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RESEARCH ARTICLE

Taxonomic and nomenclatural inventory of the Umbelliferae in Central Asia, described on the basis of collections of the National Herbarium of Uzbekistan

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ABSTRACT

The National Herbarium of Uzbekistan (TASH) in Tashkent is the oldest and largest botanical collection not only in Uzbekistan, but also in the entire region of Central Asia. The article presents a complete inventory of the type material of Umbelliferae taxa stored in the National Herbarium of Uzbekistan (TASH), as well as some key events of the TASH history and its main personalities. The herbarium in its current state is a result of merging of seven Uzbekistanian herbaria. TASH played a special role in the studies of Central Asian Umbelliferae (Apiaceae). TASH currently holds type specimens of 130 taxa of Umbelliferae, including 125 species and 5 intraspecific taxa (according to the ranks proposed in protologues). The TASH Umbelliferae type collection contains holotypes of 82 taxa, lectotypes of 36 taxa, isolectotypes of 22 taxa, syntypes of 15 taxa, and isotypes of 19 taxa. The names of 54 taxa have been preserved in the modern nomenclature of the Umbelliferae, whereas the names of 46 and 33 taxa are now considered as nomenclatural and taxonomic synonyms. Four lectotypes are designated here.

Key words: Central Asia; Herbarium TASH; Uzbekistan; nomenclature; typification; Umbelliferae; Uzbekistan

Introduction

The National Herbarium of Uzbekistan (TASH), housed in the Institute of Botany of the Academy of Sciences of Uzbekistan in Tashkent, is the biggest botanical institution in Central Asia. Its collections contain over one and a half million specimens, including a rich set of type specimens from different vascular plant families. These collections are of particular interest to researchers of Umbelliferae, since, firstly, the region where it is located and where its main material came from, is one of the world's largest diversity centers of this plant family, and, secondly, it was in Tashkent that Prof. Eugene P. Korovin (1891–1963), an outstanding expert in Umbelliferae, and his team had worked.

Brief history and current state of botanical collections in Tashkent

The core of modern TASH has undergone significant changes in its century-long history (since 1920), both in the accumulation and

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scientific processing of its collections, and in changes in its administrative status and subordination. However, this herbarium, as Central Asia's largest center of taxonomic and floristic botany retains its status in modern Uzbekistan. In addition, it was this herbarium that became the core of the most actively operating botanical institution in the region with dominant interests in Central Asian flora.

Up to 1917, all studies on the flora of modern Central Asia were carried out by botanists from major Russian cities, primarily from St. Petersburg, but also from Moscow, Kyiv, Tomsk, and Kazan. New extensive herbarium collections of plants were concentrated there; their flow significantly increased when the Resettlement Department of the Ministry of Agriculture of the Russian Empire started to organize expeditions to Central Asia in 1905. This activity aimed at searching for new lands suitable for colonists from European provinces of Russia (Baranov 1933). Before this time, the only scientific collection of dried plants in Russian Turkestan was a small herbarium of the Bureau of Soil and Botanical Research at the Resettlement Department (Vasilchenko & Vasilieva 1975), which had existed in Tashkent since 1909. Besides local collections, duplicates of classical materials were received from large Russian herbaria.

Before the First World War, it was decided to establish the first university in Tashkent, which was open only after the war and the Russian Revolution in 1918. Due to the lack of any other higher school and an acute need for professional school and training centers in the country, it was originally established as a versatile secondary professional education center and a labor school, named Turkestan People's University (Turkestan State University since 1920).

Important facts from the early history of the University and its herbarium can be found in several publications (Popov 1925, 2017; Baranov 1927; Korovin 1958; Pjataeva et al. 1972).

To convert a people's university into an academic high school, the new-born university sent a delegation to Moscow, whose aim was to organize and build a committee that should have built the infrastructure of the new university with its scientific personnel, fundamental library, and equipment. One of the important scientific items sent from Moscow to Tashkent was an academic herbarium, which was transported in 1920, by the beginning of the new University. The earlier herbarium collections kept in Tashkent were incorporated into this new botanical center.

Many promising young botanists were invited to teach and research at the newly created University, which subsequently played a prominent role in the development of Central Asian plant systematics, ecology and geobotany: M.G. Popov (1893–1955), E.P. Korovin, A.I. Vvedensky (1898–1972), M.V. Kultiassov (1891–1968), P.A. Baranov (1892–1962), V.P. Drobov (1885–1956), M.M. Sovetkina (1892–1950), I.A. Raikova (1896–1981), R.I. Abolin (1886–1938), V.P. Botschantzev (1910–1990), K.Z. Zakirov (1906–1992), and others. Some of them, for example, Abolin, Popov, and Korovin, have previously (since 1913–1914, see (Abolin 1930; Pjataeva et al. 1972; Popov 2017) participated in field expeditions entire of the region and the collection of botanical materials in Central Asia. The Herbarium of the Central Asian University (SAGU) (known under the acronym TAK), as well as the Institute of Soil Science and Geobotany, which had for a short time part of the University, organized numerous complex (soil-botanical, zoological-botanical) expeditions throughout mountainous Central Asia, in the times of transparent borders and extensive government support. One of the activists of the Institute of Soil Science and Geobotany (1921–1931) was the botanist and soil scientist R.I. Abolin (Āboliņš), a Latvian by nationality, who later moved to Leningrad and was repressed. In his work (Abolin 1930) on Jety-Su or Semirechye (the former Semirechensk province = Prov. Heptapotamica), he provided a detailed overview of the history of the botanical exploration of north-eastern Central Asia, mentioning expeditions and individual botanists, their achievements, routes and collections. The active herbarization by botanists of the Institute of Geobotany and Soil Science, the Department of Botany of the University resulted in a rapid increase in the herbarium as a whole and in the discovery of multiple endemic plants. By 1925, the herbarium contained numerous type specimens of newly described species of the local

flora, including 17 new Umbelliferae (Korovin 1925; Tojibaev et al. 2021).

A.I. Vvedensky played an important role in the creation and development of the Herbarium of SAGU; he supervised the TAK for many years (after his death this position was taken by T.A. Adylov). Many of Vvedensky's students worked later at SAGU (now the National University of Uzbekistan). In addition to his original studies of various Central Asian plant groups, including a number of economically important taxa, Vvedensky is known as the editor, supervisor, or initiator of the most important botanical works on the Umbelliferae published in Tashkent: «Flora of Uzbekistan» (Korovin 1959b), «Illustrated monograph of the genus *Ferula*» by Korovin (1947a), «Conspectus Florae Asiae Media» in 10 vols. (Kovalevskaya 1968; 1971; Bondarenko & Nabiev 1972; 1974; Pakhomova 1976; Kamelin et al. 1981; Adylov 1983; Nabiev 1986; 1987; Adylov & Zuckerwanik 1993), the exsiccatae "Schedae ad Herbarium Florae Asiae Mediae" (23 issues) and others (Butkov et al. 1968).

One of the Greatest Russians (Soviet) taxonomists is M.G. Popov (Kamelin 2000). It was in Central Asia that M.G. Popov began his now widely known investigations in florogenetics. His contribution to the knowledge of plant diversity in Central Asia was no less significant. For this reason, Kamelin (2000) named him among the eight outstanding taxonomists of Russian (Soviet) botany. In the list of type materials of Umbelliferae presented below (Popov seems to have had no special interest in this family), his surname as a collector is very common. Popov (sometimes together with Vvedensky) made many magnificent discoveries in Mogoltau, Nuratau, and the mountains of the southern Pamir-Alai. Other collectors include Botschantsev and Butkov (south Uzbekistan and Tajikistan), Sovetkina (Central Tian-Shan, Syrdarya Karatau), Zakirov (Zeravshan basin), Paziy and Mironov (Tajikistan, Kazakhstan), Kudryashev, Sumnevich and Gnezdillo (Pamir-Alai), Granitov (Mogoltau, Talas), Kultiassov (Mashat Mts.) and many others.

As for the study of the Umbelliferae of Central Asia, an exceptional role in these studies was played by Prof. E.P. Korovin, the author of the «Illustrated monograph of the genus *Ferula*» (Korovin 1947a), monographic treatments of *Bunium* (Korovin 1927a) and *Scaligeria* (Korovin 1950a), with diversity centers in Central Asia, regional treatments of the Umbelliferae in «Flora of Central Kazakhstan» by N.V. Pavlov (Korovin 1935), «Flora of Turkmenistan» by V.V. Nikitin (Korovin 1950b), «Flora of Uzbekistan» by A.P. Vvednskyi (Korovin 1959b), «Flora of Kazakhstan» by N.V. Pavlov (Korovin 1963), «Flora of Tajikistan» (Korovin et al. 1984). Korovin described 14 new genera (*Astomatopsis, Cephalopodum, Elaeopleurum, Hymenolyma, Komarovia, Kosopoljanskia, Mogoltavia, Paulia, Scaphospermum, Sclerotiaria, Sphenocarpus, Talassia, Vvedenskya*, and *Zeravschania*) and 117 new species (see below) of the Umbelliferae, mainly from Central Asia.

In 1937, the second Herbarium (TASH) was created in Tashkent, unitially within the Committee of Sciences of the Uzbek SSR, the precursor of the Uzbekistan Academy of Sciences, finally to become part of its Institute of Botany. For many years, the head of this herbarium had been M.M. Nabiev (1926–2017); S.S. Kovalevskaya (1929–1993), O.V. Cherneva (born in 1929), T.I. Zuckerwanik (1930–?), M.G. Pachomova (1925–?), U.P. Pratov (1934–2018), M.V. Arifkhanova (?–?) were employed as botanists. While working on the multi-volume «Conspectus Florae Asiae Media», botanists of both herbaria in Tashkent (TAK and TASH) closely collaborated. At that time the idea of a single National herbarium of Uzbekistan may have arisen; besides, the unification of two large botanical centers in Leningrad (now St. Petersburg), the Botanical Museum and the Botanical Garden in Leningrad (Saint-Petersburg), which was the foundation of the Komarov Botanical Institute of the Academy of Sciences of the USSR (now Russian Academy of Sciences) with one of the biggest herbarium in the world (LE), may have served as a precedent.

The integration of herbaria in Tashkent was completed in 1988 (Pratov & Adylov 1996); the combined herbarium retained the international acronym TASH. The united herbarium included the collections of the Tashkent State University (TAK), the Institute of Botany (TASH), the

Institute of Chemistry of Plant Substances, the Nature Museum of Uzbekistan (RNMUT), and some materials from the Samarkand State University. An important role in the creation of the Central Herbarium in Uzbekistan was played by Acad. Prof. K.Z. Zakirov and Prof. U.P. Pratov, the directors of the Institute of Botany in a sequence. On the initiative of Acad. K.Sh. Tojibaev, Director General of the Institute of Botany in 2014–2021, the Central Herbarium was renamed the National Herbarium of Uzbekistan and a close cooperation was established with botanists of China, Korea, and some other Asiatic and European countries.

All herbarium collections were housed in the large two-story hall of the Institute of Botany. Originally, the collections of the two largest Tashkent herbariums (TAK and TASH) were placed separately on different sides of the central aisle, each in its taxonomic order. Then, the integration of herbarium materials has begun. At the last stage, plants from the Herbarium of the Institute of Chemistry of Plant Substances have been fully integrated into the combined collection.

A large-scale modernization of the herbarium is planned, including the replacement of obsolete wooden herbarium cabinets by modern compactors, which is important since in recent years the stock has considerably grown, mainly thanks to the new Flora of Uzbekistan project (Sennikov et al. 2016). Lately, three volumes of the new Flora have been published (Sennikov 2016, 2017, 2019). Scanning and barcoding of specimens, both regular and type collections, has already been launched in the herbarium; an information system to register plant locations within Uzbekistan has been also designed.

Today, the majority of taxonomic groups have been treated by local and foreign experts at a satisfactory level. Based on the TASH material, historical and modern flora of many Central Asian regions can be analyzed, as the herbarium sampling is very rich. Since 2011, the team of the TASH Herbarium has compiled the current checklist and digital database of the flora of Uzbekistan and its provinces (Tojibaev et al. 2014; Tojibaev et al. 2020).

The electronic database of the TASH collection created by the efforts of the entire team of the National Herbarium of Uzbekistan was the most important resource for analyzing the geographical distribution of plant species. The digitizing of TASH herbarium specimens was done by scanning using HerbScan TM 224 + Epson Expression 10000 XL. Over 5,000 herbarium specimens from the general collection (2–5 representative specimens for each plant species) and 815 type specimens (stored separately) were scanned. The specimens from the general collection and the type collection were scanned with a resolution of 360 dpi and 600 dpi, respectively; the scanned images were saved in the TIFF format. The TASH database was developed in the MS Excel format; it currently includes over 300,000 herbarium records of more than 2,500 species belonging to 340 genera.

A modern synopsis of the flora of Uzbekistan was developed also in the MS Excel format (electronic database), which includes 4.384 wild vascular plant species, whose presence in the territory of the country has been documented. The information on each herbarium specimen in the database includes Latin, Uzbek, and Russian names of the species; place of collection (full text from the label); surnames of collectors and taxonomic experts; collection date; sample number; coordinates (latitude and longitude); and botanical-geographical district and region. The coordinates for new collections were determined by GPS recorders. Coordinates of historical specimens were determined mostly using online maps (Google Earth). The historical maps from TASH archives were an invaluable source of information for this work because some toponyms changed many times over the last century. The coordinates were tabulated in the MS Excel format, imported to GIS using the ArcGIS 10.0 software, and saved as the point vector layers (GIS shape-files). The licensed Arc program was provided by the sponsorship support of the GEF Small Grants Programme. Satellite images from free Internet resources (Google, Yandex, etc.) were downloaded using the SAS Planet software, exported to GIS, and used as a topographical basis, as well as vector and raster layers from open-access Internet resource www.naturalearthdata.com. The data were exported from ArcGIS into maps as jpg image

files. Point distribution maps of many species of the flora of Uzbekistan, including endemic species, were prepared using ArcGIS, which facilitated the analysis of each botanical-geographical district and region. The results of these studies have enabled us to develop a new scheme of botanical and geographical districts of Uzbekistan (Tojibaev et al. 2016; 2017).

Enumeration of the taxa and identification of their nomenclatural types

For revisions of the Umbelliferae of Central Asia, the collection of type specimens stored at TASH is very important, being the second in size only in comparison with the corresponding collection at LE. These two collections differ significantly, complementing each other, which is especially evident in the example of the genus *Ferula*. Many endemic species of the family from Central Asia were first collected by expeditions of the Tashkent University and the Institute of Botany of the Academy of Sciences of Uzbekistan and described by Tashkent botanists, primarily by E.P. Korovin.

In total, the type collection of the Umbelliferae in the Central Asian sector of TASH refers to 130 plant names, mainly at the species rank (there are only 4 names of infraspecific taxa in their original interpretation). Of these names, 54 are currently accepted, 46 are nomenclatural synonyms, and 33 are taxonomic synonyms. All type categories are included, also isotypes, isolectotypes, neotypes, and syntypes. Only for 3 species (*Anethum involucratum* Korovin, *Ferula kuhistanica* Korovin, and *Semenovia heterodonta* (Korovin) Manden.), the types were designated but not found in Tashkent.

The overwhelming majority of holotypes and lectotypes included in the list were established by Prof. E.P. Korovin (103 plant names at TASH and 6 plant names at LE). 16 species were described by other experts, including three new species collected and described by Tashkent botanists F.O. Khassanov, I.I. Maltzev and K.Sh. Tojibaev, of which two species belonged to new monotypic genera (*Kamelinia* F.O. Khas. & I.I. Maltzev and *Kuramosciadium* Pimenov, Kljuykov & Tojibaev). For the names of 3 species, the material of which was previously indicated as being stored in the Tashkent but was not found in the present inventory, neotypes were designated here.

The main collectors of the Tashkent type material of the Umbelliferae, except for Korovin himself, were M.G. Popov, A.I. Vvedensky, R.I. Abolin, V.P. Drobov, V.P. Botschantzev, M.M. Sovetkina, M.V. Kultiassov, I.I. Granitov, A.I. Butkov, V.S. Zakrzevski, S.N. Kudrjashev, I.A. Linczewski, A.F. Gnezdillo, E.A. Mokeeva, N.A. Merkulovich, V.K. Pazij, A.D. Pjataeva, S.N. Lepeshkin, F.O. Khassanov, I.I. Maltzev, K.Sh. Tojibaev and others.

In early publications by Korovin (1923, 1924b, a, 1925, 1927b, 1928) there were not exact citations of the original material or type indications. For instance, the first description of a new taxon of the Umbelliferae, proposed by Korovin (1923), namely the description of *Kosopoljanskia turkestanica*, contains only a list of specimens examined, which served to characterize the species geography: «*Hab. in regione inferior montium Talass-Alatau, Itschkele-tau, Ak-tasch, praecipue in terra salsuginea frequentissima: ad riv. Arabik, fr. mat. 5.VIII.921. leg. R. Abolin et M. Popov. Ur-Maral, Karagoin. 1.IX.922 fr., Kumysch-tag. 7.VIII.922. fr., Ak-tasch. 12.VII.922. fr.mat. l[eg] Eug.Korovin*». This listing of species localities resembles the style of "Flora orientalis" by E. Boissier (1872), written in the «pretypification» era, and does not give any information on what locality is a locus classicus of the species. This observation agrees with the descriptions of the new species in Korovin (1924b). The type localities of such taxa were indicated in later, usually modern publications. A valuable survey of the genus *Bunium* L. and its Central Asian representatives (Korovin 1927a) also contains similar lists of localities without selection of types. The impressive Korovin's monograph of *Scaligeria* (Korovin 1928) with his emotional «propaganda» of the ecologo-coenotical method in the phylogeny of small taxonomic groups, surprisingly does not contain indications for species typifications. In publications of the 1940s and later, Korovin (1947a; 1947b; 1948) always added a separate paragraph «typus» and indicated a place where the type is preserved.

Material and methods

The herbarium collections of Umbelliferae at TASH were taxonomically revised. Type specimens were identified according to the protologues and extracted from the main collections. The nomenclatural status of the type specimens was assessed, and lectotypes were designated when necessary.

A nomenclatural synopsis of the type collections contains the following information, for each entry:
1) plant name as published by the original author(s) (which is typified here), and its homotypic synonyms if any;
2) main type citation, with type designation (holotype, lectotype or neotype, and their duplicates if any);
3) accepted name, if not homotypic with the name being typified;
4) species distribution in Central Asia, with the list of countries and their provinces;
5) species distribution in Asia, outside Central Asia;
6) notes on taxonomy and distribution.
Accepted names are in bold italics, synonyms in italics.
In the list of types of species names stored in TASH, the following notations apply:
≡ nomenclatural synonym; = taxonomic synonym; – misidentification.
Acronyms of herbaria are indicated according to Thiers (2019). The barcodes of type specimens, if available, are cited in square brackets immediately following the acronym.

Nomenclatural problems and their solutions

A few holotypes indicated by Korovin as kept at TAK unexplainably cannot be found at present-day TASH. These specimens were either lost or misplaced; there is still a chance for the rediscovery of those missing types as happened recently with the once-lost holotype of *Hyalolaena depauperata* Korovin, which was replaced by a neotype (Pimenov & Kljuykov 1982) and then recovered by Lyskov et al. (2019). We report five cases of lost holotypes (*Anethum involucratum* Korovin, *Ferula kuhistanica* Korovin, *F. pachyphylla* Korovin, *F. prangifolia* Korovin and *Platytaenia heterodonta* Korovin), for which two neotypes were designated by Pimenov (2020) and corrected to lectotypes here. In three cases (*Anethum involucratum*, *Ferula kuhistanica*, *Platytaenia heterodonta*), we refrained from new type designations because no original material was available, still expecting that the missing types may resurface one day when the digitization and curatorial inventory of TASH is completed.

Many pre-1958 publications did not use the type concept for new plant names, with the notable exception of Korovin who started to indicate holotypes after the mid-1940s (1947b; Korovin 1947a, 1948; 1950b; 1951). In those times, there was no way to specify which particular specimen was indicated as type if the gathering was represented by more than one herbarium sheet. In such cases, we follow the annotations on herbarium specimens left by the original authors. Lectotypes are designated only in those cases if the original authors did not specify which specimen was intended as the holotype.

Plants described on printed herbarium labels and distributed as exsiccata, Herbarium Florae Asiae Mediae (Korovin 1926) were based on an uncertain number of original specimens, of which, as a rule, only one collection was cited in the protologues. Such cited collections are the only syntypes and therefore the obligate lectotypes of those plant names. The exsiccata was distributed in 50 duplicates, which all are syntypes of the same value for lectotypification. For this reason, lectotypification should be affected. In Flora of the USSR (Schischkin 1951) a standard statement was provided, specifying the locality from which the type was collected and the place in which the type is kept (Kirpicznikov 1969). This statement (Leningrad meaning LE, Tashkent meaning TASH) would constitute a lectotypification because a single institution (with a single specimen kept there) was specified but the typification was not affected otherwise because contrary to Art. 7.11 (the type specimen was not indicated by direct citation of its label data). In such cases, we formally designated lectotypes in agreement with previous indications unless other choices were effectively published.

There is an erroneous indication that one type is kept at TASH whereas it is actually absent there. *Bunium seravschanicum* Korovin (1927a) was described from two remote localities with several collections cited, from Kul-i Kalon, Zeravschan, and Roshan, Badakhshan. Korovin (1950b) for uncertain reasons stated that the species occurs in «Zeravshan Range, Roshan», its type is originated from Zeravshan and kept at Tashkent. This statement does not constitute an effective lectotypification but it was followed by Vinogradova (1997a: 97) who indicated that the collection of Alexeenko from Roshan at LE is an isolectotype and the lectotype is kept at TAK. This indication is erroneous and ineffective because the collections of Alexeenko are not from Zeravshan and are kept at LE, not at TAK. Besides, it would have been disruptive because the collections from Badakhshan are taxonomically different from the collections from Zeravshan, which are currently treated as referable to the species (Korovin 1950b; Pimenov 1983; Kljuykov et al. 2018). Kljuykov et al. (2018) made the correct lectotypification and designated a specimen at LE collected by Regel between Kshtut and Kul-i-Kalon.

In the present contribution, we designated several lectotypes. The designated lectotypes are the best-preserved specimens among the available original material. In all cases, the original material was taxonomically homogeneous and the type designations were unproblematic.

Taxonomic and nomenclatural checklist of main type specimens of Umbelliferae kept at TASH

Angelica tschimganica (Korovin) Tikhomirov (1967: 91). ≡ *Archangelica decurrens* var. *tschimganica* Korovin (1926: 12). ≡ *Archangelica tschimganica* (Korovin) Schischkin (1951: 19).
Type: —UZBEKISTAN. Prov. Sirdaryo, distr. Taschkent ad ripas fl. Tschimganka, in regione fruticum, 10.08.1925, *Korovin* [Herbarium Florae Asiae Mediae No. 243] (lectotype LE [LE01065818, LE01065819, LE01065820], designated as "holotypus" by Vinogradova (1999: 82), isolectotypes BP! C! [C10008314], G! [G00359721], LE! MW! [MW0593949, MW0593941], S! [S12-21665], TASH! [TASH003696]).
Distribution in Central Asia: —Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad), Uzbekistan (Toshkent, Namangan). Endemic.
Note: —Korovin (Korovin 1926) described this species on based on single collection, which was represented by a number of specimens distributed as exsiccata, but he did not specify which specimen and in which herbarium is the type of the new taxon. Schischkin (1951: 32) was the first to indicate that the type is kept at LE but his statement does not constitute an effective lectotypification of the species name because the specimen label was not cited. Vinogradova (1999: 82) unintentionally fulfilled all formalities. Subsequently Kurbonov & Pimenov (2016a: 1223) designated a lectotype at TASH but this later choice has no priority.

Astomatopsis galiocarpa Korovin (1948: 30). ≡ *Astoma galiocarpum* (Korovin) Pimenov & Kljuykov in Pimenov & Tikhomirov (1981: 478). ≡ *Astomaea galiocarpa* (Korovin) Pimenov & Kljuykov in Pimenov (Pimenov 1983; Pimenov et al. 1983a; 1983b).
Type: —UZBEKISTAN. Montes Hissarici, vall. fl. Tupalang, ad trajectum Gova, 3800 m, 24.08.1937, *Lepeschkin* (holotype TASH! [TASH002184]).
Distribution in Central Asia: —Tajikistan (Kŭhistoni Badakhshan, Khatlon, Dushanbe), Uzbekistan (Surxondaryo). Endemic.

Aulacospermum alaicum Pimenov & Kljuykov (1983: 90).
Type: —KYRGYZSTAN. Jugum Alaicum, declivium septentrionale, in systemate fluvii Soch, pars superior faucium Augul, ad declivitates schistoses, in juniperetum, 13.07.1981, *Pimenov, Kljuykov & Vassiljeva 300* (holotype MW! [MW0593758, MW0593759]; isotypes B! [B 10 0278973], E! [E00000240], GB! LE! [LE00051271], P! [P00602130], TASH! [TASH002222]).
Distribution in Central Asia: —Kyrgyzstan (Batken). Endemic.

Aulacospermum gracile Pimenov & Kljuykov (1983: 89).
Type:—KYRGYZSTAN. Jugum Alaicum, declivium septentrionale, in valle fluvii Kirghiz-ata, inter pag. Aldyke et Koldai, 17.07.1981, *Kljuykov, Baranova & Lavrova 413* (holotype

MW! [MW0593760]; isotypes B! [B 10 0278972], BM! [BM000944696], E! [E00000241, E00000966], JE! [JE00019650], LE! [LE00051272], P! [P00602131], TASH! [TASH002223]).

Distribution in Central Asia:—Kyrgyzstan (Osh). Endemic.

Aulacospermum popovii (Korovin) Kljuykov, Pimenov & Tikhomirov (1976b, a; Pimenov 1976) (Kljuykov et al. 1976b: 82). ≡ *Trachydium popovii* Korovin (Korovin 1924b: 78) ≡ *Selinum popovii* (Korovin) Schischkin (1950: 563).

Type:—UZBEKISTAN. Toshkent distr., Khumsan, montes Naudam, 15.08.1920, *Popov 1401* (lectotype LE! [LE00051319], designated here; isolectotypes LE, *Popov 1380, 1400, 1402, 1406, 1407* TASH! [TASH002234, TASH002235, TASH002236, TASH002237, TASH003701]).

Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad), Uzbekistan (Toshkent).

Note: —Schischkin (1951: 563) stated that the type of this species name is kept "in Leningrad" (presumably at LE) but failed to cite the type label. Vinogradova (2002: 138) and Pimenov & Kljuykov (2002: 71) stated that the holotype of this species name is kept at LE and cited the type specimen but did so after 2001 when holotype indications were no longer correctable to lectotype designations without the statement "designated here". The type is formally designated here, and one of the type sheets at LE is selected.

Aulacospermum roseum Korovin (1948: 18).

Type:—UZBEKISTAN. Pamir-Alaj occidentalis, montes Chodsha-gurgur-ata, in caementis ad trajectum Bel-aty, 27.07.1934, *Butkov 337* (holotype TASH! [TASH002226]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Batken, Jalal-Abad, Osh), Tajikistan (Kŭhistoni Badakhshan, Sughd, Khatlon, Dushanbe), Uzbekistan (Jizzax, Qashqadaryo, Toshkent). Endemic.

Note:—Korovin (1948) assumed that the species is endemic to the Western Tian-Shan; at present, it is known from the Western Tian-Shan and the Western Pamir-Alai.

Aulacospermum tenuisectum Korovin (1948: 16).

Type:—KYRGYZSTAN. Tian-Schan centralis, in valle fl. Tachtalyk (syst. fl. Naryn), 25.07.1927, *Korovin 882* (holotype TASH! [TASH002227]); *Korovin 883* (isotype TASH! [TASH002228]).

Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad). Endemic.

Aulacospermum tianschanicum (Korovin) Norman (1938: 233). ≡ *Trachydium tianschanicum* Korovin (1924a: 23).

Type:—KAZAKHSTAN. Prov. Syr-Darja, distr. Aulie-ata, in montibus Alexandri [Kirghiz Alatau], prope Utsch-bulak, in declivibus pratensibus regionis subalpinae, 08.07.1924, *Mokeeva & Popov* [Herbarium Florae Asiae Mediae No. 29] (lectotype TASH! [TASH002239], designated by Pimenov in Kurbonov & Pimenov (2016a: 1224); isolectotypes B!, BP!, BR [BR0000005623839], BRNU [BRNU131486], C! [C10008339], E! [E00284198], G! [G00359801], K! [K000697396], LE! [LE00051320, LE00051321, LE00051322], MA [MA85999], MHA!, MO [MO-34561 008], MW! [MW0593778], NY [NY00406296], P! [P02422157], S! [S-G-6131], W! [W 1927 0011379], Z [Z-000028777]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad, Naryn, Talas, Chüh), Uzbekistan (Toshkent). Endemic.

Note:—Schischkin (1951: 246) stated that the type of the species name is kept in Tashkent but failed to cite the type label. Vinogradova (2002: 138) believed the holotype is kept at LE; she cited the type label but her indication of holotype is not correctable to lectotype designation after 2001. The lectotypification was formally effected in Kurbonov & Pimenov (2016a).

Aulacospermum turkestanicum (Franchet) Schischkin (1950: 244). ≡ *Pleurospermum turkestanicum* Franchet (1883: 295). ≡ *Trachydium turkestanicum* (Franchet) Lipsky ex Fedtschenko & Fedtschenko (1909: 123).

Type:—UZBEKISTAN. Turkestan, Ona Ougane, 22.10.1881, *Capus 519* (lectotype P! [P00834551], designated by Pimenov & Kljuykov (2002: 70).

= *Aulacospermum pratense* Korovin (1948: 17).

Type:—KAZAKHSTAN. Tian-Schan occidentalis, in vall. fl. Ugam, loco Sary-Djun,

declivia stepposa, 25.08.1932, *Lepeschkin 250* (holotype TASH! [TASH002224]; isotype K).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad), Uzbekistan (Toshkent). Endemic.

Bupleurum rosulare Korovin ex Pimenov & Sdobnina in Pimenov (1983: 372).
Type:—KAZAKHSTAN. Kazakhstania australis, jugum Alexandri, prope Merke, 20.07.1924, *Popov & Mokeeva* (holotype TASH! [TASH002271]).
Distribution in Central Asia:—Kazakhstan (Jambyl), Kyrgyzstan (Talas). Endemic.

Cephalopodum hissaricum Pimenov (1983: 374).
Type:—UZBEKISTAN. Jugum Hissaricum, pars occidentalis in systematis fluminis Tupolang, NNE et NNW abrupti saxosi ripam sinistram fl. Taminda infra pag. Taminda, regio arboreo-fruticosa, 10.07.1948, *Pjataeva 887* (holotype TASH! [TASH002334]).
Distribution in Central Asia:—Uzbekistan (Surxondaryo). Endemic.

Conioselinum tataricum Hoffmann (1816: 185).
Type:—Not designated.
= *Vvedenskya pinnatifolia* Korovin (14). ≡ *Conioselinum pinnatifolium* (Korovin) Schischkin (1951: 9).
Type:—UZBEKISTAN. Montes Pamir-Alaj, in valle fl. Tupalang ad locum Kuchtarma, 16.08.1937, *Lepeschkin & Kutaleva 323* (lectotype TASH! [TASH002362], designated by Pimenov (2020: 148); isolectotype TASH! [TASH002363]).
Distribution in Central Asia:—Kazakhstan (Pavlodar, E Kazakhstan, S Kazakhstan, Jambyl, Almaty), Kyrgyzstan (Batken, Jalal-Abad, Ysyk-Köl, Naryn, Osh, Talas, Chüh), Tajikistan (Kŭhistani Badakhshan, Sughd, Khatlon, Dushambe), Uzbekistan (Jizzax, Qashqadaryo, Surxondaryo, Toshkent).
Distribution in other Asian countries:—Russia, China, India, Pakistan, Mongolia, Afghanistan.

Daucus carota Linnaeus (1753: 242).
Type:—EUROPA. In Europae campis exaridis, Herb. Linnaeus 340.1 (lectotype LINN!, designated as "typus" by Sáenz Laín (1981: 487).
= *Daucus exarmatus* Korovin (1948: 23).
Type:—TAJIKISTAN. Pamir-Alai, in valle fluv. Kafirnigan meridiem versus urb. Stalinabad [Dushambe], 12.07.1930, *Pazij & Mironov 1342* (holotype TASH! [TASH002580]).
Distribution in Central Asia:—Kazakhstan (Aktobe, E Kazakhstan, Karagandy, Kzyl-Orda, S Kazakhstan, Jambyl, Almaty), Kyrgyzstan (Batken, Jalal-Abad, Ysyk-Köl, Naryn, Osh, Talas, Chüh), Tajikistan (Kŭhistani Badakhshan, Sughd, Khatlon, Dushambe), Uzbekistan (Qoraqalpog'iston, Xorazm, Boxoro, Navoiy, Jizzax, Samarqand, Qashqadaryo, Surxondaryo, Sirdaryo, Toshkent, Farg'ona, Andijon), Turkmenistan (Balkan, Akhal, Lebap, Mary).
Distribution in other Asian countries: —Russia, China, Japan, Nepal, India, Sri Lanka, Pakistan, Afghanistan, Iran, Azerbaijan, Georgia, Armenia, Turkey, Iraq, Oman, UAE, Saudi Arabia, Yemen, Lebanon, Syria, Israel, Jordan, Cyprus.

Dorema aitchisonii Korovin ex Pimenov (1983: 377). ≡ *Ferula michaelii* Panuli & al. (2015: 780).
Type:—TURKMENISTAN. Desertum Karakum austro-orientalis, in denudationibus arenosis depressionis lacus Er-oilan-duz, 15.05.1925, *Korovin 341, 342, 343, 344, 345* (holotype TASH! [TASH002527, TASH002528, TASH002529, TASH002530, TASH002531, TASH002532, TASH002533, TASH002534, TASH002535, TASH002536, TASH002537]).
Distribution in Central Asia:—Tajikistan (Khatlon, Dushambe), Turkmenistan (Balkan, Akhal, Mary).
Distribution in other Asian countries:—Afghanistan, Iran.

Dorema karataviense Korovin (1962: 261).
Type:—KAZAKHSTAN. Montes Karatau Syrdariensis, extremitas septentrionalis, Uzunbulak – Dzhalgyz-agach, 08.06.1929, *Korovin 329, 330* (holotype TASH! [TASH002538, TASH002539]).

Dorema microcarpum Korovin (1947b: 6).
Type:—KYRGYZSTAN. Tian-Schan centralis, distr. Ketmen-Tube, systema fl. Kara-su, 15–20 km infra ostium Ujunkur, 14.07.1927, *Korovin 612, 613, 614* (holotype TASH! [TASH002540, TASH002541, TASH002542]).

Distribution in Central Asia:—Kyrgyzstan (Batken, Jalal-Abad, Naryn, Osh), Uzbekistan (Namangan, Farg‘ona). Endemic.

Elaeosticta bucharica (Korovin) Kljuykov, Pimenov & Tikhomirov (1976b: 92). ≡ *Scaligeria bucharica* Korovin (1924b: 79).

Type:—UZBEKISTAN. Buchara, Baba-tag, prope pag. Kel'-Bulak, 29.06.1914, *Popov 383* (holotype TASH! [TASH002189]; isotype LE! [LE00051213]).

Distribution in Central Asia:—Tajikistan (Kŭhistani Badakhshan, Khatlon, Dushambe), Uzbekistan (Qashqadaryo, Surxondaryo). Endemic.

Note:—Korovin specified that the original material is kept at TAK, which is the holotype. The uncited material at LE is an isotype.

Elaeosticta conica Korovin (1948: 31). ≡ *Scaligeria conica* (Korovin) Korovin (1950a: 209).

Type:—UZBEKISTAN. In montibus humilioribus gypsaceis SE oppidum Gusar, locum Dultaly-Kysyl prope pag. Kysylchi, in detrito argilloso rubro, declivum septentionale, 19.05.1935, *Slovinsky K-7* (holotype TASH! [TASH002186]; isotypes LE! [LE00051253], TASH! [TASH002187]).

Distribution in Central Asia: —Tajikistan (Khatlon), Uzbekistan (Qashqadaryo, Surxondaryo), Turkmenistan (Lebap). Endemic.

Elaeosticta knorringiana (Korovin) Korovin (1948: 32). ≡ *Scaligeria knorringiana* Korovin (1928: 35).

Type:—KYRGYZSTAN. Fergana orientalis, distr. Dzhelalabad, in collibus sterilibus inter Bazar-kurgan et Dzhelalabad, 29.06.1927, *Korovin 402, 405* (lectotype TASH! [TASH002191], designated by Kljuykov (1983: 150); isolectotypes LE! [LE00051221], MHA!, *Korovin 404, 410, 416, 417, 418* TASH! [TASH002192, TASH002193, TASH002194, TASH002195, TASH002196]).

= *Hyalolaena collina* Korovin (1948: 22).

Type:—UZBEKISTAN. Vallis Ferganica, in collibus argillosis pr. st. v. f. Chakulabad, solo subsalso, 25.05.1932, *Zakrzewski 1033* (holotype TASH! [TASH002349]); *Zakrzewski 1032* (isotype TASH! [TASH002350]).

Distribution in Central Asia:—Kyrgyzstan (Batken, Jalal-Abad, Osh), Uzbekistan (Namangan). Endemic.

Elaeosticta paniculata (Korovin) Kljuykov & Pimenov in Pimenov & Tikhomirov (1981: 19). ≡ *Hyalolaena paniculata* Korovin (1948: 20).

Type:—UZBEKISTAN. Jugum Zeravschanicum in valle fl. Langar, in agropyretis, 04.07.1938, *Kudrjaschev 753* (holotype TASH! [TASH002352]; isotypes TASH002353, TASH002354]).

Distribution in Central Asia:—Uzbekistan (Boxoro, Samarqand, Qashqadaryo, Surxondaryo), Tajikistan (Sughd). Endemic.

Elaeosticta samarkandica (Korovin) Kljuykov, Pimenov & Tikhomirov (1976a: 93). ≡ *Scaligeria samarkandica* Korovin (1928: 44).

Type:—TAJIKISTAN. Prov. Samarkand, distr. Chodzhent, Kul-keryz, 13.05.1924, *Popov & Vvedensky 613* (lectotype TASH! [TASH002202], designated as «typus» by Klujukov (1983: 150); isolectotypes *Popov & Vvedensky 614* (LE! [LE00051241]), *Popov & Vvedensky 615* (TASH! [TASH002205]).

Distribution in Central Asia:—Kyrgyzstan (Batken), Tajikistan (Sughd). Endemic.

Note:—Pimenov in Kurbonov & Pimenov (2016b: 1228) superfluously designated the same specimen as the lectotype.

Elaeosticta transcaspica (Korovin) Kljuykov, Pimenov & Tikhomirov (1976b: 93). ≡ *Scaligeria transcaspica* Korovin (1928: 60).

Type:—TURKMENISTAN. SW Kara-kum desertum, terrassa superior fluminis Kuschka, prope stationem Kalai-Mor, 13.05.1925, *Korovin 331* (lectotype TASH! [TASH002207], designated by Kljuykov (1983: 152).

Distribution in Central Asia:—Turkmenistan (Mary).

Elaeosticta transitoria (Korovin) Kljuykov, Pimenov & Tikhomirov (1976a: 105). ≡ *Muretia transitoria* Korovin (1924b: 85). ≡ *Bunium transitorium* (Korovin) Hiroe (1979: 683).

Type:—KYRGYZSTAN. Regio Heptapotamica, Pishpek, Usungur distr., northern slope of Alexandr Range, fl. Alamedin valley, Mt. Shekule, 06.07.1916, *Kushnirenko 623* (lectotype LE! [LE00051664], designated by Vinogradova

(2002: 139); isolectotypes LE [LE005665], TASH! [TASH002312, TASH002314]).
= *Elaeosticta kuramensis* Korovin (1948: 31). ≡ *Scaligeria kuramensis* (Korovin) Korovin (1950a: 211).
Type:—UZBEKISTAN. Montes Tian-schan occidentalis, in valle fl. Angren, in promontoriis prope pag. Kul-ata, 13.05.1928, *Granitov & Mironov 226* (holotype TASH! [TASH002188]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad, Talas), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.
Note:—Labels of two syntypes of *Muretia transitoria* were imprecisely cited in the protologue of this species name. Vinogradova (2002: 139) explicitly designated the lectotype at LE. Pimenov in Kurbonov & Pimenov (2016b: 1229) erroneously designated a specimen at TASH as the lectotype; this later choice has no standing.

Elaeosticta tschimganica (Korovin) Kljuykov, Pimenov & Tikhomirov (1976a: 93). ≡ *Scaligeria tschimganica* Korovin (62).
Type:—UZBEKISTAN. Tian-Schan occidentalis, Taschkent Ala-tau, vallis Chimganensis, 30.06.1925, *Korovin* (lectotype TASH! [TASH002215], designated by Kljuykov (1983: 153); isolectotypes LE! [LE00051246]).
Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad, Osh), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.

Elaeosticta ugamica (Korovin) Korovin (1948: 31). ≡ *Scaligeria ugamica* Korovin (1924a: 78).
Type:—UZBEKISTAN. Prov. Syr-Darya, Taschkent distr., in valle fl. Ugam, Bogutschelpak, 12.07.1922, *Simonova* (lectotype TASH! [TASH002219], designated as «typus» by Kljuykov (1983: 146); isolectotypes LE! [LE00051249], TASH! [TASH002218]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad, Osh, Talas), Uzbekistan (Toshkent). Endemic.

Elwendia afghanica (Beauverd) Pimenov & Kljuykov in Degtjareva et al. (2013: 1002). ≡ *Bunium afghanicum* Beauverd (1929: 227).
Type:—AFGHANISTAN. Affghania, Hari-Rud valley, in agris cultis, 25–26.04.1885, *Aitchison 312* (lectotype G!, designated by Pimenov (2020: 156); isolectotypes K!, LE!).
= *Bunium cylindricum* subsp. *badghysi* Korovin (1927a: 127). ≡ *Bunium badghysi* (Korovin) Korovin (1950a: 410).
Type:—TURKMENISTAN. In collibus Badghyz: prope Berdy-klytsch, 11.04.1916, *Korovin 257* (lectotype TASH! [TASH002281], designated by Degtjareva et al. (2013: 1002); isolectotype TASH! [TASH002280]).
Distribution in Central Asia:—Turkmenistan (Mary).
Distribution in other Asian countries: —Afghanistan.
Note:—The lectotype specimen of *Bunium afghanicum* was indicated as «type» in Degtjareva et al. (2013: 1002) . Degtjareva et al. (2013: 1002) designated the lectotype of *B. cylindricum* subsp. *badghysi* without citations of barcodes, which were assigned later.

Elwendia angreni (Korovin) Pimenov & Kljuykov in Degtjareva et al. (2013: 1002) . ≡ *Bunium angreni* Korovin (1927a: 123).
Type:—UZBEKISTAN. Tian-Schan occidentalis, in valle fl. Angren, in regione alpina prope Kamtschik-say, 09.08.1924, *Korovin 605* (lectotype TASH! [TASH002277], designated here; isolectotype TASH! [TASH002275, TASH002276]).
Distribution in Central Asia:—Uzbekistan (Toshkent, Namangan). Endemic.
Note:—Degtjareva et al. (2013: 1002) and Kljuykov et al. (2018: 213) cited the original material at TASH as the holotype.

Elwendia capusii (Franchet) Pimenov & Kljuykov in Degtjareva et al. (2013: 1002). ≡ *Carum capusii* Franchet (1883: 293). ≡ *Bunium capusii* (Franchet) Korovin (1927a: 126).
Type:—UZBEKISTAN. Djizak, 05.1881, *Capus 506* (lectotype P! [P00834738]; designated by Pimenov in Kurbonov & Pimenov (2016a: 1229).
= *Bunium gypsaceum* Korovin (1948: 25).
Type:—UZBEKISTAN. In promontoriis gypsaceis inter urbes Bajsun et Denau, pr. fontem Chodsha-ipak, in caementis calcareis, 11.05.1930, *Botschantzev & Vvedensky 203* (holotype TASH! [TASH002291]; isotype LE! [LE00051616]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Tajikistan (Kŭhistani Badakhshan, Sughd, Khatlon, Dushambe),

Uzbekistan (Boxoro, Navoiy, Jizzax, Samarqand, Qashqadaryo, Surxondaryo, Sirdaryo, Toshkent), Turkmenistan (Lebap). Endemic.

Note:—Degtjareva et al. (2013: 1002) and Kljuykov et al. (2018) erroneously indicated "Djizak, *Capus 508*" as the holotype of *Carum capusii*. This species name was based on three specimens, which are syntypes. Pimenov in Kurbonov & Pimenov (2016a: 1229) designated *Capus 506* as the lectotype, apparently meaning the specimen P00834738 which is labelled as such.

Elwendia hissarica (Korovin) Pimenov & Kljuykov in Degtjareva et al. (2013: 1003). ≡ *Bunium hissaricum* Korovin (1948: 27).

Type:—UZBEKISTAN. Pamir-Alaj austro-occidentalis. Montes Tadshir-kaja, in gypsaceis, 05.06.1930, *Lepeschkin* (holotype TASH! [TASH002290]).

Distribution in Central Asia:—Tajikistan (Khatlon), Uzbekistan (Surxondaryo), Turkmenistan (Akhal, Lebap).

Elwendia intermedia (Korovin) Pimenov & Kljuykov in Degtjareva et al. (2013: 1003). ≡ *Bunium intermedium* Korovin (1948: 26).

Type:—KYRGYZSTAN. Jugum Turkestanicum in valle fl. Ak-tschakmenj, in Juniperetis, 2700–2800 m, 14.07.1934, *Gomolitzky & Protopopov 140* (holotype TASH! [TASH002292]).

Distribution in Central Asia:—Kyrgyzstan (Batken, Dzhelalabad, Osh), Tajikistan (Kŭhistani Badakhshan, Sughd, Khatlon, Dushambe), Uzbekistan (Navoiy, Jizzax, Samarqand, Qashqadaryo, Surxondaryo, Toshkent), Turkmenistan (Lebap).

Elwendia salsa (Korovin) Pimenov & Kljuykov in Degtjareva et al. (2013: 1004). ≡ *Bunium salsum* Korovin (1924b: 86).

Type:—UZBEKISTAN. Samarkand, "Tschupan-ata", 04.06.1921, *Popov 215* (lectotype TASH! [TASH002297], designated by Pimenov & Kljuykov (2002: 115); isolectotype TASH! [TASH002296]).

Distribution in Central Asia:—Kyrgyzstan (Batken), Tajikistan (Sughd), Uzbekistan (Jizzax, Qashqadaryo, Navoiy, Samarqand, Sirdaryo). Endemic.

Elwendia vaginata (Korovin) Pimenov & Kljuykov in Degtjareva et al. (2013: 1004). ≡ *Bunium vaginatum* Korovin (1927a: 122).

Type:—KAZAKHSTAN. Montes Karatau, Kulan-tau, prop. fluv. Kulan, 28.05.1922, *Drobov 90* (lectotype TASH! [TASH003703], designated by Pimenov (2020: 161).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Uzbekistan (Toshkent).

Note:—Korovin (1927a: 122) cited three gatherings in the protologue (Drobov, Kulan-tau, and Sovetkina, Kok-tal and Alatau; all from the Syrdarya Karatau). No type was designated, and the cited specimens are syntypes. Later Korovin (1950b: 400) indicated that the type is kept in Tashkent, but the type specimen was not cited in that publication. Degtjareva et al. (2013: 1004) and Kljuykov et al. (2018: 219) cited *Drobov 90* as the holotype; this statement is incorrect and ineffective as lectotypification. The type choice was formalised by Pimenov (2020).

Eryngium macrocalyx Schrenk in Fischer & Meyer (1841: 60).

Type:—KAZAKHSTAN. In desertis Songariae, ad rivulum Kinasch [Songaria, in deserti ad fl. Kunasch], 17.07.1840, *Schrenk* (lectotype LE!, designated by Pimenov in Kurbonov & Pimenov (2016b: 1232); isolectotype MANCH!).

= *Eryngium pamiralaicum* Korovin (1947b: 3).

Type:—TAJIKISTAN. Pamir-Alaj meridionalis, montes Baba-tag prope p. Dshida-bulak, 03.07.1936, *Lepeschkin & Mukhamedjanov 389* (holotype TASH! [TASH002169]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl, Almaty), Kyrgyzstan (Batken, Jalal-Abad, Ysyk-Köl, Naryn, Osh, Talas, Chüh), Tajikistan (Kŭhistani Badakhshan, Sughd, Khatlon, Dushambe), Uzbekistan (Andijon, Jizzax, Qashqadaryo, Samarqand, Surxondaryo, Toshkent).

Distribution in other Asian countries:—China, Afghanistan.

Eryngium octophyllum Korovin (1947b: 4).

Type:—UZBEKISTAN. Pamir-Alaj, vallis Zeravschan, prope p. Urgut, 27.06.1936, *Gnezdillo* (holotype TASH! [TASH002168]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad), Tajikistan

(Sughd), Uzbekistan (Qoraqalpog'iston, Boxoro, Jizzax, Qashqadaryo, Samarqand). Endemic.

Fergania polyantha (Korovin) Pimenov (1982: 120). ≡ *Ferula polyantha* Korovin (1947a: 55). ≡ *Peucedanum polyanthum* (Korovin) Korovin (1951: 202).

Type:—KYRGYZSTAN. Prov. Fergana, distr. Skobelev, area Anchor, pharangium Arpa, declivum argilloso-schistosum in pars media, 21.05.1916, *Drobov 1013* (holotype LE! [LE00051879]; isotype TASH! [TASH002477]).

Distribution in Central Asia:—Kyrgyzstan (Batken, Osh), Tajikistan (Sughd), Uzbekistan (Farg'ona). Endemic.

Note:—The holotype specimen was incompletely cited by Korovin (1947a). Two localities were mentioned in the protologue; the second specimen was not cited.

Ferula angreni Korovin (1947a: 61).

Type:—UZBEKISTAN. Ripa sinistra fl. Angren, inter Schaugasa et Kara-Mazar, regio Inula grandis, 25.061924, *Korovin 465-473* (holotype TASH! [TASH002371, TASH002372; TASH002373, TASH002374, TASH002375, TASH002376, TASH002377, TASH002378]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad, Naryn), Tajikistan (Sughd), Uzbekistan (Jizzax, Toshkent). Endemic.

Ferula conocaula Korovin (1947a: 33).

Type:—TAJIKISTAN. Mogol-tau: Tschaschma – Arzanak – Muzbek, 16.05.1924, *Popov & Vvedensky 711, 712, 713, 714, 715, 717, 718, 719, 720, 721, 722, 724, 725, 726, 727, 728, 729, 732, 734, 735* (holotype TASH! [TASH002385, TASH002386, TASH002387, TASH002388, TASH002389, TASH002390, TASH002391, TASH002392, TASH002393, TASH002394, TASH002395, TASH002396, TASH002397, TASH002398, TASH002399, TASH003697, TASH003698, TASH003699]; isotypes LE, MHA!).

Distribution in Central Asia:—Tajikistan (Sughd). Endemic.

Note:—It is very difficult to determine whether the numerous herbariums sheets of the species in type collection TASH (usually parts of a stem and a leaf or parts of a stem and an umbel) are parts of a single plant or several plants of the same population. Pimenov in Kurbonov & Pimenov (2016b: 1232) designated the complete material at TASH as the lectotype; this designation is erroneous as the holotype was indicated in the protologue.

Ferula czatkalensis f. ***latisecta*** Pimenov (1983: 376).

Type:—KYRGYZSTAN. Prov. Osch, prope Taschkumyr, declivia lapidosa et schistosa, 09.07.1976, *Rakhmakulov & Melibaev 1465* (holotype TASH! [TASH002400, TASH002401, TASH002402, TASH002403]).

Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad).

Ferula dshizakensis Korovin (1947a: 58).

Type:—UZBEKISTAN. Regio Seravschan, prope pag. Karnap, montes versus Mat-bulak, 29.05.1926, *Popov 3/44* (holotype TASH! [TASH002404]).

Distribution in Central Asia:—Tajikistan (Sughd), Uzbekistan (Navoiy, Jizzax, Samarqand, Qashqadaryo). Endemic.

Ferula ferganensis Lipsky ex Korovin (1947a: 59).

Type:—KYRGYZSTAN. Fergana, declivia septentrionalis montibus Alasch-tau, leviter infra terminis nivis, prope Rosae, 15.06.1916, *Rosanov 297* (holotype TASH! [TASH002405]).

Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad, Naryn, Osh). Endemic.

Ferula glaberrima Korovin (1947a: 26).

Type:—KAZAKHSTAN. Asia Media, arenae Mujun-kum, 14.06.1922, *Drobov 520* (holotype TASH! [TASH002406]; isotype TASH! [TASH002407]).

Distribution in Central Asia:—Kazakhstan (Kzyl-Orda, Jambyl). Endemic.

Ferula gypsacea Korovin (1947a: 65).

Type:—KAZAKHSTAN. Tian-Schan occidentalis, mont. Alym-Tau, 18.06.1925, *Kultiassov 137* (holotype TASH! [TASH002408]; isotypes TASH! [TASH002409, TASH002410]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan). Endemic.

Ferula helenae Rakhmankulov & Melibaev (1982: 117).

Type:—UZBEKISTAN. Nuratau, montes Pistali-tau, prope pag. Balykly, in declivis schistosis, 12.04.1975, *Rakhmankulov & Melibaev 1289*

(holotype TASH! [TASH002413]; isotypes TASH! [TASH002415, TASH002416, TASH002417]).

Distribution in Central Asia:—Uzbekistan (Jizzax). Endemic.

Note:—Vinogradova (1997a) stated that the holotype of the species name is a specimen numbered 1483 and kept at LE; such a specimen was not found there. The holotype is apparently at TASH.

Ferula juniperina Korovin (1959a: 338).

Type:—UZBEKISTAN. Montes Thian-Schan occidentalis, pars superior fluv. Angren, in valle Urges-say, inter silvas juniperinas, 21.06.1953, *E.P. Korovin & S.E.Korovin 450–453* (holotype TASH! [TASH002424, TASH002425, TASH002426, TASH002427]).

= *Ferula kirialovii* Pimenov (1979: 110).

Type:—UZBEKISTAN. Tian-Schan occidentalis, Tschimgan, 16.07.1897, *O.A. Fedtschenko* (holotype LE!).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Dzambyl), Kyrgyzstan (Jalal-Abad), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.

Note:—This species was previously included in *Ferula pseudoreoselinum* (Regel & Schmalh.) Koso-Pol. (Korovin 1951), whose type belongs to *F. sumbul* (Kauffm.) Hook.f. (Pimenov 1979; Pimenov et al. 1983b). Pimenov (1979) noticed the misapplication and described this species as *F. kirialovii*. Our examination of the holotype of *F. juniperina* revealed its identity with *F. kirialovii*, which was therefore reduced to a synonym in Kurbonov & Pimenov (Kurbonov & Pimenov 2016b, a). The holotype specimen of *F. juniperina* is poorly preserved; that was the reason to treat this species as a local endemic (Korovin 1959b) or as limited to a few localities in Uzbekistan.

Ferula karatavica Regel & Schmalhausen (1878: 594).

Type:—KAZAKHSTAN. In Turkestaniae montibus karatavicis prope Boroldai, 03.06.1876, *A.Regel* (holotype LE!).

= *Ferula eremophila* Korovin (1947a: 68).

Type:—KAZAKHSTAN. In vicunitate laci Bijlukul, in vallis siccis elevatis, 15.08.1934, *Ponomareva* (holotype AA!; isotype TASH! [TASH003713, fruits only]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad, Osh), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.

Note:—The holotype of *Ferula eremophila* was indicated in the protologue but its label was incompletely cited. The complete citation was provided in Goloskokov (1963).

Ferula kelifi Korovin (1947a: 25).

Type:—UZBEKISTAN. Montes Sogdano-Transoxani, in gypsaceis prope p. Taschkak (orientem versus urbis Bajsun), 09.05.1930, *Botschantzev & Vvedensky 882* [Herbarium Florae URSS No. 6417] (holotype TASH! [TASH002432, TASH003693, TASH003694, TASH003695]; isotypes BM! [BM000944767], BP!, BR [BR0000005420124], C! [C10005758], ERE [ERE0005557], G! [G00366840], LE! [LE000518000, LE00051801, LE00051802], LW [LW214965], M! [M0173058], MAK, MHA!, MW! [MW0594006], P! [P02272166], S! [S12-21678], SP [SP003564], TNS!, US [US00664201], VAL [VAL10104], W!, WIS [WISv0255968WIS]).

= *Ferula primaeva* Korovin (1947a: 26).

Type:—UZBEKISTAN. Asia Media, prope urb. Bajssun, Burju-Tacht, 13.05.1930, *Lepeschkin* (holotype TASH! [TASH002487]).

Distribution in Central Asia:—Tajikistan (Khatlon, Dushambe), Uzbekistan (Qashqadaryo, Surxondaryo), Turkmenistan (Lebap). Endemic.

Note:—The original collection of *Ferula kelifi* was prepared by A.I. Vvedensky in 1935–1936 for distribution in *Herbarium Florae Asiae Mediae*. This publication was suspended and its last fascicle including *Ferula* remained not distributed until its inclusion in *Herbarium Florae URSS* (Korovin 1986). According to Korovin (1986), the distributed specimens are isotypes.

The holotype specimen of *Ferula primaeva* was incompletely cited in the protologue (Korovin 1947a).

Ferula kopetdagensis Korovin (1947a: 61).

Type:—TURKMENISTAN. Regio Transcaspica, angustis Iol-dere, 22.05.1917, *Korovin 211* (holotype TASH! [TASH002433]).

Distribution in Central Asia:—Turkmenistan (Balkan, Akhal).

Distribution in other Asian countries:—Iran.

Ferula korshinskyi Korovin (1947a: 68).
Type:—KYRGYZSTAN. Fergana, Naryn, supra Ketmen-tjube, 02.08.1926, *Korovin 788, 792, 793, 795* (holotype TASH! [TASH002434, TASH002435, TASH002436, TASH002437]).
Distribution in Central Asia:—Kyrgyzstan (Batken, Jalal-Abad, Osh), Uzbekistan (Farg‘ona). Endemic.

Ferula kuhistanica Korovin (1947a: 36).
Type:—UZBEKISTAN. Asia Media, montes Zeravschanici, in valle fl. Aman-Kutan, *Kudrjaschov* (holotype TASH, not found).
Distribution in Central Asia:—Kyrgyzstan (Batken, Jalal-Abad, Naryn, Osh, Chüh), Tajikistan (Sughd, Khatlon, Dushambe), Uzbekistan (Jizzax, Samarqand, Qashqadaryo, Surxondaryo), Turkmenistan (Lebap).
Note:—Korovin (1947a) specified that the type specimen was collected by S.Kudrjaschov and kept at TASH. This specimen was incompletely cited in the protologue. Despite our searches, it has not been found at present-day TASH.

Ferula kyzylkumica Korovin (1959a: 490).
Type:—UZBEKISTAN. Kysyl-kum, SW margo, prope scaturiginem Khan-ata, montes Khan-ata E ad scaturginem in fissuris rupium, 19.05.1937, *Botschantzev 512* (holotype TASH! [TASH002439]; isotypes LE, LECB).
Distribution in Central Asia:—Uzbekistan (Qoraqalpog‘iston, Buxoro, Navoiy). Endemic.

Ferula leiophylla Korovin (1947a: 44).
Type:—KAZAKHSTAN. Distr. Kapal, steppa arenosa secundum riv. Yanach, 09.06.1916 *Titov 41* (holotype TASH! [TASH002457]).
Distribution in Central Asia:—Kazakhstan (E Kazakhstan, Jambyl, Almaty), Kyrgyzstan (Chüh). Endemic.

Ferula leucographa Korovin (1947a: 64).
Type:—KAZAKHSTAN. Prov. Syr-Darja, distr. Chimkent, Kelte-Maschat, in declivibus conglomeratorum, 15.06.1923, *Mokeeva 291* (holotype TASH! [TASH002458, TASH002459]).
= *Ferula involucrata* Korovin (1947a: 65).
Type:—KAZAKHSTAN. Kara-tau, in mont. Ak-Tash, 01.06.1925, *Sovetkina 293* (holotype TASH! [TASH002421]; isotypes TASH! [TASH002422, TASH002423]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl). Endemic.

Ferula lithophila Pimenov in Pimenov & Tikhomirov (1981: 21). ≡ *Peucedanum mogoltavicum* Korovin (1947b: 9).
Type:—TAJIKISTAN. Tian-schan, montes Mogol-tau, in graniticis supra Tschaschma-arzanak, 08.09.1924, *Popov* (holotype TASH! [TASH002552, TASH002553]; isotype LE! [LE00052133]).
Distribution in Central Asia:—Tajikistan (Sughd), Uzbekistan (Namangan). Endemic.

Ferula mogoltavica Lipsky ex Korovin (1947a: 28).
Type:—TAJIKISTAN. Montes Mogoltau, declivia australia lapidosa prope exitus viae ab trajectum Badambek ex montibus, 23.04.1927, *Granitov 200* (holotype TASH! [TASH002471]).
Distribution in Central Asia:—Tajikistan (Sughd). Endemic.
Note:—Pimenov in Kurbonov & Pimenov (2016a: 1235) designated the material at TASH as the lectotype; this designation is erroneous because the holotype was indicated in the protologue.

Ferula nuratavica Pimenov (1978: 151). ≡ *Silaus popovii* Korovin (1927b: 52). ≡ *Johrenia popovii* (Korovin) Korovin (1959b: 39). ≡ *Silaum popovii* (Korovin) Hiroe (1979: 772).
Type:—UZBEKISTAN. Montes meridionales: Sogdiano-Transoxanae. Ad abrupta calcarea montium Nura-tau in loco Jang-ogly dicto, 08.06.1926, *Popov* [Herbarium Florae Asiae Mediae No. 325] (lectotype TASH! [TASH002337], designated here; isolectotypes B [B 10 0367274], BP!, BR [BR0000005623860], C! [C10008580], G! [G00359802, G00359803], K! [K001097274], LE! [LE01066093, LE01066094], MHA!, MO [MO-345419], MW! [MW0593905], NY [NY00406275], P [P03224545], S! [S-G-5676], W! Z [Z000028773]).
Distribution in Central Asia:—Uzbekistan (Navoiy, Samarqand). Endemic.
Note:—Korovin (1927b) described the species with a single gathering cited in the protologue and distributed in *Herbarium Florae Asiae Mediae*; the holotype was not indicated. Schischkin (1951: 548) stated that the type is kept in Tashkent but

failed to cite the type label, therefore not fulfilling the requirements for type designation. Vinogradova (2002: 136) indicated the "holotype" at LE, which cannot be corrected as unintentional lectotypification because of being published after 2001. The lectotype choice is formally affected here.

Ferula oopoda (Boiss. & Buhse) Boissier (1872: 984). ≡ *Peucedanum oopodum* Boissier & Buhse (1860: 100).

Type:—AZERBAIDZHAN. Beim Salzbergwerk in der Nahe von Nachtschewan, in einer Schlucht, 11.05.1847, *Buhse 295/4* (lectotype G-BOIS!; designated as «typus» by Chamberlain & Rechinger (1987: 421); isolectotypes E, P).

= *Ferula badghysi* Korovin (1947a: 67).

Type:—TURKMENISTAN. Sary-Jasy, 08.04.1916, *Androssov* (holotype TASH! [TASH002379, TASH002380, TASH002381, TASH002382, TASH002383, TASH002384]).

= *Ferula lapidosa* Korovin (1947a: 59)

Type:—KYRGYZSTAN. In angust. Buam, prope pontem medium, rubroarenosa gypsacea, 27.07.1926, *Abolin 639* (holotype TASH! [TASH002450, TASH002451]).

= *Ferula microcarpa* Korovin (1947a: 58).

Type:—KAZAKHSTAN. Alatau Dshungariensis, distr. Kapal, Baj-Gazy, 11.06.1917, *Titov* (holotype TASH! [TASH002462]; isotype TASH! [TASH002463]).

= *Ferula stylosa* Korovin (1947a: 58).

Type:—KAZAKHSTAN. M. Tschu-ilienses, in loco Ajderke, Uzun-bulak, declivia calcarea. 18.06.1926, *Titov 676* (holotype TASH! [TASH002497]).

Distribution in Central Asia:—Turkmenistan (Balkan, Akhal, Lebap, Mary).

Distribution in other Asian countries:—Iran, Azerbaijan, Armenia, Iraq.

Note:—The holotype label of *Ferula microcarpa* was incompletely cited by Korovin (1947a).

Ferula pachyphylla Korovin (1947a: 54).

Type:—KAZAKHSTAN. Kara-tau, pars australis, Mt. Ak-murun, declivum lapitosum, 06.06.1934, *Tschilikina & Volkova 96* (lectotype TASH! [TASH002474], designated by Pimenov (2020: 177) as "neotype")).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl). Endemic.

Note:—The holotype indicated by Korovin (Karatau, Boroldaj, 28.06.1934, *Tschilikina* (TAK)) has not been found in present-day TASH. A lectotype was designated by Pimenov (2020) from uncited gatherings of the same collector which were used by Korovin by the time of the original publication.

Ferula pallida Korovin (1947a: 60).

Type:—KAZAKHSTAN. Prov. Syr-Darja, distr. Chimkent, SW pars montium Maisur-ata, 15 km ad stationem Montaitasch, declivia septentrionalia, 02.06.1923, *Simonova 329, 330* (holotype TASH! [TASH002475, TASH002476]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Talas), Uzbekistan (Toshkent). Endemic.

Ferula penninervis Regel & Schmalhausen (1878: 591).

Type:—UZBEKISTAN. Tschirtschikthal, 4–6000', 1876, *A.Regel* (lectotype LE!, designated by Vinogradova (2000: 93); isolectotypes G!, K!, P!, US).

= *Ferula kaschkarovii* Korovin (1947a: 70).

Type:—KYRGYZSTAN. Fergana, Ujunkur-su, affluxio Kara-su, 13.07.1926, *Korovin 812, 814, 815, 817* (holotype TASH! [TASH002428, TASH002429, TASH002430, TASH002431]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Batken, Jalal-Abad, Ysyk-Köl, Naryn, Osh, Talas, Chüh), Tajikistan (Sughd), Uzbekistan (Navoiy, Jizzax, Samarqand, Toshkent, Namangan). Endemic.

Ferula prangifolia Korovin (1947a: 53).

Type:—UZBEKISTAN. Tian-Schan occidentalis, m. Tschimgan Minor, 15.07.1926, *Baranov* (holotype TASH, not found); Syr-Darya, Toshkent distr., in declivis montis Tschimgan Minoris versus riv. Chadalak, 29.07.1921, *Drobov 214* (lectotype TASH! [TASH002478, TASH002479, TASH002480, TASH002481], designated by Pimenov (2020: 178) as "neotype").

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Uzbekistan (Toshkent). Endemic.

Note:—Korovin (1947a) designated the holotype at former TAK; this specimen has not been found at present-day TASH. A lectotype was designated by Pimenov (2020) from the same locality,

selected from the original uncited collections used by Korovin.

Ferula pratovii Khassanov & Maltzev (1990: 48).

Type:—UZBEKISTAN. Jugum Hissaricum, vallis fl. Kyzyl-darja, prope pagum Vuary, 2400 m s.m., 30.07.1989, *Khassanov 448* (holotype TASH! [TASH002485]; isotypes LE, TASH! [TASH002482, TASH002483, TASH002484, TASH002486]).

Distribution in Central Asia:—Uzbekistan (Qashqadaryo). Endemic.

Ferula renardii (Regel & Schmalhausen) Pimenov in Pimenov & Tikhomirov (1981: 21). ≡ *Peucedanum renardii* Regel & Schmalhausen (1878: 569).

Type:—KYRGYZSTAN. In Turkestaniae montibus Alexander in trajectum Karabura, 8000' alt., 08.1876, *A.Regel* (lectotype LE [LE00052146]!, designated by Pimenov (2020: 179); isolectotypes K!, LE! [LE00052147], W).

= *Peucedanum talassicum* Korovin (1947b: 7). ≡ *Ferula talassica* (Korovin) Pimenov in Pimenov & Tikhomirov (1981: 21).

Type:—KYRGYZSTAN. Tian-Schan, montes Talassici, ad cursum fl. Simbili, 01.08.1922, *Baranov 846* (holotype TASH! [TASH002558]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad, Talas), Uzbekistan (Toshkent). Endemic.

Note:—Pimenov & Kljuykov (2002) stated that the type of *Peucedanum renardii* is kept at LE but failed to distinguish between two sheets. Vinogradova (2001: 55) treated one specimen at LE as the holotype and another as an isotype. This statement does not constitute an effective lectotypification after 1 January 2001.

Ferula rubroarenosa Korovin (1947a: 59).

Type:—KYRGYZSTAN. Fergana orientalis, distr. Dzhelalabad, systema fl. Kugart-su, in cacuminibus Aschi-sai, in saxo rubroarenoso cretaceo, 17.06.1927, *Korovin 64, 66, 67* (holotype TASH! [TASH002488, TASH002489, TASH002490]).

= *Ferula latiloba* Korovin (1947a: 63).

Type:—TAJIKISTAN. Prov. Samarkand, distr. Chodshent, montes Mogoltau, Mt. Spa, in calcareis, 24.06.1923, *Popov & Vvedensky 268, 269* (holotype TASH! [TASH002454, TASH002455, TASH002456]).

Distribution in Central Asia:—Kyrgyzstan (Batken, Osh), Tajikistan (Sughd).

Note:—The holotype specimens of *Ferula rubroarenosa* and *F. latiloba* were indicated but incompletely cited in the protologue (Korovin 1947a).

Ferula samarkandica Korovin (1947a: 44).

Type:—UZBEKISTAN. Montes Samarkandici, prope pag. Ak-sai, 23.05.1931, *Butkov 62* (holotype TASH! [TASH002491, TASH002492, TASH002493, TASH002494]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Batken, Jalal-Abad, Naryn), Tajikistan (Sughd), Uzbekistan (Jizzax, Qashqadaryo, Namangan, Samarqand, Surxondaryo, Toshkent). Endemic.

Note:—Pimenov in Kurbonov & Pimenov (2016b: 1237) designated the material at TASH as the lectotype; this designation is erroneous because the holotype was indicated in the protologue.

Ferula tenuisecta Korovin (1947a: 60).

Type:—KAZAKHSTAN. Tianschan occidentalis, fl. Kelte-maschat pr. pag. Antonovka, 16.05.1927, *Linczevski & Mokeeva 92* (holotype TASH! [TASH003714]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad), Tajikistan (Sughd), Uzbekistan (Toshkent, Namangan). Endemic.

Ferula tuberifera Korovin (1947a: 43).

Type:—UZBEKISTAN. Uzbekistania, brachia austro-occident. jugi Hissarici, Montes Tschulbair, pag. Oj-Borik, 26.04.1928, *Vvedensky* [Herbarium Florae URSS No. 6418] (holotype TASH! [TASH002498]; isotypes BM!, C! [C10005759], ERE [ERE0005558], G! [G00366800], LE! [LE00051930, LE00051931, LE00051932, LE00051933], LW [LW00214070], M! [M0173197], MAK, MHA!, MICH [MICH1115191], MO [MO-345401], MW! [MW0594034], P [P00519032], S! [S-G-2700], TASH! [TASH002499, TASH002500, TASH002501, TASH002502, TASH002503, TASH002504, TASH002505, TASH002506, TASH002507, TASH002508, TASH002509,

TASH002510], TNS!, US [US00664202], VAL [VAL10103], W!, WIS [WISv0255969WIS]).
Distribution in Central Asia:—Uzbekistan (Qashqadaryo, Surxondaryo), Turkmenistan (Lebap). Endemic.
Note:—The original collection of *Ferula tuberifera* was also prepared for distribution in *Herbarium Florae Asiae Mediae* and remained not distributed until its inclusion in *Herbarium Florae URSS* (Korovin 1986). The distributed specimens are isotypes.

Ferula ugamica Korovin (1947a: 66).
Type:—UZBEKISTAN. Ripa dextra fl. Angren, in cursu medio riv. Ak-sai, N ad Ablyk-sai, in rupibus, 20.06.1924, *Korovin 333, 336, 337, 339, 340, 341, 342, 343, 344, 345* (holotype TASH! [TASH002511, TASH002512, TASH002513, TASH002514, TASH002515, TASH002516, TASH002517, TASH002518, TASH002519, TASH002520]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.

Ferula vicaria Korovin (1947a: 72).
Type:—KYRGYZSTAN. Prov. Fergana, montes Sary-tau, 24.06.1920, *Popov 624* (holotype TASH! [TASH002521]).
Distribution in Central Asia:—Kyrgyzstan (Batken), Uzbekistan (Farg‘ona). Endemic.
Note:—The holotype specimen was incompletely cited in the protologue (Korovin 1947a).

Galagania ferganensis (Korovin) Vasiljeva & Pimenov in Pimenov (1983: 222). ≡ *Korovinia ferganensis* Korovin (1947b: 10).
Type:—KYRGYZSTAN. Tian-Schan, montes Ferganici prope p. Uzbek-gava, 02.08.1935, *Kazatschkov* (holotype TASH! [TASH002559]).
Distribution in Central Asia:—Kyrgyzstan (Batken, Jalal-Abad, Osh), Tajikistan (Sughd, Khatlon, Dushambe), Uzbekistan (Namangan). Endemic.

Galagania platypoda (Aitch. & Hemsl.) Vassiljeva & Pimenov in Pimenov (1983: 223). ≡ *Johrenia platypoda* Aitchison & Hemsley in Aitchison (1888: 71).
Type:—AFGHANISTAN. Hari-rud valley, 08.06.1885, *Aitchison 620* (lectotype K! [K000695719], designated by Pimenov (2020: 186); isolectotypes G!, GH, K! [K000681158], LE!, PH).
= *Peucedanum tenuisectum* subsp. *microcarpum* Korovin (1924a: 28). ≡ *Korovinia microcarpa* (Korovin) Korovin (1950b: 229).
Type:—TURKMENISTAN. Kopet-Dagh, 10 stadia rossica S de Firjuza, angustis Schu-sai, zona verticalis stepposa, 30.06.1923, *Korovin* (lectotype TASH! [TASH002560], designated by Pimenov (2020: 186); isolectotype TASH! [TASH002561]).
Distribution in Central Asia:—Turkmenistan (Balkan, Akhal, Mary).
Distribution in other Asian countries:—Afghanistan.

Galagania tenuisecta (Regel & Schmalhausen) Vassiljeva & Pimenov in Pimenov (1983: 223). ≡ *Peucedanum tenuisectum* Regel & Schmalhausen in Regel (1881: 37).
Type:—KAZAKHSTAN. In Turkestaniae montibus karatavicis prope Boroldai, 03.06.1876, *A.Regel* (lectotype LE!, designated by Geldykhanov (1992: 117); isolectotypes G, K!, P!).
= ? *Anethum involucratum* Korovin (1947b: 11).
Type:—UZBEKISTAN. Pamir-Alaj, vallis fluv. Kaschka-Darja, in regione urbis Karschi, 1928, *Linczevski 273* (holotype TASH, not found).
Distribution in Central Asia:—Kazakhstan (Kzyl-Orda, S Kazakhstan, Jambyl), Kyrgyzstan (Batken, Talas), Tajikistan (Sughd), Uzbekistan (Buxoro, Jizzax, Samarqand, Qashqadaryo, Surxondaryo, Sirdaryo, Toshkent), Turkmenistan (Lebap).
Distribution in other Asian countries:—Afghanistan.
Note:—*Anethum involucratum* is quite enigmatic. Korovin’s description corresponds not to the characters of the genus *Anethum*, with the only species in cultivation in Central Asia, but rather to the characters of the genus *Galagania*. Schischkin (1951: 17) assumed that the type of this species name is kept in Tashkent. So far, it has not been found at TASH, and our interpretation of this taxon relies entirely on its description in the protologue.

Hyalolaena jaxartica Bunge (1852: 128).
Type:—KAZAKHSTAN. In der Lehmsteppe am Ssyr-Darja (Jaxartes) [In deserto limoso versus Jaxartam], 09.05.1842, *A.Lehmann* (lectotype

LE!, designated by Pimenov (2020: 189); isolectotypes LE!, P!).
= *Hyalolaena depauperata* Korovin (1948: 20).
Type:—UZBEKISTAN. Ad declivia gypsacea elevationis Kongur-tau prope urbem Bek-budi [Karshi], 13.05.1928, *Linczewski 87* (holotype TASH).
Distribution in Central Asia:—Uzbekistan (Buxoro, Qashqadaryo, Samarqand, Surxondaryo). Endemic.
Note:—Vinogradova (2001: 52) indicated that the holotype and an isotype of *Hyalolaena jaxartica* are kept at LE. This statement does not constitute an effective lectotypification after 1 January 2001. This lectotype was formally designated by Pimenov (2020). Pimenov & Kljuykov (1982) proposed a neotype of *Hyalolaena depauperata* because the designated holotype was considered lost. Lyskov et al. (2019) rediscovered the holotype at TASH, therefore rendering the neotypification unnecessary.

Hyalolaena lipskyi (Korovin) Pimenov & Kljuykov (1982: 888). ≡ *Scaligeria lipskyi* Korovin (1928: 34).
Type:—TURKMENISTAN. Pul-i Chatum, in montibus, 02.05.1885, Korshinsky (lectotype LE!, designated by Vinogradova (1997b: 57); isolectotypes LE!).
= *Muretia oeroilanica* Korovin (1950a: 598). ≡ *Bunium oeroilanicum* (Korovin) Hiroe (1979: 683).
Type:—TURKMENISTAN. Badghyz, in arenis gypsaceis in zona semideserti montani prope Erojlan-duz, 15.05.1925, *Korovin 340* (holotype TASH! [TASH002305]; isotypes LE! [LE00051663]), *Korovin 351, 352* (TASH! [TASH002304, TASH002306]).
Distribution in Central Asia:—Turkmenistan (Akhal, Mary).
Distribution in other Asian countries:—Afghanistan, Iran.
Note:—The type label was incompletely cited in the protologue of *Muretia oeroilanica*.

Hyalolaena transcaspica (Korovin) Pimenov & Kljuykov (1982: 888). ≡ *Muretia transcaspica* Korovin (1950a: 598). ≡ *Bunium transcaspicum* (Korovin) Hiroe (1979: 683).
Type:—TURKMENISTAN. Kopet Dagh, SSW versus a Ashkhabad, 24.06.1921, *Popov 749, 750* (holotype TASH! [TASH002301, TASH002302]).
Distribution in Central Asia:—Turkmenistan (Balkan, Akhal). Endemic.
Note:—The type label was incompletely cited in the protologue of the species name.

Kafirnigania hissarica (Korovin) Kamelin & Kinzikaeva in Korovin et al. (1984: 523). ≡ *Peucedanum hissaricum* Korovin (1947b: 8).
Type:—TAJIKISTAN. Pamir-Alaj, montes Hissarici, vallis fl. Sarda-i-miona, 26.06.1930, *Pazij & Mironov 250* (holotype TASH! [TASH002546]; isotype TASH! [TASH002547]).
Distribution in Central Asia:—Tajikistan (Khatlon, Dushambe). Endemic.

Kamelinia tianschanica Khassanov & Maltzev (1992: 51).
Type:—UZBEKISTAN. Montes Chatkalenses, montes Chiltenboa, in lapidosis schistosis, 1900 m s.m., 27.07.1989, *Maltzev* (holotype TASH! [TASH002300]; isotypes K! LE!).
Distribution in Central Asia:—Uzbekistan (Toshkent). Endemic.

Komarovia anisosperma Korovin (1939: 430).
Type:—UZBEKISTAN. Mont. Seravschanici prope pag. Urgut, Mt. Chakhmalyk, in angustiis Aine-kor, declivum occidentale, in schistosis, 27.06.1927, *Gnezdillo 259* (holotype TASH! [TASH002522, TASH002523, TASH002524, TASH002526]).
Distribution in Central Asia:—Tajikistan (Sughd), Uzbekistan (Samarqand). Endemic.

Korshinskia bupleuroides Korovin (1924b: 83).
Type:—TAJIKISTAN. Distr. Chodzhent, montes Mogoltau, Mt. Spa, in calcareis, 24.06.1923, *Popov & Vvedensky 274* (lectotype TASH! [TASH002298], first-step designated by Vinogradova (1997b: 54), second-step designated by Pimenov in Kurbonov & Pimenov (2016b: 1282); isolectotypes LE! [LE00051662]), *Popov & Vvedensky 275* (TASH! [TASH002299]).
Distribution in Central Asia: —Kazakhstan (S Kazakhstan), Tajikistan (Sughd). Endemic.
Note:—Korovin (1924b) described this species with the only gathering cited, and the holotype was not specified in the protologue. Schischkin (1950: 414) stated that the type of this species name is kept in Tashkent; this statement does not constitute a lectotypification in the absence of the

type citation. Vinogradova (1997b: 54) cited the type label and the place where the type specimen is kept, but she failed to distinguish between two specimens kept at TASH. The second-step lectotype was formally designated Pimenov in Kurbonov & Pimenov (2016b).

Korshinskia kopetdaghensis (Korovin) Pimenov & Kljuykov in Pimenov & Tikhomirov (1981: 23). ≡ *Physospermum kopetdaghense* Korovin (1924b: 84). ≡ *Scaligeria kopetdaghensis* (Korovin) Schischkin (1950: 207). ≡ *Kamelinia kopetdaghensis* (Korovin) Khassanov & Maltzev (1992: 52).

Type:—TURKMENISTAN. Inter Tschuli [Czuli] et Cheirabad, 26.06.1898, *Litvinov 2449* (lectotype LE! [LE00051258], designated by Pimenov & Kljuykov (1981: 481); isolectotypes AA, LE! [LE00051257, LE00051259]).

Distribution in Central Asia:—Turkmenistan (Balkan, Akhal).

Distribution in other Asian countries:—Afghanistan.

Kuramosciadium corydalifolium Pimenov, Kljuykov & Tojibaev (2011: 492).

Type:—UZBEKISTAN. Jugum Kurama, Parda Tursun, juxta fontem fluminis Novbulak, in detritis mobilibus, 2700–2900 m, 20.07.2009, *Tojibaev* (holotype TASH! [TASH002358]; isotypes MW! [MW0593920, MW0593921]).

Distribution in Central Asia:—Uzbekistan (Namangan). Endemic.

Leutea turcomanica (Schischkin) Vinogradova (2004: 174). ≡ *Peucedanum involucratum* Korovin (1924b: 84), nom illeg., non W.D.J.Koch (1824). ≡ *Peucedanum turcomanicum* Schischkin (1950: 177). ≡ *Ferula turcomanica* (Schischkin) Pimenov in Pimenov & Tikhomirov (1981: 21), nom. illeg., non M.Hiroe (1979).

Type:—TURKMENISTAN. Transcaspia in montibus Bolschie Balchany ad rupes in regione subalpina, 12.07.1923, *Korovin 725* (lectotype LE! [LE00052168], designated by Vinogradova (2004: 174); possible isolectotypes: "fontes Bash-Mygur", 12.07.1923, *Korovin 723, 724, 728* (LE!, TASH! [TASH002548, TASH002549, TASH002550, TASH002551]).

Distribution in Central Asia:—Turkmenistan (Balkan, Akhal).

Distribution in other Asian countries:—Iran.

Note:—Vinogradova (2001: 54) stated that the holotype of this species name is kept at LE. The holotype was not indicated in the protologue; moreover, the original description was based on a series of sheets collected by E.P. Korovin on 12 July 1923 and kept at LE (2 specimens) and TASH (4 specimens). Published after 1 January 2001, Vinogradova's choice of the type is not effective as no correction from holotype to lectotype is automatically allowed after that date. This choice was effected by Vinogradova (2004).

Lomatocarpa alata (Korovin) Pimenov & Sennikov in Pimenov (2020: 195). ≡ *Meum alatum* Korovin (1947b: 12), nom. illeg. (Art. 53.1), non Baillon (1879: 107). ≡ *Aulacospermum alatum* Korovin (1962: 365) . ≡ *Lomatocarpa korovinii* Pimenov in Pimenov & Tikhomirov (1981: 24) (24), nom. illeg.

Type:—UZBEKISTAN. Tian-Schan occidentalis, vallis fl. Angren, apud put. Arasan, Mts. Aktau, 3100 m, 01.09.1938, *Pjataeva & Momotov 1495* (holotype TASH! [TASH002342]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad, Talas), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.

Note:—The complicated nomenclature of this species has been recently resolved by Sennikov & Pimenov (2021).

Mogoltavia sewerzowii (Regel) Korovin (1947b: 11). ≡ *Carum sewerzowii* Regel in Regel & Schmalhausen (1878: 587).

Type:—TAJIKISTAN. Mogoltau, 25.04–04.05.1877, *Sewerzow* (lectotype LE!, designated by Vinogradova (1997a: 98).

= *Peucedanum gypsaceum* Korovin (1924b: 75).

Type:—KYRGYZSTAN. Fergana, montes Sary-tau, in planitiae Rabat districti Kokandensis, 13.06.1920, *Popov 526* (lectotype LE! [LE00052121], designated by Vinogradova (2001: 54); isolectotypes TASH! [TASH002543, TASH002545]).

Distribution in Central Asia:—Kyrgyzstan (Batken, Osh), Tajikistan (Sughd), Uzbekistan (Namangan, Farg'ona). Endemic.

Oedibasis platycarpa (Lipsky) Koso-Poljansky (1916: 175). ≡ *Carum platycarpum* Lipsky (1904: 132).
Type:—UZBEKISTAN. Prov. Syr-Darja, inter Pskem et Nanai, 01.06.1903, *Lipsky 284* (lectotype LE!, designated by Vinogradova (1997a: 98).
= *Oedibasis karatavica* Korovin (1951: 355). ≡ *Carum karatavicum* (Korovin) M.Hiroe (1979: 871).
Type:—KAZAKHSTAN. Tian-schan occidentalis, montes Karatau, declivum NW schistoso-lapidosum, locum Chuschka-bulak dictum, 23.05.1935, *Pjataeva 141* (holotype TASH! [TASH002567]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad), Uzbekistan (Toshkent). Endemic.

Oenanthe silaifolia Bieberstein (1819: 232).
Type:—CRIMEA. In Tauria maxime meridionali circa Nicitam occurrens, 1816, *Steven* (lectotype LE!, designated by Vinogradova (2003: 107).
= *Oenanthe heterococca* Korovin (1948: 13).
Type:—UZBEKISTAN. Pamir-Alaj occidentalis, in paludosis occidentalem versus urbis Schachrisjabz, 16.06.1927, *Kultiassov & Granitov 596* (holotype TASH! [TASH002335]); isotype *Kultiassov & Granitov 621* (TASH! [TASH002336]).
Distribution in Central Asia:—Uzbekistan (Qashqadaryo).
Distribution in other Asian countries:—Russia, Iran, Azerbaijan, Georgia, Armenia, Turkey, Lebanon, Syria, Israel.
Note:—In Central Asia, this species was known from old collections made in a single locality in Uzbekistan, which was considered extinct. It was recently rediscovered and its possibly indigenous status was suggested (Beshko et al. 2017). The taxonomic identity of Central Asian populations was established by Terentieva et al. (2014).

Ormopterum turcomanicum (Korovin) Schischkin (1950: 363). ≡ *Hyalolaena turcomanica* Korovin (1948: 21). ≡ *Selinum turcomanicum* (Korovin) Hiroe (1979: 1311).
Type:—TURKMENISTAN. Badhyz, in arenosis pr. lacus Oer-ojlan-duz, 16.05.1925, *Korovin 356* (holotype TASH! [TASH002356]; isotype TASH! [TASH002357]).
Distribution in Central Asia:—Turkmenistan (Akhal, Lebap, Mary).
Distribution in other Asian countries:—Afghanistan.

Pastinacopsis glacialis Goloskokov (1950: 198). ≡ *Pastinaca glacialis* (Golosk.) Hiroe (1979: 1759).
Type:—KAZAKHSTAN. Alatau Transiliensis, angustiae fl. M. Alma-Atinka, morenae recentes glacierum Tujuk-su, declivum lapidosum, 3850 m, 06.08.1943, *Goloskokov* (holotype LE! [LE00052199]; isotypes AA!, LE [LE00052193–LE00052198], TASH! [TASH002571]).
Distribution in Central Asia:—Kazakhstan (Almaty), Kyrgyzstan (Ysyk-Köl, Chüh).
Distribution in other Asian countries:—China.

Paulita alaica (Pimenov & Kljuykov) Pimenov & al. (1986: 488). ≡ *Neopaulia alaica* Pimenov & Kljuykov in Pimenov et al. (1983a: 1562).
Type:—KYRGYZSTAN. Jugum Alaicum, in gypsaceis rubroarenosis inter oppida Osch et Naukat, trajectus Chokmak, prope pagum Uschbai, 16.07.1981, *Pimenov, Kljuykov, Vasilieva, Baranova, Tomkovich & Lavrova 365* (holotype LE! [LE01065771]; isotypes MHA!, MW! [MW0593776, MW0593777], TASH! [TASH002230]).
Distribution in Central Asia:—Kyrgyzstan (Osh). Endemic.

Pilopleura tordyloides (Korovin) Pimenov (1976: 48). ≡ *Zosima tordyloides* Korovin (1924b: 82). ≡ *Platytaenia tordyloides* (Korovin) Korovin (1963: 423).
Type:—KAZAKHSTAN. Prov. Syr-Daria, distr. Chimkent, m. Ak-bas-tau, fl. Dengis, pag. Trechsvjatskoe, zona xerophytorum stepposis saxatilibus, 12.08.1921, *Abolin & Popov 8169* (lectotype TASH! [TASH002576], designated by Pimenov (1976: 48); isolectotypes LE! [LE00052217], TASH! [TASH002575]).
= *Libanotis talassica* Korovin (1962: 251).
Type:—KAZAKHSTAN. Tian Schan occidentalis, jugum Talass Alatau, angustiae Kschi-Kaindy, ad ripam dextram, prope frutices *Juniperi turkestanicae*, in schistosis fixis, 22.07.1929, *Granitov 244* (holotype TASH! [TASH002327]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad,

Naryn, Talas, Chüh), Uzbekistan (Toshkent). Endemic.

Prangos fedtschenkoi (Regel & Schmalh.) Korovin (1948: 24). ≡ *Hippomarathrum fedtschenkoi* Regel & Schmalhausen (1878: 1603).

Type:—TAJIKISTAN. Prope Chodschent, 04.06.1871, *O.A.Fedtschenko* (lectotype LE!, designated by Vinogradova (2001: 52); isolectotypes G!, LE!).

= *Prangos pachypoda* Korovin (1924b: 73).

Type:—TAJIKISTAN. Tian-Schan occidentalis, in mont. Mogol-tau, prope opp. Chodschent, 19.06.1923, *Popov & Vvedensky* (lectotype LE! [LE00051406], designated by Vinogradova (2001: 57); isolectotypes LE [LE00051407], MHA!).

Distribution in Central Asia:—Kyrgyzstan (Batken, Osh), Tajikistan (Sughd, Dushambe), Uzbekistan (Jizzax, Qashqadaryo, Samarqand, Surxondaryo). Endemic.

Prangos latiloba Korovin (1924b: 74). ≡ *Cachrys latiloba* (Korovin) Herrnstadt & Heyn (1975: 443).

Type:—TURKMENISTAN. Montes Kopet-Dagh, in regione alpina et inferiore, prope Kaakha, 01.05.1914, *Korovin 540* (lectotype TASH! [TASH003702], designated by Pimenov & Kljuykov in Pimenov (2020: 211) as "holotype").

Distribution in Central Asia:—Turkmenistan (Balkan, Akhal).

Distribution in other Asian countries:—Afghanistan, Iran.

Prangos lipskyi Korovin (1927b: 49).

Type:—KYRGYZSTAN. Fergana, valle fl. Arslanbob, ad ripam sinistram, 12.07.1926, *Korovin 331, 332* (lectotype TASH! [TASH002249, TASH002250], designated by Pimenov (2020: 212).

Distribution in Central Asia:—Kyrgyzstan (Batken, Jalal-Abad, Osh), Uzbekistan (Namangan). Endemic.

= *Prangos isphairamica* Fedtschenko (1950: 594).

Type:—KYRGYZSTAN. Jugum Alaicum in systemate flum. Isphairam, in rupestribus as ripam flum. Iniczke, 10.08.1915, *Drobov 474* (holotype LE! [LE00051402]; isotype TASH! [TASH002245, TASH002246]).

Note:—The first brief description of *Prangos lipskyi* appeared on the label of *Herbarium Florae Asiae Mediae* (Korovin 1927b) in the identification key to the Central Asian representatives of *Prangos*. The type was not indicated but the distribution area was specified as «*montes Ferganenses*». Fedtschenko (1950: 267) indicated that the type is kept in Tashkent. No type was designated also by Korovin (1959b), Kuzmina (1962: 252) and Pimenov & Tikhomirov (1981: 206); it was indicated only by Pimenov & Kljuykov (2002) as «type», but after 2001.

Prangos pabularia subsp. ***cylindrocarpa*** (Korovin) Pimenov & Tikhomirov (1981: 28). ≡ *Prangos cylindrocarpa* Korovin (1948: 24).

Type:—UZBEKISTAN. Pamiralaj occidentalis, in valle fl. Yakkobag-darja, prope pag. Tasch-kurgan, in clivis arduis argillosis schistosisque, 30.06.1936, *Botschantzev & Butkov 501* (holotype TASH! [TASH002241, TASH002242]; isotypes TASH! [TASH002243, TASH002244]).

Distribution in Central Asia:—Uzbekistan, Turkmenistan.

Prangos pabularia subsp. ***lamellata*** (Korovin) Pimenov & Tikhomirov (1981: 28). ≡ *Prangos lamellata* Korovin (1959b: 490).

Type:—UZBEKISTAN. Pamiro-Alaj occidentalis, jugum Zeravschanicum, prope pagum Urgut, angustis Sailyk, pratulum prope ad confluentes cum affluxio, 06.05.1936, *Gnezdillo 167* (holotype TASH! [TASH002247, TASH002248]).

Distribution in Central Asia:—Uzbekistan (Samarqand).

Pseudotrachydium dichotomum (Korovin) Pimenov & Kljuykov (2000: 527). ≡ *Trachydium dichotomum* Korovin (1948: 19). ≡ *Aulacospermum dichotomum* (Korovin) Kljuykov, Pimenov & Tikhomirov (1976b: 82).

Type:—UZBEKISTAN. Pamir-Alaj, montes Kuhitang supra p. Kyzyl-alma, 28.06.1927, *Popov 193* (holotype TASH! [TASH002238]; isotype LE!).

Distribution in Central Asia:—Kyrgyzstan (Batken, Osh), Tajikistan (Kŭhistani Badakhshan, Sughd, Dushambe), Uzbekistan (Samarqand, Qashqadaryo, Surxondaryo), Turkmenistan (Lebap).

Distribution in other Asian countries:—Pakistan, Afghanistan.

Pseudotrachydium kopetdagense (Korovin) Sennikov & Pimenov in Pimenov (2020: 214). ≡ *Trachydium kopetdagense* Korovin (1924a: 23).

Type:—TURKMENISTAN. Kopet-Dagh, in cacumime montium Chapan, zona verticalis stepposa, 02.07.1923, *Korovin 423* (lectotype TASH! [TASH002231], designated by Pimenov (2020: 214); isolectotypes TASH! [TASH002232, TASH002233]).

Distribution in Central Asia:—Turkmenistan (Akhal).

Distribution in other Asian countries:—Afghanistan, Iran.

Note:—The complicated nomenclature of this species has been recently resolved by Sennikov & Pimenov (2021) .

Schrenkia congesta Korovin (1962: 245).

Type:—KAZAKHSTAN. Prov. Syr-Darya, distr. Chimkent, montes Talassky Alatau, in valle Dschebagly-su, ad declivitatem lapidosam, 18.08.1921, *Abolin & Popov 8365* (holotype TASH!).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl). Endemic.

Schrenkia kultiassovii Korovin (1924a: 22). ≡ *Bifora kultiassovii* (Korovin) Hiroe (1979: 1130).

Type:—KAZAKHSTAN. Prov. Syr-Darja, distr. Tschimkent. Tian-Schan occidentalis: in montibus siccis lapidosis Duany-tau, 24.07.1922, *Kultiassov* [Herbarium Florae Asiae Mediae No. 28] (lectotype TASH! [TASH002174], designated as "typus" by Vinogradova (1997b: 58); isolectotypes BK, BR! [BR0000005624300], BRNU [BRNU131487], C! [C10008550], E! [E00284195], G! [G00367274, G00367302], K! [K000697377], LE! [LE00051066, LE00051067, LE00051068, LE00051198], MA [MA85846], MHA!, MO [MO-345350], MW! [MW0593748], NY [NY00406264], P [P00834615], S!, W [W 1927 0011380]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan). Endemic.

Note:—*Schrenkia kultiassovii* was described with a single collection cited in the protologue, and the holotype was not indicated. Schischkin (1950: 198) stated that the type is kept in Tashkent (implying TAK) but he did not cite the type label. Vinogradova (1997b: 58) cited the label and affirmed the choice of TAK, therefore completing the formalities.

Schrenkia turkestanica (Korovin) Pimenov in Terentieva et al. (2015: 265). ≡ *Kosopoljanskia turkestanica* Korovin (1923: 85).

Type:—KAZAKHSTAN. Distr. Aulie-Ata, Mt. Ak-tasch prope hibernaculum Kydyr-Ali, ad schistis, 12.07.1922, *Korovin 1427* (lectotype LE! [LE00051198], designated by Vinogradova (2001: 52); isolectotypes MHA!, TASH! (1429, 1431, 1432, 1433, 1434, 1435) [TASH002179, TASH003704, TASH003705, TASH003706, TASH003710, TASH003711]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Talas). Endemic.

Schrenkia ugamica Korovin (1948: 14).

Type:—UZBEKISTAN. In valle fl. Ugam, Ming-bulak, 16.08.1922, *Simonova & Batueva* (holotype TASH! [TASH002175]; isotype MW! [MW0593752]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad), Uzbekistan (Toshkent). Endemic.

Schtschurowskia margaritae Korovin (1925: 109).

Type:—KAZAKHSTAN. Prov. Syr-Darya, distr. Aulie-Ata, montes Karatau, pars australis, in systemate fluminis Asa, planities Karatau, declivia schistosa angustis Berkara, 20.06.1925, *Sovetkina 514* (lectotype TASH! [TASH002581], designated by Pimenov (2020: 221); isolectotype TASH! [TASH002582]).

Distribution in Central Asia:—Kazakhstan (Jambyl). Endemic.

Note:—This species is closely related to *S. meifolia.*

Sclerotiaria pentaceros (Korovin) Korovin (1962: 243). ≡ *Kosopoljanskia pentaceros* Korovin (1925: 105) . ≡ *Schtschurowskia pentaceros* (Korovin) Schischkin (1950: 188).

Type:—KYRGYZSTAN. Tianschan Centralis, jugum Alexandri, trajectus Kainar, ad declivum schistosum, zona subalpina, 18.08.1925, *Sovetkina 1554* (lectotype TASH! [TASH002178], designated here; isolectotypes LE! [LE00051197], TASH! [TASH002176, TASH002177]).

Distribution in Central Asia:—Kazakhstan (Jambyl), Kyrgyzstan (Talas). Endemic.
Note:—The holotype specimen was not indicated by Korovin (1925) , who cited the whole gathering. Schischkin (1950: 118) stated that the type is kept in Tashkent but did not cite the type specimen. Vinogradova (2001: 52) affirmed Schischkin's statement and cited the type but did so after 1 January 2001, and her choice is therefore ineffective. The lectotype is formally designated here.

Semenovia heterodonta (Korovin) Mandenova (1959: 22). ≡ *Platytaenia heterodonta* Korovin (1947b: 5). ≡ *Zosima heterodonta* (Korovin) Hiroe (1979: 1762).
Type:—UZBEKISTAN. Pamir-Alaj, montes Turkestanici, vallis fl. Sansar, Guralasch-saj, 08.08.1937, *Korotkova 872* (holotype TASH, not found).
Distribution in Central Asia:—Tajikistan (Sughd, Dushambe), Uzbekistan (Jizzax, Surxondaryo). Endemic.
Note:—The type of this species name has not been found in present-day TASH so far, although TASH was indicated in the protologue.

Semenovia pulvinata Pimenov & Kljuykov in Ukrainskaja et al. (2013: 649).
Type:—TAJIKISTAN. Pamir orientalis, in systemate fluminis Muk-su, prata in cursu inferiore fluminis Kaindy, 20.08.1936, *Stanjukovich 372* (holotype TASH! [TASH002583]).
Distribution in Central Asia:—Tajikistan (Kŭhistani Badakhshan). Endemic.

Seseli abolinii (Korovin) Schischkin (1950: 505). ≡ *Phlojodicarpus abolinii* Korovin (1924b: 74). ≡ *Libanotis abolinii* (Korovin) Korovin (1963: 351).
Type:—KAZAKHSTAN. Prov. Heptapotamica, jugum Dzhungarsky Alatau, montes Katu-Duvan, valle fl. Borochudsir, decl. saxosum, 28.06.1917, *Abolin, Borman & Stamberg 4165* (lectotype TASH! [TASH002368], designated by Pimenov (1978: 189).
Distribution in Central Asia:—Kazakhstan (Almaty).
Distribution in other Asian countries:—China, Mongolia.

Seseli afghanicum (Podlech) Pimenov (1977: 140). ≡ *Libanotis afghanica* Podlech (1970: 171).
Type:—AFGHANISTAN. Nordost-Afghanistan, Prov. Badakhshan: Oberes Anjuman-Tal, Umgebung des Ortes Anjuman, 3100 m, 14.08.1965, *Podlech 12358* (holotype M!; isotypes E!, LE!, MSB).
= *Seseli subaphyllum* Korovin (1973: 6).
Type:—TAJIKISTAN. Systema fl. Pjandzh, vallis fl. Bidzhun-Dara, prope pagum Bidzhun-Dara, 21.07.1936, *Nikiforova & Kuznetzov 310* (holotype TASH! [TASH002316]).
Distribution in Central Asia:—Tajikistan (Kŭhistani Badakhshan).
Distribution in other Asian countries:—Afghanistan.

Seseli calycinum (Korovin) Pimenov & Sdobnina (1975: 1118). ≡ *Libanotis calycina* Korovin (1947b: 20). ≡ *Balinotella calycina* (Korovin) Soják (1982: 4).
Type:—UZBEKISTAN. Tian-Schan occidentalis, mons Tschimgan, *Korovin 136* (holotype TASH! [TASH002318]).
Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad), Uzbekistan (Namangan, Toshkent), Tajikistan (Sughd). Endemic.

Seseli eryngioides (Korovin) Pimenov & Tikhomirov (1981: 30). ≡ *Sphenocarpus eryngioides* Korovin (1947b: 23).
Type:—KYRGYZSTAN. Fergana orientalis, vallis fluv. Itokar, 17.09.1927, *Sovetkina 1260* (holotype TASH! [TASH002331]; isotype LE! [LE01066062, fruits only]).
Distribution in Central Asia:—Kyrgyzstan (Jalal-Abad). Endemic.

Seseli fasciculatum (Korovin) Schischkin (1950: 507). ≡ *Libanotis fasciculata* Korovin (1926: 11).
Type:—UZBEKISTAN. Syr-Darja, distr. Taschkent, ad declivia saxosa in regione subalpina montis Tschimgan Majoris, 30.07.1925, *Korovin & Mokeeva* [Herbarium Florae Asiae Mediae No. 240] (TASH! [TASH002319], lectotype designated as "typus" by Pimenov (1978: 192); isolectotypes B! [B 10 0367282], BP!, C! [C10008564], G! [G00367366], K! [K000697450], LE! [LE01066050], MO, MW! [MW0593851], NY [NY00406068], P! [P02496391], S! [S-G-3660], Z [Z-000028693]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad, Talas), Uzbekistan (Tashkent), Tajikistan (Sughd). Endemic.

Note:—Schischkin (1950: 508) was the first to indicate that the type of this species name is kept at LE but he did not cite the type. Vinogradova (2001: 53) affirmed this choice. Meanwhile Pimenov (1978: 192) cited the type and stated that the type is kept at TASH, thus being the first to fulfill the requirements for lectotype designation. His later designation of the same specimen (Kurbonov & Pimenov 2016a: 1290) is therefore superfluous.

Seseli marginatum (Korovin) Pimenov & Sdobnina (1975: 1490). ≡ *Libanotis marginata* Korovin (1924b: 81).

Type:—KAZAKHSTAN. Prov. Syr-Darja, distr. Chimkent, in parte superiore system. fl. Aksu, regio stepposa, alt. ca. 4000', in clivis conglomeratis, 14.08.1921, *Abolin & Popov 8275* (lectotype TASH! [TASH002323], designated by Pimenov (1978: 189).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Uzbekistan (Toshkent). Endemic.

Seseli merkulowiczii (Korovin) Pimenov & Sdobnina (1975: 1121). ≡ *Libanotis merkulowiczii* Korovin (1947b: 16).

Type:—UZBEKISTAN. Pamir-Alaj, montes Hissarici, vallis fl. Surchan-Darja, ad pag. Churbaton, 05.08.1931, *Merkulowicz* (holotype TASH! [TASH002325, TASH002326]).

Distribution in Central Asia:—Uzbekistan (Surxondaryo). Endemic.

Seseli mironovii (Korovin) Pimenov & Sdobnina (1973: 1489). ≡ *Libanotis mironovii* Korovin (1962: 252).

Type:—KAZAKHSTAN. Desertum Betpak-Dala, monticola Tanatkan, ad declivitatem lapidosum, 03.09.1962, *Mironov 942, 943* (holotype TASH!).

Distribution in Central Asia:—Kazakhstan (Karagandy, Jambyl). Endemic.

Seseli nemorosum (Korovin) Pimenov (1978: 200). ≡ *Neogaya nemorosa* Korovin (1947b: 12). ≡ *Pachypleurum nemorosum* (Korovin) Korovin (1959b: 389; Korovin 1959a).

Type:—KYRGYZSTAN. Tian-schan, montes Talassici, in valle fl. Arabik, 08.09.1923, *Korovin 155* (holotype TASH! [TASH002361]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad, Talas), Uzbekistan (Toshkent). Endemic.

Seseli talassicum (Korovin) Pimenov & Sdobnina (1975: 1118). ≡ *Ligusticum pumilum* Korovin (1924b: 82), nom. illeg. (Art. 53.1). ≡ *Ligusticum talassicum* Korovin (1959b).

Type:—KAZAKHSTAN. Mont. Ak-basch-tau, in valle Dondus, 12.08.1921, *Abolin & Popov 8258* (lectotype LE! [LE01065784], designated by Vinogradova (1997b: 54) as "holotypus"; isolectotypes TASH! [TASH002359, TASH002360]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Jalal-Abad, Naryn, Talas), Uzbekistan (Toshkent). Endemic.

Seseli turbinatum Korovin (1947b: 21).

Type:—UZBEKISTAN. Pamir-alaj meridionalis, jugum Koj-tasch, m. Piasly, 05.08.1934, *Botschantzev* (holotype TASH! [TASH002317]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Tajikistan (Sughd), Uzbekistan (Jizzax). Endemic.

Seseli unicaule (Korovin) Pimenov (1974: 254). ≡ *Libanotis unicaulis* Korovin (1947b: 18).

Type:—KYRGYZSTAN. Tian-Schan, montes Ferganici, vallis riv. Tochtalyk, 03.09.1927, *Abolin 613* (holotype TASH! [TASH002328, TASH002329]; isotype TASH! [TASH002330]).

Distribution in Central Asia:—Kazakhstan (S Kazakhstan), Kyrgyzstan (Batken, Jalal-Abad, Naryn, Osh, Talas), Uzbekistan (Farg'ona, Namangan). Endemic.

Seselopsis pusilla Pimenov & Lavrova in Pimenov et al. (1983: 1565).

Type:—KYRGYZSTAN. Jugum Alaicum in systemate fluminis Gulcza, in declivibus gypsaceis inter lacum Chonkol et pagum Kolduk, 25.07.1981, Pimenov & al. *709* (holotype LE! [LE01065773]; isotypes E! [E00000464], LE! [LE01065774, LE01065775], MHA!, MW! [MW0593841], TASH! [TASH002229]).

Distribution in Central Asia:—Kyrgyzstan (Osh).

Distribution in other Asian countries:—China.

Sphaenolobium thianschanicum (Korovin) Pimenov (1975: 243). ≡ *Selinum thianschanicum* Korovin (1924b: 76).
Type:—UZBEKISTAN. Mont. Thian-Schan occidentalis, in valle Ugam, Chordshuman-sai prope pag. Chumsan, 07.08.1920, *Popov 1070–1073* (lectotype TASH! [TASH002345], first-step designated by Pimenov (1975: 244) (244) and second-step designated by Pimenov (2020: 239); isolectotypes LE! [LE01065762], MHA!, TASH! [TASH002346, TASH002347, TASH002348]).
= *Selinum coriaceum* Korovin (1924b: 77). ≡ *Sphaenolobium coriaceum* (Korovin) Pimenov (1983: 264).
Type:—UZBEKISTAN. In valle fluv. Angren, ad locos lapidosos in partibus superioribus flum. Kamtschik-sai, 08.06.1924, *Korovin 580* (lectotype TASH! [TASH002343], designated by Pimenov (2020: 239); isolectotype MHA!).
= *Selinum thianschanicum* var. *transitorium* Korovin (1926: 12).
Type:—UZBEKISTAN. Prov. Syr-Darja, distr. Taschkent, ad declivia saxosa in regione alpina montis Tschimgan Majoris, 29.07.1925, *Korovin* [Herbarium Florae Asiae Mediae No. 242] (lectotype TASH, designated by Pimenov (2020: 239); isolectotypes C! [C10008578], MHA!, MW! [MW0593929], W! [W 1927 0011686]).
Distribution in Central Asia:—Kazakhstan (S Kazakhstan, Jambyl), Kyrgyzstan (Jalal-Abad), Tajikistan (Sughd), Uzbekistan (Toshkent). Endemic.
Note:—The first-step lectotype of *Selinum thianschanicum* (material at TAK) was unintentionally designated by Pimenov (1975) and affirmed by Pimenov in Kurbonov & Pimenov (2016b: 292). The second-step lectotype is designated by Pimenov (2020).

Conclusions

The National Herbarium of Uzbekistan possesses numerous unique type specimens of the Umbelliferae belonging to 125 species and five infraspecific taxa. Among these specimens, there are 82 holotypes, 36 lectotypes, 22 isolectotypes, 15 syntypes, and 19 isotypes. From the preserved in TASH types, 54 names of taxa remain accepted in the current systems of Umbelliferae and 46 names became nomenclatural symonyms because of changes in generic attribution or rank; at least 33 names are currently regarded as taxonomic synonyms.

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No potential conflict of interest was reported by the authors.

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