunge

Type: C (PODLECH 1999: 186); isotypes: BRNM 18170/34.

Astragalus serafschanicus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 767. 1904.

= *A. mucidus* Boiss.

Type: BRNM 18192/34 (PODLECH 1999: 187); isotypes: C, LE.

Astragalus sykensis

Freyn in Bull. Herb. Boissier Ser. 2, 6: 559. 1905.

= *A. platyphyllus* Kar. & Kir.

Type: BRNM 18240/34 (PODLECH 1999: 188); isotypes: C, LE.

Astragalus tecti-mundi

Freyn in Bull. Herb. Boissier Ser. 2, 4: 456. 1904.

Type: C (PODLECH 1998: 262); isotypes: BRNM 18244, LE (fragmentary).

Colutea paulsenii

Freyn in Bull. Herb. Boissier Ser. 2, 4: 47. 1903.

Type indication: Pamir, prov. Goran; ad Seis, 2600 m. s. m., die 5. octobri 1898, lg. Ove Paulsen 1459).

Lectotype (designated here): “No. 1459. Pamir. Prov. Goran; ad Seis, alt. 2600 m. 5.10.1898 leg. Ove Paulsen!” BRNM 16920/34. Specimen including Freyn’s copy of the original label dated 16.05.2002 and another label with some written and drawn details for the description; isolectotypes: BRNM 18122/34, C; LE.

Note: According to Lipsky’s identification labels in C, this is *C. persica* var. *buhsei* Boiss.

Kostyczewa trifoliata

Korsh. ex Freyn in Bull. Herb. Boissier Ser. 2, 4: 444. 1904.

= *Chesneya ternata* (Korsh.) Popov according to ILDIS.

Type indication: Prov. Ferghana, ad Gultsha 1600 m. s.m., 17.6.1898, mit Früchten (leg. O. Paulsen 272 [sic! recte 372]).

Lectotype (designated here): “No. 372. Prov. Ferghana, ad Gultsha, 1600 m. s.m., 17.6.1898, leg. Ove Paulsen” BRNM 11805/34. Specimen including envelope with Freyn’s copy of the original label dated 17.05.02; isolectotype: C.

Note: The specimens in BRNM and C bear the number 372 and the same number is also given in PAULSEN (1909). Sometimes this name is ascribed to Lipsky. However, according to BORISOVA (1945), this name was not validly published but only used *in schedis*.

Lotus corniculatus* subsp. *frondosus

Freyn in Bull. Herb. Boissier Ser. 2, 4: 44. 1904.

= *L. corniculatus* according to Chrtková (1970); *L. tenuis* according to P. Larssen 1997 on identification labels in C.

Type: BRNM 16490/34 (CHRTKOVÁ 1970: 95, exs. 1652a); isotypes: JE, LE; syntypes: BRNM 16489/34, C, LE (Paulsen's specimen with erroneous collection year "1899").

Oxytropis hirsutiuscula

Freyn in Bull. Herb. Boissier Ser. 2, 5: 1021. 1905.

= *O. glabra* var. *pamirica* B. Fedtsch. according to FEDTSCHENKO (1912a).

Type indication: Pamir, in humidis salsis prope lacum Jashil-Kul, alt. 3800 m. die 23.7.98 florentem et c. leguminibus immaturis leg. O. Paulsen 881.

Lectotype (designated here): "No. 881. In humidis salsis. Pamir. Prope lacus Jashil Kul. Alt. 3800 m, 23.7.1898, leg. Ove Paulsen" BRNM 18532/34. Specimen including copy of collector's label dated 12.10.02, label with description, and small envelope, all added by Freyn; isolectotypes: C, LE.

Oxytropis ingrata

Freyn in Bull. Herb. Boissier Ser. 2, 6: 197. 1906.

= *O. chiliophilla* Royle according to SCHISCHKIN (1948)

Type indication: Pamir, in planitie arida, ad Sary Mullah, alt. 4100 m. 5.7.98 florens (O. Paulsen 678).

Lectotype (designated here): "No. 678. 5.7.98 in planitie arida. Pamir. Ad Sary Mullah, Alt. 4100 m" BRNM 18536/34. Label including transcribed collector's data dated by Freyn 19.10.02, label with description, small envelope, all added by Freyn, and original collector's label dated 18.10.02 by Freyn; isolectotype: C.

Note: The synonym *O. tibetica* Bunge was used on Lipsky's identification label in C.

Oxytropis introflexa

Freyn in Bull. Herb. Boissier Ser. 2, 6: 195. 1906.

= *Oxytropis poncinsii* Franch. according to FEDTSCHENKO (1912a)

Type indication: Pamir, ad "Rabat I" alt. 4300 m. 3.7.1898 florens ([Paulsen]. 670); in Tschatir-Tasch alt. 4000 m. 14.7.98 florens ([Paulsen] 778); in planitie arida; prope lacum Jashil-Kul alt. 3800 m. 4.8.98 florens ([Paulsen] 1027) et 17.8.98.

Lectotype (designated here): "No. 670. Pamir. Ad "Rabat I" Alt. 4300 m. 3.7.1898 leg. Ove Paulsen" BRNM 18538/34. Specimen with transcribed collector's label dated 18.10.02 and small envelope by Freyn; isolectotype: C; syntypes: BRNM 18537/34 (exs. 1027), BRNM 18539/34 (exs. 778), BRNM 18540/34 (exs. 1119), C (exs. 778, 1027, 1119).

Oxytropis lapponica* var. *cana

Freyn in Bull. Herb. Boissier Ser. 2, 5: 1021. 1905.

= *Oxytropis humifusa* Kar. & Kir. according to Lipsky's identification label in C.

Type indication: In sylva Juniperi Olgin Lug in montibus Alai. Alt. 2600 m. s. m. 20.6.1898 (O. Paulsen 430).

Lectotype (designated here): "No. 430. In silva Juniperi Olgin Lug in montibus Alai. Alt. 2600 m. leg. 20 Junio 1898 Ove Paulsen!" BRNM 18491/34. Specimen with collector's label transcribed and dated 11.10.02 by Freyn; isolectotype: C.

Oxytropis merkensis* subsp. *incanescens

Freyn in Bull. Herb. Boissier Ser. 2, 5: 1023. 1905.

= *Oxytropis immersa* (Bak.) Bunge according to FEDTSCHENKO (1912a).

Type indication: Pamir, in monte arido prope lacum Jashil Kul; alt. 3800 m, 18.7.98 (Paulsen 819).

Lectotype (designated here): "No. 819. Pamir. In monte arido. Prope lacus Jashil Kul. Alt. 3800 m 18.7.1898 leg. Ove Paulsen!" BRNM 18534/34. Specimen including transcribed collector's label dated 13.10.02, label with description, and small envelope, all added by Freyn. Status of this taxon is given on labels as "var."; isolectotypes: C; LE.

Other original material: "No. 1009. Pamir. In declivitate montis humida. Prope lacus Jashil Kul. Alt. 3800 m 1.7.1898 leg. Ove Paulsen!" BRNM 18535/34.

Oxytropis polyadenia

Freyn in Bull. Herb. Boissier Ser. 2, 6: 199. 1906.

= *O. chiliophilla* Royle according to SCHISCHKIN (1948)

Type indication: Pamir, in monte arido, prope lacum Karakul 1.7.98 florens. Alt. 4000 m. (Paulsen n. 656 oder 658?) [sic! lapsus calami, recte 653].

Lectotype (designated here): "No. 653. In monte arido Pamir. Prope lacus Kara Kul. Alt. 4000 m 1.7.1898 leg. Ove Paulsen!" BRNM 18547/34. Specimen including transcribed collector's label dated 20.10.02, label with description, and small envelope, all added by Freyn; isolectotypes: C; LE.

Note: The synonym *O. tibetica* Bge. was used on Lipsky's identification label in C and by FEDTSCHENKO (1912a: 106).

Oxytropis trichosphaera

Freyn in Bull. Herb. Boissier Ser. 2, 6: 193. 1906.

Type indication: Pamir, in planitie arida. Prope lacum Jashi-Kul, alt. 3800 m. 21.7.98 florens (Paulsen 845).

Lectotype (designated here): “No. 845. In planitie arida. Pamir. Prope lacus Jashil Kul. Alt. 3800 m. 27.7.1898 leg. Ove Paulsen” BRNM 18552/34. Specimen including transcribed collector's label dated 14.10.02, label with description, and small envelope, all added by Freyn; isolectotypes: C; LE.

Note: *Oxytropis bella* B. Fedtsch. in FEDTSCHENKO (1912b: 474); name in current use (FEDTSCHENKO & VASILTCHENKO 1945: 226).

Oxytropis vermicularis

Freyn in Bull. Herb. Boissier Ser. 2, 5: 1025. 1905.

Type indication: Pamir, in planitie arida prope lacum Kisil-Kul, alt. 4000 m. 29.6.98 (lg. Ove Paulsen n. 631).

Lectotype (designated here): “No. 631. In planitie arida Pamir ad Kisil Kul. Alt. 4000 m 29.6.1898 leg. Ove Paulsen!” BRNM 18553/34. Specimen including a transcribed collector's label dated 14.10.02, three labels with descriptions, and small envelope, all added by Freyn; isolectotypes: C; LE.

Trigonella eremophila

Freyn & Pauls. in Bull. Herb. Boissier Ser. 2, 4: 40. 1903.

= *Trigonella grandiflora* Bunge according to ŠIRJAEV (1929).

Type indication: Transkaspia: Aschabad, in desertis salsis, 24.4.1900, ... (Sintenis 154); Turkestan, prope fluvium Syr-Darja, ad Kumikud, in steppa, 10.5.1898, ... (Paulsen 149)

Lectotype (designated here): “No. 149 Prope fl. Syr-Daria, ad Kumikud, in steppa. 10.5.1898 leg. Ove Paulsen” BRNM 14125/34. Specimen including transcribed collector's label dated 11.5.02 by Freyn and identification label by Širjaev 1926; isolectotypes: C (2 ex); LE; syntypes: (Sintenis 154): BRNM 14124/34, JE, K.

Acknowledgements

My thanks are due to the curators of the herbaria visited in Copenhagen (C) and St. Petersburg (LE). This article appears through financial support provided to the Moravian Museum by the Ministry of Culture of the Czech Republic as part of its long-term conceptual development programme for research institutions (ref. MK000094862).

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