

## New taxa described in Grisebach's "Spicilegium Florae Rumelicae et Bithynicae" (1843–46)

Nové druhy popsané v Grisebachově „Spicilegium Florae Rumelicae et Bithynicae“ (1843–46)

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Dedicated to the memory of Josef Holub

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An account is given of August Grisebach's journey through north-western Asia Minor ("Bithynia") and the interior of the Balkan Peninsula ("Rumelia") in 1839. Extensive collections were made in what is now north-west Turkey, northern Greece, the Republic of Makedonija, Kosovo and northern Albania. More than 300 new taxa were described in the Spicilegium, based primarily on Grisebach's own collections, but also on material gathered by others (Frivaldszky, Friedrichsthal, Pestalozza and others). These taxa are typified as far as possible, and notes on taxonomy, nomenclature and distribution are provided in most cases.

**Key words:** Grisebach, Bithynia, Rumelia, Balkan Peninsula, taxonomy, phytogeography, nomenclature, typification

### Introduction

In 1839 August Grisebach undertook an epic journey through the interior of the Balkan Peninsula ("Rumelia") and north-west Asia Minor ("Bithynia"), then largely unknown territory from a botanical point of view. A general account of his travels was given in "Reise durch Rumelien und nach Brussa im Jahre 1839" (2 vols., 1841), and a systematic enumeration and description of the plants collected appeared in "Spicilegium Florae Rumelicae et Bithynicae" (2 vols., 1843–46). The importance of the latter is enhanced by the fact that it was also based on examination of material collected by others, especially Friedrichsthal, Frivaldszky and Pestalozza, and included frequent reference to earlier works, in particular the classical "Flora Graeca" of Sibthorp & Smith (for an account of the latter, see Lack & Mabberley 1999). Grisebach's work remains one of the most important foundations for the botany of the Balkan Peninsula and north-western Asia Minor.

### Brief biographical sketch

The main biographical and bibliographical sources are Reinke (1879), E. Grisebach (1880), Stearn (1965) and Wagenitz (1980). August Heinrich Rudolf Grisebach was born on April 17, 1814, the son of Rudolf Dietrich Grisebach, auditor general in Hannover, and his wife Louise Meyer. His mother's brother was the distinguished Göttingen botanist Georg Friedrich Wilhelm Meyer who appears to have encouraged and directed the boy's



Fig. 1. – August Heinrich Rudolf Grisebach, daguerreotype c. 1855. Courtesy of the Hunt Institute for Botanical Documentation, Carnegie Mellon University, Pittsburgh, PA.

early interest in natural history. Already by the age of 12 he was exchanging plant specimens, e. g. with the well-known professor Kurt Sprengel at Halle, and while still in high school he started what was to become a very important herbarium.

After schooling in Hannover and Ilfeld, Grisebach entered the University of Göttingen in the autumn of 1832, studying natural history and medicine; his botanical teachers were Heinrich Adolph Schrader and Friedrich Gottlieb Bartling. In the summer of 1833 he went



on a botanical excursion to the Western Alps (Dauphiné) and the South of France, and developed a keen interest in vegetation ecology. In April, 1834, he moved to Berlin – then a Mecca for botanists with great names such as Alexander von Humboldt, Carl Sigismund Kunth, Heinrich Friedrich Link and Julius Ferdinand Meyen – and graduated as a doctor of medicine in 1836 on a purely botanical thesis (taxonomy and phytogeography of the family *Gentianaceae*). In the following year he returned to Göttingen where he was appointed Privatdozent and was to remain until his death, rejecting offers from Giessen, Berlin, Munich and elsewhere, and raising through the ranks to full professor, director of the Botanic Garden and Geheimer Regierungsrat.

The interior of the Balkan Peninsula was one of the last blanks on the botanical map of Europe, the south of Spain having been studied by Boissier a few years earlier, and the plan to travel there was apparently Grisebach's own initiative. On January 17, 1839, he obtained a grant of 300 Rthl. from the University of Göttingen (after having submitted a proposal on December 24, 1838!) and contributed a similar amount from his own pocket.

Grisebach's "Reise" ranks with masterpieces in the field such as those of Linnaeus a century earlier and is not unlike Charles Darwin's contemporary account of his travels with the Beagle. In the pages of the two volumes one meets an acute and analytical observer, the master of several languages (French, Italian, Latin, Greek and some English in addition to his native German), well versed in many branches of natural history, especially botany, geography and geology, a mature and thoughtful man of quiet determination, appearing older than his 25 years. Alert and hard working, frequently under demanding conditions, he pursued his mission, gathered notes and specimens, and reflected on everything from botany and geology to folklore and political conditions. Geographical and geological features are often described in considerable detail and there are frequent reflections on vegetation ecology, in particular the relations between soil and plant life and the altitudinal zones of vegetation. His book is a rich source of information about the area – the following summary concentrates on the floristic aspects.

After returning from his celebrated journey, Grisebach made an expedition to Norway (Hardanger area) in 1842, but otherwise did not travel extensively; subsequent excursions included one to the Carpathians (together with J. A. Schenk) in 1852 and one to the Pyrenees in 1853. He married in 1844, had two sons, and appears to have led a quiet, harmonious and industrious life as professor at the University of Göttingen. From c. 1846 he worked mainly on South American and Caribbean plants gathered by a number of different collectors, and his published output was very substantial (cf. Stearn 1965). Grisebach's time, like our own, had its scientific fashions and bandwagons, but he worked völlig unbekümmert um den Beifall der Zeitgenossen, an dem ihm selber wohlbewussten Gehalt seiner Werke sich genügen lassend. „Ich arbeite für die Zukunft“, pflegte er scherzend zu sagen, „nach meinem Tode wird schon eine Zeit kommen, in welcher man auf meine Werke zurückgreift.“ (Reinke 1879: 521).

Having been officially commissioned by the British government in 1857 to write the Flora of the West Indian Islands, Grisebach apparently received vast amounts of herbarium material for study and completed this magnum opus in 1864. His herbarium eventually comprised some 40.000 species and 125.000 sheets, including numerous types. His vast knowledge of floristics and phytogeography was summarized in a famous textbook, "Die Vegetation der Erde nach ihrer klimatischen Anordnung", first published in 1872 and used well into the 20th century. He died in Göttingen on May 9, 1879.

## Itinerary

### From Göttingen to Constantinopel

Grisebach left Göttingen on March 20, 1839, and first spent about ten days in Vienna to prepare for the journey. His equipment is described in some detail in the introductory chapter to volume one of the “Reise”:

Mein wissenschaftlicher Apparat bestand nur aus folgenden Gegenständen: einer Schmalkalder'schen Boussole [a kind of compass], einem Gay-Lussac'schen Heberbarometer mit Greiner's Verschluss, zwei Thermometern, einem Mikroskop, einem anatomischen Besteck, verschieden geformten Messern, Meisseln und Hammern, zwei Drahtpressen und einer Blechbüchse zum Sammeln von Pflanzen. In Pesth [Budapest] kaufte ich drei Riess Fliesspapier [288 sheets of blotting paper for plant pressing] und eine Anzahl Glasflaschen.

Bei dieser Gelegenheit bemerke ich auch, dass ich folgende Artikel während meiner Reise in Rumelien stets mit mir zu führen pflegte: eine Caffemaschine [evidently a grinder for coffee beans]; einen Kessel; Messer, Gabel und Löffel; Wachslichter; einen Vorrath von Boullionkuchen, Caffee, Reis, Zucker, Chokolade, Salz und Pfeffer. Ferner hatte ich einige Medicamente, ein Paar Pistolen und Schiessbedarf, und ein grosser Gummimantel von Mackintosh diente bei meinen Bivouacs als Bett. Ausser diesen Gegenständen hatte ich mich nur mit wenigen Kleidungsstücken, Büchern und Charten versehen.

The areas to be visited by Grisebach were all parts of the Ottoman Empire [the southern parts of present-day Greece had become independent about ten years earlier], and one of the most important tasks in Vienna was to obtain a Ferman, an official travel permit on behalf of the Sultan issued at certain embassies:

Ein Ferman ... sichert dem Reisenden überall den wirksamen Schutz der Behörden, und, wo die Provincial-Verwaltung mehr gilt, als die Centralgewalt, erhält man von dem Pascha [local governor] auf die Autorität des Ferman ein Bujuruldi (Ordonnance eines Pascha's), welches wiederum dieselben Dienste leistet, wie der Reiseferman in den übrigen Theilen des Reichs. Der Reisende hat insbesondere dadurch drei wesentliche Vortheile. Erstens hat er das Recht, in unsichern Gegenden eine Escorte zu verlangen, die er alsdann durch ein freiwilliges Geschenk belohnt. Ferner kann er sich der kaiserlichen Postanstalten zu den gesetzlich bestimmten, mässigen Preisen bedienen, wozu sonst eine besondere Erlaubniss erforderlich ist. Endlich hat er dadurch den Anspruch auf Unterkunft in Privathäusern. In den öffentlichen Han's [guest houses] aber ist es in der Regel nicht möglich, für naturhistorische Sammlungen Sorge zu tragen, da jeder Reisende dort gleiches Recht auf die Räumlichkeiten geltend machen kann und daher auf ein abgesondertes, verschliessbares Zimmer gar nicht zu rechnen ist.

On April 2, Grisebach left Vienna on board a Danube steamer, changing first at Pest [Budapest] and again at Braila near the delta. The steamer *Ferdinando primo* left Braila in the early morning of April 15; after half a day of “unbegrenzter *Phragmites*-Horizont” they reached the Black Sea under a cloudless sky at the benefit of a favourable northerly wind. After a brief call at Varna the ship continued along the coast, entering the Bosphorus at sunrise on April 17 – Grisebach's 25th birthday – and reaching the harbour of Stambul some two hours later.



Fig. 2. – Grisebach's route through north-western Anatolia ("Bithynia") and the Balkan Peninsula ("Rumelia") in 1839. Some localities and dates are indicated.

### Stay in Constantinople and excursion to the Bithynian Olympus

In Constantinople [Istanbul] Grisebach had to arrange various administrative matters and also to find an interpreter and assistant, a Dolmetcher, to accompany him on the long journey through the Balkans. By recommendation of a Prussian officer he made the acquaintance of Dimitri Bernardos: ... [er] war über die Jahre der Leidenschaft hinaus, hatte in Constantinople Familie, und sprach fertig türkisch, griechisch, arabisch, französisch und italienisch, während er auch in einigen anderen Sprachen oberflächliche Kenntnisse besass. Sein Herr gab mir die Versicherung, dass er geschickt und verständig sei, und dass er ihm treu gedient habe, fügte indessen die allgemeine Bemerkung hinzu, dass man einen Griechen niemals zu sehr trauen dürfte.

Dimitri Bernardos was born in Smyrna [Izmir] and had lost his parents at an early age, but enjoyed a carefree youth with the well-to-do husband of his older sister in Alexandria. He spent much time with expatriates and acquired a knowledge of several languages. After the untimely death of his sister in the plague, he left Alexandria for Constantinople where he had tried various trades and now made a living accompanying European travellers. Grisebach hired him as a Dolmetcher, servant and cook for 350 piaster per month. In the meantime a Ferman had been arranged for a trip to Brussa [Bursa] and the Bithynian Olympus [Ulu Dağ], approximately along the same route that had been followed by John Sibthorp and Ferdinand Bauer in the late summer of 1786. The two left on April 27, crossing first to Skutari [Üsküdar] on the Asian side of the Bosphorus, visiting the Princes islands [Kızıl Adalar] and coastal localities near Kartal, Yalova and Gemlik, arriving in Bursa towards the evening of May 2.

Bursa, now a city of almost one million inhabitants and a major industrial centre, was already well known in Grisebach's days for its elegant architecture and picturesque setting at the foot of the mighty Bithynian Olympus (2493 m). The famous public baths and hot springs were described in some detail (Reise 1: 65–73), and Grisebach measured the temperature of the four main springs to a remarkable 66 °R (82 °C).

On May 5, the Greek and Armenian Christians of Bursa celebrated St. George's Day with a large feast in shady chestnut groves at the foot of the mountain, and on the following

day Grisebach climbed from this place as far as the snow limit, presumably at c. 1700 m. The general morphology, geology and vegetation of the mountain were described, but because of the early date the botanical harvest was meagre: only a few species were listed from deciduous woodland, and in the *Abies* zone no herbs were yet in flower. A species of *Ornithogalum*, subsequently described as *O. prasandrum* Griseb., was collected in *Castanea* forest; it is presumably conspecific with *O. nutans* L.

On May 8, the small party travelled on horseback in north-westerly direction to the town of Modania [Mudanya] on the southern shore of the Gulf of Gemlik. The following day they crossed the gulf in a small fishing boat, rented three horses and continued north, crossing the small mountain range (Samanli) between Gemlik and Yalova. At an altitude of c. 500 m, the evergreen *Arbutus* zone was replaced by dense forest or scrub of beech (*Fagus sylvatica* subsp. *orientalis*) or, on the southern slopes, deciduous oak scrub. In patches of meadow Grisebach collected eine äusserst zierliche Tulpe, later described as a new species, *Tulipa bithynica* Griseb. ex Baker (referred to *T. turcica* Roth in Spicil. 2: 382, and now considered to be a synonym of *T. orphanidea* Boiss. ex Heldr.). The return journey by ship from the Greek village of Catirli near Yalova via the Princes islands was complicated by various practical difficulties, unfavourable weather and by recently introduced quarantine rules in Constantinople where Grisebach and his Dolmetcher arrived in the afternoon of May 12.

The successful spring excursion in Bithynia was lyrically summarized in the following words: Die Luft, die man athmet, hat eine Milde, Lieblichkeit und Frische, als wäre der ganze Tag ein Sonnenaufgang. Man fühlt seinen Körper stark und elastisch, ist frei und muthig und weiss die Herrlichkeit aufzunehmen, welche die Natur darbietet. (Reise I: 98).

### Through European Turkey to Enez

Back in Constantinople, Grisebach spent a few days preparing for the journey through the Balkans and also met a friend, Dr. Pestalozza aus Mailand, ein kenntnissreicher Botaniker, der mir ausgezeichnete Sammlungen aus Kleinasien mittheilte. [Several new taxa subsequently described in the Spicilegium were based on Pestalozza's collections, including *Allium trachyanthum*, *Astragalus leucocyaneus*, *Delphinium bithynicum*, *Hypericum trachyphyllum*, *Trigonella biflora* and *T. torulosa*]. Dimitri Bernardos was uneasy about the forthcoming trip: er fürchtete die Albanesen und seine räuberischen Landesleute und zog es vor, unter den friedlichen Türken von Kleinasien zu reisen. Having overcome his apprehensions, he was resigned to his fate, however, and followed the intrepid explorer through the western gate of the capital in the morning of May 18.

The ride through European Turkey was of relatively little botanical interest, passing mostly through cultivated lowlands and heavily grazed hills with remnants of deciduous woodland, first to Silivria [Silvri or Silivri] and onwards to Rodosto [Tekirdağ]. Plants observed included eine mannshohe Doldenpflanze [*Ferula communis*] as well as tufts of *Juncus acutus* in sandy places by the sea. From Tekirdağ the route continued due west to the inland town of Malgara [Malkara], eine Stadt von mehr als 1000 Häusern, where the stopover at a local guest house inspired Grisebach to comment at considerable length on the nuisance of bedbugs: ...Ich erinnere mich, wenn ich die Bivouacs abrechne, freilich nur weniger Nächte in der Türkei, in denen ich von dieser Plage ganz frei geblieben wäre... The departure from Malkara in the morning of May 22 was delayed for several hours by

the presence of a large contingent of soldiers called from the Balkans to join the Asiatic army in the war against Muhamed Ali [vice king of Egypt, 1769–1849]. Grisebach noted their mangelhafte Kleidung und Bewaffnung and was appalled by the fact that many of the soldiers were mere boys of 12–14 years: ... die knabenhafte Jugend und das erschöpfte und kränkliche Aussehen vieler Soldaten [musste] befremden. Upon leaving Malkara he botanized for two days in the vicinity Rusköi [Keşan] to the west, noting that the vegetation was predominantly a mixed scrub of deciduous oaks, *Ostrya carpinifolia*, *Juniperus oxycedrus*, *Paliurus australis* [*P. spina-christi*] and *Jasminum fruticans* with many grasses and herbs mostly of the families *Leguminosae*, *Labiatae*, *Cruciferae* and *Caryophyllaceae*. Numerous collections were made in this vicinity, including new taxa such as *Astragalus thracicus*, *Nonaea atra*, *Phleum exaratum*, *Thymus zygioides* and *Veronica chamaepitys*. On May 25, Grisebach and his Dolmetcher covered a distance of c. 60 km, partly through swampy terrain, from Keşan to Enos [Enez], a major town of some 6,000 inhabitants, most of them Greeks, situated at the eastern shore of Maritza [Evros], a large river forming the present border between Turkey and Greece.

Grisebach stayed for four days in Enez and made excursions in the surroundings, collecting plants and making observations on the geomorphological features. The town is situated on a narrow spit of land between a lagoon and the harbour, which was becoming increasingly choked with silt and could be reached by ships only with easterly or northerly winds. As the wind had been in a westerly direction for almost two weeks, some 20 barks were lying idle in the harbour, a situation that was not without temptations for some of the seamen: Solche Umständen bewirkten bei dem gemeinen Griechen nicht selten den raschen Entschluss, sich der Seeräuberei zu ergeben. Grisebach was astonished by the fact that piracy was considered an almost normal way of life: Ich unterhielt mich über diese Verhältnisse mit einem gebildeten Griechen, der ehemals Kaufmann in Enos gewesen war, und wunderte mich, wie geringe Schuld er einer Lebensart beimass, welche stets mit den abscheulichsten Grausamkeiten verbunden ist.

## Thasos

The islands of Samothraki and Thasos as well as Mount Athos were visible in the distance, and Grisebach had made arrangements to go to the latter together with Dimitri, two monks and several other persons. After various complications they loaded their belongings into a small, open vessel in the early morning of May 30: Das Fahrzeug gehörte ohne Zweifel zu der kleinsten Gattung von Schiffen, womit man das aegaeische Meer zu beschiffen wagt.

The small ship left Enos at a fresh breeze, but already by midday this had turned to calm, and an anchorage was found near Cape Marogna [Maronia] west of Alexandroupolis. Forced immobility did not prevent Grisebach from making observations and comments – filling some 20 pages in the “Reise” – on geography, geology, climate and vegetation as well as the conduct of his fellow passengers. At times he was also able to disembark and botanize near the coast. In the “Spicilegium”, several collections, including the types of *Onosma heterophyllum* Griseb. and *Tetragonolobus aegaeus* Griseb., are listed from “Makri”, a small town c. 12 km W of Alexandroupolis. After three nights on the ship the small party finally reached the harbour of Panagia on the north-eastern side of the island of Thasos in the early morning of June 2. This locality had been visited at the end of April, 1797, by

Sibthorp's friend and companion John Hawkins who observed *Leucojum aestivum* L. (cf. Lack & Mabberley 1999: 136), a spring-flowering snowflake which grows in marshy places and is now a rare plant in Greece due to the draining of its habitats.

Dried fish and fresh water was available for breakfast in the small village, and on his short visit Grisebach managed to collect at least two new species (*Hypericum thasium* and *Tetragonolobus aduncus*), but the party soon sailed again, rounding the northern cape of the island. Grisebach commented on the fertile coastal plains on the mainland only a few miles to the north, die fruchtbare Ebene von Sarisaban, eine Deltabildung des Jenidge-Carasu [Nestos]. Although much cultivated, partly with rice fields, the Nestos delta is still an important botanical and ornithological locality. To the west some 45 km away were the heights of Mt Pangeo (1956 m) to which the Turks had given the prosaic name of Pilaf-Tepé (from pilaf, a rice dish, apparently alluding to the conical, snow-covered summit): ... dieser Berg [bildete] den mächtigen Mittelpunkt der Landschaft, die sich vor mir ausbreitete, und, reich mit Schneefeldern umgürtet, ragte er weit aus dem nahen Horizonte hervor. A few hours later they dropped anchor at Casavi [Skala Kazaviti or Skala Prinós], a somewhat larger harbour at the north-western side of the island where several ships had already gathered. Here they were met with the good news that a gang of pirates who had terrorized the North Aegean and were much feared by the captain had recently been arrested: Viele Matrosen nebst Bewohnern der Insel waren vor dem Caffeehause am Ufer versammelt und erfreuten unsere Gesellschaft durch die eben eingelaufene Nachricht, dass die Seeräuber von Jura-Pula [the rocky island of Gioura in the Northern Sporades] vom griechischen Admiral Canaris angegriffen, besiegt und besonders mit Hilfe eines Dampfschiffes vernichtet seien. Sie hatten 3 oder 4 Schiffe besessen und Alle waren mit Ausnahme einer Anzahl, die sich in offenem Boote auf den Monte santo [Athos] geworfen hatten, nach heftigem Widerstande in die Gewalt der Griechen gerathen. [Konstantinos Kanaris, 1790–1877, was a legendary sea hero of the Greek war of independence, later a prominent member of government].

Grisebach's description of the vegetation in the vicinity of Casavi is quite accurate. The coastal plain was [and still is] a forest of olive groves, the trees appearing tall, healthy and well looked after. The lower mountain slopes to the east and south were covered by coniferous woodland dominated by *Pinus brutia*. He was surprised to find the latter mixed with a tree-like juniper, which he identified as *J. excelsa* [still a common species on Thasos]. There was no time to visit the interior of the island which reaches 1204 m, but Grisebach observed: Wahrscheinlich besteht das Nadelholz der oberen Regionen, wie am bithynischen Olymp und am Athos, aus *Pinus Picea* L. [now *Abies alba* or *A. ×borisii-regis*] und *P. Laricio* Poir. [now *P. nigra*], a perfectly correct prediction since *Pinus nigra* replaces *P. brutia* as the dominant forest tree above c. 600 m whereas *Abies* is scattered on the upper slopes. Thasos is still the most wooded of all the Aegean islands, although large areas of forest were destroyed in major fires around 1990, the dry slopes now being covered by *Cistus phrygana* and somewhat moister habitats by macchie of *Arbutus unedo*, *A. andrachne* and *Erica arborea*.

## The Athos peninsula and ascent of Mt Athos

Some 90 km to the south-south-west the imposing limestone cone of Mt Athos (2033 m) rises almost directly from the sea. It is situated at the tip of the Athos peninsula or Agion

Oros, the northernmost of the three fingers of Chalkidiki. The entire peninsula, c. 40 km long and 6–8 km wide, was and remains a semi-autonomous community inhabited by monks only and known to kein[em] weiblichen Wesen, weder unter Menschen noch Hausthieren. Athos had been visited by several naturalists in the past, not least by Sibthorp (1787, 1794) who had already collected some of the local endemics (cf. Lack & Mabberley 1999: 84 ff., 157–158).

Grisebach's general summary of the monastic community, which was estimated to have a population of between 5,000 and 6,000, is almost as valid today as in 1839: Es giebt gewiss keinen Ort in Europa, wo die menschlichen Verhältnisse seit den Zeiten des Mittelalters so völlig stationär geblieben wären, als in den Klöstern des Hajion-Oros. Wenn man den ausführlichen Reisebericht von Belon liest, der sie vor 300 Jahren besuchte, so könnte man glauben, dieser Schriftsteller habe seine Beobachtungen im verwichenen Jahre angestellt [Pierre Belon, 1517–64, a French zoologist and explorer, travelled in the area in 1546 and published in 1554 "Les observations de plusieurs singularités trouvées en Grèce, Asie, Judée, Egypte, Arabie"]. A few commodities of the 20th century have found their way to the Holy Mountain, electricity, telephones, even computers, and forest roads have been constructed to some extent, but access is still strictly controlled and, by and large, Grisebach's account can be used as a guide. Today as in Grisebach's days there are 20 monasteries, 15 of which are inhabited by Greeks and the remaining five mostly by other orthodox peoples (Serbs, Bulgarians and Russians); in addition, some of the monks live in skiti (small satellite dependent communities) or as hermits.

In the morning of June 4, the small ship landed at the monastery of Pandokratoras on the north-east coast, and Grisebach soon made the acquaintance of the local herbalist monk and was introduced to a wholesome tea made from "Betonica" which he correctly identified as a species of *Sideritis*. Such aromatic "mountain tea" is still widely used in Greece; it is produced from the dried leaves and inflorescences of a group of perennial herbs belonging to *Sideritis* sect. *Empedoclia* (the local Athos taxon is now named *S. perfoliata* subsp. *athoa*).

Grisebach was impressed by the rich and luxuriant vegetation of the Athos peninsula which had been subject to virtually no grazing for several centuries – a unique feature in the Mediterranean area (because of the ban on female domestic animals there are no sheep, goats or cows on Athos, only the neuter mules for transport). The geographical and geological characteristics were also described in considerable detail. The following morning (June 5) he walked the short distance, c. 4 km, to the capital of Carae [Karies], a town of some 100 houses situated amidst *Castanea* forest at the centre of the peninsula where he was introduced to the local government and made preparations for the onward journey to Lavra at the south-eastern tip of the peninsula and the ascent of Mt Athos. Announcing his intention to climb the Holy Mountain to study its herbs (τα βότανα) he was informed that another foreigner, whom he identified as the French botanist Aucher-Éloy, had made the trip a few years ago for the same purpose: Vor vier Jahren etwa sei ein Mann von Stambul zu gleichem Zwecke herübergekommen, ein Franzose, der nach der Besteigung des Bergs sich sehr zufrieden bezeigt habe. Ich glaubte in ihren Worten eine Erinnerung an den unglücklichen Aucher-Eloy zu erkennen, dessen Tod in einem Kloster zu Ispahan [Esfahan or Isfahan, a city in Iran] kurz zuvor seine Freunde betrübt und der Wissenschaft Nachtheil gebracht hatte. [Pierre Martin Rémi Aucher-Éloy, 1793–1838, was an important explorer and botanical collector in the Near East, especially Turkey and Iran].



After a rich harvest of specimens and notes from the vicinity of Karies, Grisebach and Dimitri hired three mules and set off for Lavra in the morning of June 7. Because of the remaining pirates still at large in the forests they were accompanied by an Albanian soldier, a member of the 18-men strong armed forces of the Holy Mountain: Er zeigte sich einfach, anspruchslos, frei in Haltung und Bewegung, und ging mit seiner schweren, sechsfüssigen Flinte rascher, als die Maulthiere.

The trip from Karies to Lavra is a full day's walk, following a track along the wooded north-eastern slopes of the peninsula via Iveron and the holy spring of Athanasios. Several herbs and grasses normally associated with deciduous forest of Central Europe (e. g. *Lathyrus niger*, *Circaea lutetiana*, *Mycelis muralis* and *Festuca drymeja*) were observed along the road. The journey from Athanasios to Lavra took six hours without rest: Der Weg ist eng, nicht selten dem Schwindelgeneigten gefährlich, und windet sich längs der Küste auf und ab, jedoch grösstentheils im Schatten des Waldes von Querthal zu Querthal. Towards the evening the small party had rounded the northern foot of the mountain and arrived at the extensive monastery of Lavra [Megisti Lavra, Great Lavra], the largest and most important on Athos, founded in A.D. 963 and situated amidst olive groves and vineyards some 200 feet above the sea; the travellers enjoyed a friendly reception and were shown to the guest rooms.

Grisebach spent most of the following day (June 8) botanizing in the vicinity of the monastery and by mid-afternoon he left for the small settlement of Kerasia a few hours' walk from Lavra together with one monk, Dimitri and the Albanian soldier. The track follows rock ledges on steep marble slopes between the mountain and the eastern cape of the Athos peninsula. Not far from Lavra were two shrubby species of *Euphorbia*, one (*E. dendroides*) about three feet tall with smooth brown bark and regular dichotomous branching, the other (*E. acanthothamnus*) lower, denser and spiny. Both are of phytogeographical significance, being widespread in the Aegean area, generally on hot rocky slopes in the eu-Mediterranean zone and reaching the northernmost limit of their distribution on Athos. Presently the track passed through mixed forest of evergreen and deciduous oaks, *Castanea sativa*, *Ostrya carpinifolia*, *Ilex aquifolium*, etc. A remarkable discovery at this locality was *Lathraea squamaria*, a root parasite of deciduous trees and shrubs (especially *Corylus avellana*), widespread in Central Europe but very rare in Greece. There are no subsequent reports of this species from Athos, but since it is unmistakable, the record is undoubtedly correct; the only other known localities in Greece are in the Olympus area.

Towards dusk the small party reached a scenic place called Kerasia at an altitude of some 750 m where a single old hermit was living in einer ärmlichen, verfallenen Hütte. This locality is due south of the Athos summit where the track from the east meets another mule track ascending from the skiti of Agia Anna (a dependency of Lavra) south-west of the summit. The four men camped for the night and prepared for an early ascent of the mountain the following morning.

From Kerasia the only access road to the mountain rises in serpentine towards the chapel of Panagia (c. 1550 m) by the timberline just south of the summit; the same route had been followed by Sibthorp in mid-August, 1787 (see Lack & Mabberley 1999: 84). Everywhere were inaccessible cliffs, fast nach jeder Seite zu ungeheuren Abgründen abstürzend. For June 9, Grisebach writes in his notebook: Um 4<sup>h</sup> Morgens verliess ich Kerasia, um den Gipfel des Athos zu besteigen, welchen nach der Bemerkung des Eremiten ein rüstiger Mann in drei Stunden zu Fusse zu erreichen im Stande sei [certainly not a botanist making notes and collecting specimens].



After an hour's walk, presumably at an altitude of c. 1100 m, the deciduous oak wood was suddenly replaced by *Pinus nigra* forest with a shrub layer of "*Juniperus Sabina*" [apparently *J. foetidissima*]. The relatively few herbs were generally Central European species, dieselben Arten, die im Frühlinge die deutschen Buchen- und Tannen-Wälder schmücken; among these was *Anemone nemorosa*, a rare species in Greece.

The chapel of Panagia was already reached at 8 o'clock in the morning, and in the vicinity, on dry meadows over limestone, Grisebach found a rich flora of perennial herbs and grasses mixed with patches of *Berberis cretica* scrub c. 1 m tall. Only scattered trees of *Abies* (occasionally with the parasitic *Viscum album*) occurred above the level of the chapel, soon giving way to open rocky slopes towards the summit. The mules could proceed only as far as Panagia; the Albanian soldier was left behind to look after the pack animals, and the botanist, accompanied by Dimitri and the monk from Lavra continued the climb.

The Athos summit (2033 m) is only an hour's walk above Panagia on a steep and narrow but well marked track. Patches of snow were still lying at this level, and only four species of woody plants, all low shrubs, were observed, viz. *Daphne buxifolia* [*D. oleoides*], *Juniperus hemisphaerica* [now a subspecies of *J. communis*], *Rosa olympica* [probably *R. pulverulenta*] and *Hagidryas prostrata* [*Cerasus prostrata*]. In spite of the early season, 20 flowering herbs were found around the summit, sehr eigenthümliche, zum Theil bisher unbekannte Formen. One of the most remarkable was a yellow-flowered saxifrage forming dense mats at the foot of cliffs; it was aptly named *S. sancta* and is now classified as a geographical race of *S. juniperifolia* Adams, a species described from the Caucasus. Another interesting discovery was a small, woody-based cruciferous herb, identified as *Eunomia oppositifolia* DC. (Reise 1: 312, footnote) and subsequently described as a new species, *E. orbiculata* (Spicil. 1: 282). However, Boissier in 1842 had independently described the same species as *Crenularia orbiculata*, based on material collected by Aucher-Éloy in 1836. It is a local endemic, now referred to the genus *Aethionema* under the name of *A. orbiculatum* (Boiss.) Hayek.

Grisebach stayed at the summit until noon, collecting specimens and describing the surrounding panorama of mountains and islands, until thickening fog forced him to return to Panagia and descend swiftly to Kerasia and on to Agia Anna, a small settlement with scattered houses surrounded by terraced gardens on a steep, wooded slope just above the sea, south-west of the summit. Agia Anna, now the normal starting point for an ascent of Mt Athos, was reached at 5 o'clock in the afternoon. On steep rocky slopes in this area Grisebach noted the two previously observed shrubby spurges (*Euphorbia dendroides* and *E. acanthothamnus*) as well as ein Gewächs von sehr eigenthümlichem, fremdartigem Ansehen. Zwar holzig, aber doch nur wenig verzweigt, mit äusserst schmalen, langen Blättern dicht besetzt: eine Distel ächt griechischen Ursprungs, welche die Küsten von Morea [Peloponnisis] und die cycladischen Inseln physiognomisch characterisiren soll. The description refers to *Ptilostemon chamaepeuce*, a shrubby species of *Compositae* matching the two *Euphorbia* species in ecology and distribution. Finally the party reached the picturesque monastery of Ag. Pavlos, an hour's walk north of Agia Anna, where they settled for the night.

Grisebach spend a day and a half at Ag. Pavlos, attending to his specimens and making extensive notes on the geographical, geological and hydrological features of the Athos peninsula. The return journey to Karies amounted to six hours, following a track through the interior of the peninsula (über den Kamm des heiligen Waldes). The upper part of the

hills above Karies were covered with *Fagus* forest (mit der schönsten, hochstämmigsten Buchenwaldung bewachsen) and had a herb flora of shade-loving Central European species (*Neottia nidus-avis*, *Platanthera bifolia*, *Veronica serpyllifolia*, etc.).

Back in Karies, the capital of the Holy Mountain, on June 12 Grisebach negotiated for the rental of mules for the overland journey through Chalkidiki to Thessaloniki, and presently witnessed an extraordinary event. Through middlemen the Pascha of Thessaloniki had sent word to the pirates hiding in the forests in the eastern part of the peninsula that, in view of their proven bravery, he was prepared to pardon them and even to hire them as members of his personal guard: Durch Unterhändler war ihnen eröffnet worden, dass der Pascha nicht bloss bereit sei, ihnen zu verzeihen, sondern, dass er sie auch in Rücksicht auf ihre Tapferkeit in seinen Leibgarden anstellen wollte. Four of the pirates including the captain decided to entrust their fate in the hands of the Pascha (the others apparently preferred to stay in the woods); they surrendered at Lavra and were escorted to Karies by some of the Albanian soldiers. In view of the circumstances they could not be treated as prisoners: Frank und frei, im Besitz ihrer Waffen, zogen sie daher in Begleitung von wenigen Albanesen, mit denen sie alsbald Freundschaft geschlossen hatten, durch den heiligen Wald nach Caraes, wurden hier sehr artig bewillkommenet und im Kloster, wie Krieger, die aus dem Felde heimkehren, bestens gepflegt. In the following morning Grisebach had the honour of making the personal acquaintance of the pirate captain: Er war leicht und frei in seinen Bewegungen, spielte die Zither und schien von fröhlicher Gemüthsart. Unbefangen sprach er über seine Zukunft. Er sagte: „der Pascha hat versprochen, mich in seine Dienste zu nehmen, doch weiss ich wohl, dass solch' ein Versprechen selten gehalten wird; werde ich statt dessen in Salonichi hingerichtet: so wusste ich dies voraus; ich kann nichts Anderes erwarten“. – Dann spielte er mit meinen Pistolen, warf sie verächtlich in die Luft, fing sie wieder, und meinte, vor solchen Waffen hege er keine Furcht ... Later, in Thessaloniki, Grisebach could observe that the pirate captain had gambled wisely: Als ich in Salonichi war, stolzierte der Capitain schon in seiner neuen Uniform durch die Strassen, und seine Erscheinung, ein lebendiges Zeugniß türkischer Rechtspflege, setzte Alle, die seine Geschichte kannten, in Verwunderung.

Collections made on Grisebach's ten-day visit in June, 1839, constitute a major contribution to the botany of the Athos peninsula. In the Spicilegium are listed c. 400 gatherings by himself and c. 170 more made by Friedrichsthal and Frivaldszky a few years earlier and subsequently examined by Grisebach; they include at least 57 new taxa at species and variety level. Among those still recognize at species level, described in the Spicilegium and based on Grisebach's own collections are: *Arenaria filicaulis*, *Aubrieta erubescens*, *Erysimum calycinum*, *Euphorbia oblongata*, *Genista carinalis*, *Hypericum vesiculosum* and *Stachys leucoglossa*.

## From Athos to Thessaloniki

The journey to Thessaloniki was estimated to three days, the road passing through a sparsely populated tract of country made unsafe by highwaymen. Rumours circulated in Karies that a large group of Turkish soldiers had deserted and were now roaming the Chalkidiki area as klephts. Dimitri Bernardos in particular was unhappy at the prospect of proceeding overland, and difficulties were also experienced with the renting of mules. Finally, however, in the morning of June 13, the two travellers accompanied by two mule

drivers headed west from Karies through botanically less interesting parts of Agion Oros, arriving after five hours at the Serbian monastery of Chiliandri [Chilandar, Hilandar] and camping by nightfall near the Xerxes canal at the narrow neck of the peninsula. This is a stretch of meadow or swampy ground c. 2 km long from bay to bay where, according to Herodotus, a canal was dug by the troops of the Persian king Xerxes (c. 480 B.C.). Making an early start the following morning they soon reached Ierissos, a Greek village of some 100 houses where Grisebach was pleased at the sight of die ersten weiblichen Gestalten. From here the road continued in north-westerly direction through cultivated land and evergreen scrub along the Gulf of Ierissos [called Stellaria], a roundish bay framed to the south by Cape Plati or Akr. Arapis, a spur of the Athos peninsula, and to the north by the mountainous Cape Levtheridha or Akr. Elevtherou. Climbing the hills to the north-west they passed an area where gold, silver and other metals had been mined from ancient times until the beginning of the 19th century [apparently by the modern settlement of Sidhirolakkos between Stratoniki and Stratonion]. After a long day's walk they arrived at the small town of Laregovi [Arnea] at the northern foot of Mt Cholomon (1165 m) which dominates the central plateau of Chalkidiki.

The road over Mt Cholomon south-west of Arnea was considered unsafe, and by producing his Ferman to the local authorities Grisebach obtained an escort of four soldiers. When leaving the following morning they were joined by a high-ranking Turk and his servant, both well armed: ... so machten wir eine nicht ganz verächtliche Streitmacht aus, die aus sieben bewaffneten und drei unbewaffneten Männern bestand. Grisebach described in considerable detail the geography and vegetation of Mt Cholomon and the view of the surrounding higher mountains in the distance. Evergreen scrub was replaced by deciduous oak woodland and finally by *Fagus* forest with the familiar-looking undergrowth of Central European herbs and grasses (*Lapsana communis*, *Sanicula europaea*, *Listera ovata*, *Poa nemoralis*, etc.). Descending from the mountain they arrived at nightfall in the small town of Galatzista [Galatista] about halfway between Arnea and Thessaloniki: Ehe wir in Galatzista einrückten, wurde im Triumph, die Reise über den Cholomonda glücklich beendet zu haben, sämtliches Feueergewehr wiederholt abgefeuert, worauf der Schall von allen umliegenden Höhen vernehmlich wiederhallte. Die Stadt ist reinlich und von reichlich fliessenden Wasserleitungen und Brunnen, den Abflüssen des Cortasch [Chortiatis], bewässert. Sie wird von Griechen bewohnt, die mir verständig und gutmüthig begegneten. Auf der Gallerie eines Han's bivouakirte ich ... Singend zogen Kinder durch die Strasse und von fern und nah klangen griechische Lieder in mein Ohr.

June 16 was a hot day, and the small party had eight hours auf schattenlosem Grunde to Thessaloniki, along the same stretch as the modern road via Vasilika and Sedes, arriving at the eastern gate of the city by mid-afternoon.

## Stay in Thessaloniki

Grisebach was welcomed by acquaintances among the expatriates of Thessaloniki, a cosmopolitan city variously estimated to have between 40,000 and 70,000 inhabitants, mostly Greeks but also including a large Jewish community and many European traders and ship-pers as well as the Turkish administration. He spent about a week preparing for the westward journey and botanizing in the surroundings; collections from the vicinity of Thessaloniki included at least two new species, *Allium erythraeum* and *Verbascum leucophyllum*.

Rumelia is the ancient name for a somewhat ill defined region comprising the area from the Balkan Mountains to the Aegean Sea and from the Black Sea to Albania. Grisebach's *Macedonia australis* corresponds roughly to Greek Makedhonia and *Macedonia borealis* to the Former Yugoslav Republic of Makedonija. In the eighteen thirties even more than today this was a complex mosaic of ethnic communities and language groups. Greek dominated south of a line from Ioannina to Mt Olympus, and in a narrow coastal belt to Thessaloniki then eastwards all the way to the Marmara Sea. Western Macedonia was mainly inhabited by Bulgarians [Grisebach consistently uses this name for the Slavic-speaking people of the region who may be more properly called Macedonians], and various dialects of Albanian were spoken from Ioannina northwards to the White Drim at c. 42° N as well as in many mountain villages throughout the region. Vlachika, a language of Romanian affinity was (and is) spoken by a pastoral people in the Pindhos; it is apparently very close to the Vlashki spoken locally in north-eastern Serbia. Turkish was the lingua franca and was generally understood throughout Rumelia: Wie unter gebildeten Europäern das Französische, so wird, mit Ausnahme einiger Gebirgsgegenden, in ganz Rumelien nördlich vom 40sten Breitegrade das Türkische verstanden. Italian was the preferred language among the European expatriates (die Franken) of Thessaloniki, and the Jewish traders and bankers were mostly Spanish speaking, having been expelled from Spain several generations earlier.

Plans to travel to Mt Olympus proved impracticable [the first to botanize extensively on this mountain was Theodor von Heldreich in 1851], and Grisebach decided to proceed to Bitola (Monastir) in the south-west of the present Republic of Makedonija and from there in north-westerly direction through almost unexplored parts of Kosovo and northern Albania to the Adriatic Sea.

#### From Thessaloniki to Edessa

On June 24 at 6 o'clock in the morning, Grisebach and his Dolmetcher rode through the Vardar gate of Thessaloniki, soon crossing the Gallikos and Axios [Vardar] rivers, the latter lined by trees of *Salix alba*. After following the main road for most of the day they arrived at Jenidgé [Jenidze Vardar or Giannitsa] west of ancient Pella where, thanks to the Ferman, they were offered accommodation and an evening meal in a house belonging to the local bej and, in the following morning, fresh horses for the continued westward journey: Die Pferde, welche der Bej mir besorgen liess, waren vortrefflich.

The journey to Vodena [Edessa] took six hours through cultivated plains, orchards, and several Bulgarian villages. The town is situated at the edge of an escarpment facing east and dropping steeply some 100 m to the alluvial plain. Presently the minarets of the town and the cataract formed by the Voda river (simply the Slavic word for water) became visible in the distance. The escarpment itself was densely wooded, predominantly with deciduous shrubs and vines (*Punica granatum*, *Cornus sanguinea*, *Cercis siliquastrum*, *Clematis flammula*, *Vitis vinifera*, etc.). In Edessa Grisebach was received by the Greek bishop, ein sehr gemüthlicher, freundlicher Mann, and was offered accommodation in his house next to the church of Panagia right on the escarpment.

The following morning (June 26) Grisebach had the opportunity to investigate the rock walls of the escarpment which were made up of soft whitish, calcareous tuff rich in fossils, especially impressions of leaves among which was the unmistakable shape of the sweet

chestnut, *Castanea sativa*, not currently growing in the neighbourhood [in fact it forms forest in the foothills of Mt Vermio and Mt Voras, not far from Edessa]. The town and its surroundings and especially the geological conditions of the escarpment were described and discussed at considerable length (Reise 2: 88–106). Several new taxa, including *Campanula scutellata* and *Haplophyllum coronatum*, were collected in the vicinity.

### Mt Nidgé [Voras, Kajmakčalan]

The postal route from Vodena [Edessa] in Greek Makedhonia to Monastir [Bitola] in the south-west part the Republic of Makedonija appears to have followed approximately the same stretch as the modern road, first to Ostrovo [Armissa] at the north-east shore of Lake Vegoritis (c. 5 hours on horseback), then around the northern end of the lake, over a pass (c. 900 m) near the village of Gornicevo [Kella] and soon after turning north-west, crossing the present border c. 15 km N of Florina. Grisebach had the intention of making a detour in order to climb Mt Nidgé, and for this purpose he rented four horses and obtained the escort of an armed soldier familiar with the mountain. On June 27 at 2 o'clock in the afternoon Grisebach bade farewell to the bishop, and the small party (including also Dimitri and the Bulgarian owner of the horses) left Edessa in order to reach Armissa before sundown. The route passed through rich deciduous woods including *Tilia argentea* (easily identified on the white underside of the leaves) as well as the rare *Corylus colurna*. In *Quercus cerris* woodland Grisebach collected an annual species of flax, subsequently described as *L. decoloratum* [apparently an annual or biennial form of *L. hirsutum* L.]. Ostrovo [Armissa], a village of some 100 houses, was reached on schedule, and the group settled in for the night: Die Bulgaren von Ostrovo zeigten eine grosse Gutmüthigkeit, lebten aber im äussersten Schmutze.

A large and botanically interesting massif raising to 2524 m straddles the present border some 15 km N of the northern end of Lake Vegoritis. It is a smooth, rounded mountain, currently known by the Greek name Voras or the Turkish Kajmakčalan (from kaïmaki, cream, probably alluding to the good grazing). The Slavic name, used in Grisebach's time, is Nidgé. On modern Greek maps the name Kaïmaksalan is reserved for the main summit, the whole massif being called Voras. The central parts are made up of micaceous schist, and conditions are wetter than in most Greek mountains; several arctic-alpine species have their southernmost localities in the summit area. A south-western extension, known as Piperitsa (1996 m) consists mainly of calcareous rocks.

The entry for June 28 begins: Noch ehe die Sonne das Thal beleuchtete, brach ich auf (4<sup>h</sup>30'), um den nahen Nidgé zu besteigen. It was going to be a long and successful day.

Lake Vegoritis is at an altitude of 540 m, and from Armissa the expedition proceeded for a couple of hours in a north-westerly direction, mostly through open forest and scrub of deciduous oaks. At an altitude of 850–900 m this gave way to a zone dominated by *Juniperus oxycedrus*, and on marble substrate at this locality (i. e., in the south-eastern foothills of Mt Piperitsa) Grisebach collected a number of interesting perennial herbs, several of which proved to be new to science. Durch ihre schöne und eigenthümliche Form zeichnen sich ein *Astragalus* und eine Nelke aus, jener durch seidenartige Behaarung, dieser durch schwarzrothe und so schmale Blumenblätter, dass sie kaum in Nagel und Platte geschieden sind. The description refers to *Astragalus sericophyllus* and *Dianthus stenopetalus*, respectively, both Balkan endemics. Other new species were *Centaurea pindicola*, *Hypericum adscendens* [now regarded as a synonym of *H. rumeliacum* Boiss.], *Alkanna noneiformis* and *A. pulmonaria*.

A zone of *Fagus* forest extended from c. 900 m to the timberline which on this side of the mountain was encountered already at c. 1400 m. Much of the forest was dense and consequently poor in herbs, but collections included a new species of clover, *Trifolium fulcratum* [apparently a synonym of *T. pignantii* Fauché et Chaub. in Bory, a Balkan endemic with large, creamy-white flower heads]. On sunny but somewhat moist limestone rocks in an opening of the forest were two species of *Saxifraga*. One with purple flowers was identified as *S. media* Gouan, and apparently represents the taxon now known as *S. porophylla* Bertol. subsp. *grisebachii* (Degen et Dörfler) Aldén et Strid. The other, with white flowers, is the first report of a new species, later to be found also in the Scardus (*S. scardica*). Also on these rocks was a new species of composite with a rosette of grey, crenulate leaves and solitary, white flowering heads; it was called *Parmica Aizoon* and is currently known as *Achillea ageratifolia* (Sibth. et Sm.) Boiss. subsp. *aizoon* (Griseb.) Heimerl.

Just above the *Fagus* forest, on swampy ground along brooks, the vegetation was reminiscent of that of similar habitats in the Alps, although a number of local and regional species were found, some of them new to science. Am häufigsten ist ein schönes, neues *Geum* mit dunkel orangefarbenen Blumenkronen; ferner eine gleichfalls unbeschriebene *Saponaria* mit dunkel purpurroten Blütenköpfen. The descriptions refer to *Geum macedonicum* and *Saponaria Asterias*, respectively. The former is a nomen nudum which was never validly published and is synonymous with *G. coccineum* Sibth. et Sm. (also described by Frivaldszky from "Rumelia" as *G. Sadleri*), a species occurring in the Balkan Peninsula and northern Anatolia. The latter was published in the Spicilegium as *Silene Asterias*, a handsome and distinctive species endemic to the central Balkan Peninsula. Gregarious in such habitats was also a tall thistle, *Cirsium appendiculatum*, a Balkan endemic mentioned here for the first time and later reported by Grisebach from some other mountains as well. Yet another new species in this locality was *Viscaria atropurpurea* [now *Silene atropurpurea* (Griseb.) Greuter et Burdet], restricted to the south-eastern Balkans and a vicariant of the widespread European *S. viscaria* (*Lychnis viscaria*).

The upper parts of the mountain were less interesting, consisting mainly of micaceous schist. The altitude was measured to 5544' (c. 1700 m), possibly corresponding to peak 1787 on the modern map, c. 5 km WNW of the summit of Piperitsa. The main summit of Nidgé (Kajmakčalan) was further to the north across a deep valley: Als ich die felsige Gipfelplatte des Schieferbergs erstiegen hatte, ... wurde ich zwar durch eine weite Aussicht reich belohnt, aber fand mich doch in sofern betrogen, als die weiter nach Norden gelegene Hauptspitze der Nidgékette sich beträchtlich höher erhebt und nicht mehr erreicht werden konnte... Von diesem breiten, mächtigen, nackten Gipfel, der vielleicht noch 1500' höher als mein Standpunkt sich erheben mochte, trennte mich eine tiefe, mit Nadelholz bewaldete Thalschlucht. Descending on the north-western side of the mountain, Grisebach could observe that the coniferous forest was dominated by *Pinus uncinata*, seen here for the first time on the journey [evidently it is *P. sylvestris*, a widespread boreal species, in Greece restricted to mountains in the north]. After losing the path in dense forest scarcely penetrable for the horses and encountering a mid-day thunderstorm (a common summer experience in this area), they finally reached the small village of Crucherat [apparently Krušograd or Ano Achlada] by mid-afternoon. The Bulgarian farmers were busy cutting hay, and although wet and tired Grisebach proceeded to make extensive notes on the shape and construction of horse carts used to gather and transport the harvest.



A long and exhausting day on the mountain did not prevent the intrepid botanist and his Dolmetcher from mounting fresh rented horses at 5 o'clock the following morning (June 29). Soon reaching the main road, they proceeded in north-westerly direction, passing several villages and arriving by mid-day in Bitola (Monastir), a major town with some 36,000 inhabitants and 15 minarets. Thanks to letters of recommendation they were received and accommodated in the house of the Greek bishop who was absent but was represented by his brother, ein gebildeter junger Grieche von einnehmendem Wesen und liebenswürdigem Betragen.

## Peristeri

A large mountain range, mostly granitic and overlooking the Prespa lakes, extends from the pass of Pisoderi west of Florina in the north-west corner of Greece to the area NW of Bitola (Monastir) in the present Republic of Makedonija. It is known under different names, usually Peristeri, Peristera or Pelister [from περιστέρι, dove], but is also called (in Greek) Varnous Oros or Kalo Nero and (in Slavic) Bela Voda or Baba planina, and should not be confused with the Peristeri just S of the Katara pass in the Pindhos (39°41'N). The highest summit, 2600 m, is c. 11 km WSW of Bitola and 15 km N of the present border.

Bitola housed an important Turkish garrison and was the administrative and military centre of a district that had suffered from the oppression of the great Albanian uprising in 1830. Grisebach was assured by the officials of the Pascha that the whole area was now pacified and safe for travellers.

A friend of the bishop's brother, a wealthy young Greek by the name of Nicolaki Sterio, had an estate in Margarovo [Magarevo] some 8 km WNW of Bitola at the foot of the mountain (c. 750 m). After spending the night here, an excursion party of no less than 11 persons headed for Peristeri the following morning (July 2).

The lower eastern slopes were largely deforested; extensive areas were covered by bracken (*Pteridium aquilinum*) and generally poor in species. A new *Orobanch*e, *O. annulata* [possibly a synonym of *O. alba* Stephan ex Willd.] was found in this area, parasitic on *Thymus*, and at an altitude of c. 1200 m was a dense stand of the distinctive *Asphodelus albus*.

A zone dominated by *Juniperus oxycedrus* was encountered between c. 1100 and 1450 m. Scattered in this area were shrubby (at higher altitudes tree-like) individuals of a pine, identified as eine Abart der Zirbelnussfichte, *Pinus Cembra*. This is the first mention of the species later described by Grisebach as *Pinus peuce* (Spicil. 2: 349). This is a five-needle pine with cylindrical cones, endemic to the western and central Balkan Peninsula from north-eastern Montenegro to Bulgaria. The specific epithet is obviously derived from πεύκη, the generic Greek word for pine and probably the name that Grisebach was told by his Greek companions when inquiring about this distinctive species. Other new taxa at this locality were *Verbascum macrostachyum* [listed as a synonym of *V. longifolium* Ten. in Spicil. 2: 48], *Dianthus atropurpureus* [in Spicil. 1: 186 the name was changed to *D. cruentus*], *Saxifraga rotundifolia* var. *geoides* [now *S. rotundifolia* L. subsp. *heucherifolia* (Griseb. et Schenk) Engler et Irmischer] and *Betonica scardica* [now *Stachys scardica* (Griseb.) Hayek]; the deep reddish-purple *Dianthus* previously found on Nidgé (*D. stenopetalus*) was also reported.

An alpine zone dominated by a creeping form of juniper (*Juniperus communis* subsp. *nana*) and with dwarf shrubs such as *Vaccinium myrtillus* and *Bruckenthalia spiculifolia* was



encountered from an altitude of c. 1650 m. In wet habitats were stands of *Veratrum album*, *Saxifraga stellaris* and *Geum macedonicum* [*G. coccineum*], in somewhat drier places *Geranium subcaulescens*, *Ranunculus villarsii* [*R. oreophilus*] and a handsome, mat-forming new species of *Dianthus*, *D. myrtinervius*. Grisebach collected a total of 60 species in the alpine zone of Mt Peristeri; among the more interesting listed in the “Reise” (footnotes in vol. 2, pp. 193–194) are several Central European or even arctic-alpine plants reaching their southern limit of distribution in this area, e. g. *Veronica bellidioides*, *Juncus trifidus*, *Siewersia montana* [*Geum montanum*], *Adenostyles Petasites* [*A. alliariae*] and *Gentiana punctata*. A new species of *Pedicularis* with purplish-red flowers, *P. orthantha*, was also gathered for the first time at this locality; it is endemic to some of the higher mountains of the central Balkan Peninsula. Grisebach spent a good hour at the summit, and a cloudless sky permitted a number of bearing measurements to the surrounding mountains. Descending by the same route the excursion party reached Magarevo at sundown.

### From Bitola to Ueskueb [Skopje] over Mt Babuna

Grisebach spent a few days in Bitola and was received by several high officials, including the Pascha. On July 8 he left on the main road to Perlepé [Prilep] c. 40 km to the north-east across a broad valley intensely cultivated with wheat, barley and maize, and finally over a low pass, arriving at Prilep in the evening: Die Stadt zählt 1500 Häuser, ist lebhaft und enthält einen grossen Bazar.

Continuing in north-easterly direction the following morning the travellers first had to ascend to the Pletvar pass (997 m) at the southern end of Mt Babuna through forest of *Tilia argentea*, deciduous oaks, and finally *Fagus sylvatica*. An orchid in the beech forest was called “*Orchis macedonica* nov. sp.” (Reise 2: 219, footnote), but was later listed in Spicil. 2: 361 as a synonym of *O. saccifera* [now *Dactylorhiza saccifera*]. The bedrock was mainly gneiss, with smaller patches of limestone. On the road they met many packhorses loaded with German manufactured goods, and travellers of several nationalities, including ein reich gekleideter Türke ... von drei abyssinischen Slavinnen begleitet. Some 40 km NE of Prilep the road descended to the Vardar and then followed the river for another 25 km to Köprili [Veles or Titov Veles], a major town of maybe 5,000 houses clinging to the hills on both sides of the river. The name Köprili was derived from a large wooden bridge joining the two parts of the town and at the time in a state of disrepair (... die Brücke schwankt unter dem Pferde und ist in einem ganz verfallenen Zustande). The general impression of the town was unfavourable (... überall traten die Spuren der Armuth und des Schmutzes entgegen), but after a long day on the road Grisebach and his Dolmetcher settled for the night in one of the inns.

The road from Köprili [Veles] to Ueskueb [Skopje] followed the Vardar river. Several Mediterranean species were observed in the river valley, e. g. *Acanthus spinosus*, *Colutea arborescens* and a *Marrubium* previously seen at the castle in Thessaloniki (*M. peregrinum*). Locally gregarious along the road was also *Peganum harmala*, a fairly rare and scattered species in the Balkans. The snow-covered peaks of the mighty Scardus [Šar planina] became visible to the west, and by early afternoon they arrived in Ueskueb, previously a much larger town which was then estimated to have about 2,000 houses. Again, a letter of recommendation (from the Pascha of Bitola) proved useful, and they were accommodated in a comfortable house overlooking the river.

## From Ueskueb [Skopje] to Calcandele [Tetovo]

Paschalik Ueskueb [the province of Skopje] had been governed by the same family for about 200 years, and Grisebach discussed at some length the political and social situation of this region which was generally peacefu! except in the western border areas inhabited by the ever troublesome Albanians. Dimitri Bernardos had contracted a fever which necessitated some rest, but in the morning of July 13 they obtained six horses courtesy of the Pascha and headed west accompanied by an Albanian doctor with whom Grisebach had become acquainted in Skopje, as well as a servant. The road followed a tributary of the Vardar; about halfway between the two towns were limestone rocks with some interesting plants, including a new species of *Stachys*, *S. patula*. Calcandele [Tetovo] was a neat and orderly town of some 1,500 houses, situated at the western edge of a fertile plain surrounded by mountains on all sides. To the north and west were the still snowy summits of Scardus [Šar planina], including Ljubatrin [Ljuboten] and Kobelitz [Kobelica], both around 2500 m. The area was inhabited by Bulgarian farmers and Albanian shepherds: Den Ackerbau betreiben die Bulgaren, welche die Ebene bewohnen, während die Albanesen in den Gebirgsdörfern sich vorzugsweise mit Viehzucht beschäftigen und in den Sommermonaten ihre hoch im Scardus gelegenen Serinhütten beziehen, die hier, wie in der ganzen Türkei, Mandra's genannt werden.

## Ascent of Ljubatrin

Abdurrhaman Pascha, governor of Calcandele [Tetovo] had an interest in medicinal herbs and arranged for an excursion to Ljubatrin [Ljuboten], the north-eastern summit of Šar planina situated c. 25 km NNE of Tetovo and 30 km NW of Skopje. This impressive peak was first mentioned in 1692 as "Monte Argentario Vulgo Lgliubotan" in a work by the Venetian geographer Padre Corneli, and there are many variants of the name, the official orthography now being Ljuboten (information courtesy of V. Stevanović). The party which set off on July 15 consisted of nine persons, led by Redschid Aga, a captain of the personal guard of the Pascha, ein junger Muhamedaner von lustigem Temperament und leicht sich befreundend, reich gekleidet in rother Uniform. The first night was spent in the village of Tehaartscha [probably Tearce] at the north-eastern end of the Tetovo valley, and the following day the excursion proceeded at a leisurely pace to a chalet (mandra) inhabited by two Bulgarian [Macedonian] families and situated at the southern foot of the steep mountain. The people were very hospitable; a sheep was slaughtered and roasted nach Klephtenart, and the party settled for the night.

The Tetovo valley was intensely cultivated with only small remnants of deciduous forest consisting of *Castanea vesca* [*C. sativa*] and *Tilia argentea*. Near villages and streams were poplars (*Populus alba*, *P. nigra*, *P. tremula*), willows (*Salix alba*) and fruit trees (*Juglans regia*, *Prunus* spp., *Pyrus communis*). On the lower mountain slopes between c. 300 and 900 m was a zone of deciduous oak scrub, and in this area Grisebach collected a new thistle species, *Cirsium candelabrum*. This is a tall, much-branched biennial with small nodding capitula and white florets, often gregarious along mountain roads in the Balkans and extending southwards to the Peloponnese.

The *Fagus* zone extended between c. 900 and 1350 m, consisting partly of tall forest, partly of scrub and also with extensive open hay meadows. In the latter were many inter-

esting herbs, including some species new to science, viz. *Potentilla holosericea* [probably to be included in the variable *P. detommasii* Ten.], *Silau strictus* [called *Silau virescens* in Spicil. 1: 362, and probably a synonym of *Seseli peucedanoides* (M. Bieb.) Koso-Polj.] and *Pyrethrum exaltatum* [in Spicil. 2: 201 the name was changed to *P. trichophyllum*, probably a synonym of *Matricaria trichophylla* (Boiss.) Boiss.], as well as the previously collected *Dianthus atropurpureus* [*D. cruentus*]. The herb flora of tall *Fagus* forest was of a Central European character (*Anemone nemorosa*, *Oxalis acetosella*, *Calamintha grandiflora*, etc.). By brooks in the *Fagus* belt was the tall thistle previously recorded from Nidgé (*Cirsium appendiculatum*) as well as a new species of *Doronicum*, *D. giganteum* [*D. Pardalianches* L. var. *giganteum* in Spicil. 2: 217, maybe in error for *D. austriacum* Jacq.]. In more open habitats at the edge of *Fagus* scrub was yet another new species, *Campanula sphaerotherix* [*C. sparsa* Friv. subsp. *sphaerotherix* (Griseb.) Hayek] as well as *Stachys scardica*, already recorded from Nidgé and Peristeri.

Because of frequent clouds and high winds by mid-day, an ascent of the steep upper parts of Ljubatrin was best undertaken early in the morning. After a short rest at the Bulgarian mandra the excursion partly thus left under a starry sky at two o'clock in the morning (July 17). The horses could proceed only part of the way, and so there followed a difficult climb on foot to the steep rocky summit (2499 m), eine Felsmasse über unermesslichen Abgründen, where Grisebach and four of his companions arrived an hour after sunrise. The surrounding panorama was described in considerable detail, and then followed a quick descent to the foot of the summit cone: Nachdem ich bis 6<sup>h</sup> auf dem Gipfel verweilt hatte, stieg ich zum Ruheplatz der übrigen Gefährten wieder herab, wo der Caffee indessen bereitet war.

The mountain was descended at a more leisurely, botanizing pace. When alone for a moment Grisebach had the unpleasant experience – like many a botanist in this area – of being intimidated by vicious shepherd dogs: Die Sennwirthe halten nämlich, wie sie sagen der zahlreichen Wölfe wegen, grosse und gefährliche Hunde und da diese sehr geschätzt werden und hoch im Preise stehen, so würde man sich bedeutenden Unannehmlichkeiten aufsetzen, wenn man deren Angriffe durch Gewalt und Waffen zurückweisen wollte. Towards evening the travellers finally arrived in the small village of Strinitza [Strimnica] and settled for the night in a Bulgarian [Macedonian] house. A sudden thunderstorm broke out and during an hour and a half they sheltered for furchtbares Gewitter mit unaufhörlichem Blitzen. As suddenly as it has started the thunderstorm was over, and they settled for the night – although not without complications: Als wir uns endlich auf der Gallerie unseres bulgarischen Wirthes zur Ruhe legten, erschien eine so grosse Menge von Wanzen, dass wir nach einer Jagd beim brennenden Holzspan, der uns erst die Grösse der feindlichen Armee kennen lehrte, beschlossen, das Feld zu räumen. Dem nassen Grase trotzend, breiteten wir die Teppiche im Obstgarten aus und schliefen hier so vortrefflich, wie man nur immer nach einer Alpenwanderung schlafen kann.

On the southern side of Ljubatrin the alpine zone extended from the upper edge of the *Fagus* forest at c. 1350 m all the way to the summit which Grisebach measured to 7900' (2499 m on the modern map). The lower alpine zone was characterized by *Paronychia capitata* [maybe *P. albanica* Chaudhri], the middle by *Dryas octopetala*, and the upper by rock-dwelling species of *Saxifraga*. Just above the *Fagus* forest were patches of *Veratrum album* (*V. lobelianum*) and *Bruckenthalia spiculifolia*. About 50 species were collected above timberline, including the new *Thlaspi stylosum* [a later homonym of *Th. stylosum* (Ten.) Mutel.; described in Spicil. 2: 505 as *Th. bellidifolium*] and *Achillea Jacea* [listed in

Spicil. 2: 216 as a synonym of *A. tomentosa* L. var. *chrysocoma* (Friv.) Griseb.] as well as *Saxifraga scardica*, previously recorded from Nidgé.

As compared with Mt Athos the same species appeared to occur at lower altitudes on Ljubatrin, although the difference in latitude is insignificant (c. 2°). This observation as well as the fact that evergreen shrubs were practically lacking in the lowland vegetation around Skopje and Tetovo was attributed to the more continental climate in the latter area.

#### Ascent of Kobelitz [Kobelica]

After resting for a couple of days in Tetovo, Grisebach and Dimitri, accompanied by a captain and two soldiers, left in the morning of July 21 to climb Mt Kobelitz [Kobelica, 2526 m], a central peak of Šar planina situated c. 12 km NW of the town, and to descend on the other side of the mountain to Prisdren [Prizren] in the south-west corner of Kosovo. Already the first village was inhabited by Albanians, und von hieraus habe ich bis zum adriatischen Meere keine Bulgaren wieder angetroffen. The party was planning to spend the night in a mandra above the village of Weitz [Vejce, c. 9 km NNW of Tetovo], but the Albanians – bärtige Männer, von rohem unbändigen Aussehen, alle mit Flinten bewaffnet – were not amused. The mandra was inhabited by women working in the hay meadows, and as strict Muslims the Albanian men would not allow their womenfolk to be seen by strangers. After a heated argument between the Turkish captain and the local Albanians, it was decided to evacuate the mandra, and the party settled here in the late afternoon. Grisebach measured the altitude to 4178' (c. 1300 m), and spent the evening hours botanizing in the surroundings, while the Turkish soldiers and seven armed Albanians maintained an uneasy truce by the chalet.

By sunrise the following morning the group was on the march to the summit of Kobelica, while a gypsy was sent with the horses and luggage to another mandra on the road between Tetovo and Prizren where he was to wait for the summit party. The track proceeded steeply in an almost straight line to the summit, which was reached in only two hours. The alpine zone began only c. 200 m above the mandra; the substrate at this level was mainly limestone, and the vegetation was similar to that of Ljuboten. A rich botanical harvest of no less than 90 species was gathered, and this included several new to science, viz. *Verbascum heterophyllum* [*V. garganicum* var. *heterophyllum* in Spicil. 2: 49; identity uncertain], *Festuca fibrosa* [*F. paniculata* (L.) Schinz et Thell.], *Sesleria marginata* [*S. coerulans* Friv.], *Pedicularis leucodon*, *Jasione orbiculata* [*J. laevis* Lam. subsp. *orbiculata* (Griseb. ex Velen.) Tutin], *Ptarmica scardica* [*Achillea multifida* (DC.) Griseb. in Spicil. 2: 212, apparently conspecific with *A. clusiana* Tausch], *Arabis constricta* [*A. sudetica* Tausch] and *Koniga scardica* [*Ptilotrichum cyclocarpum* Boiss.], as well as the previously recorded *Orchis macedonica* [*Dactylorhiza saccifera*], *Cirsium appendiculatum*, *Geum macedonicum* [*G. coccineum*], *Ptarmica Aizoon*, *Saxifraga scardica*, *Alkanna noneiformis*, *A. pulmonaria*, *Achillea Jacea* [*A. chrysocoma*] and *Viscaria atropurpurea* [*Silene atropurpurea*].

The summit of Kobelica is entirely composed of limestone, but other substrates (micaceous schist, gneiss, etc.) are found around 2000 m. They support rich pastures and account for the mixture of calciphilous and acidophilous species collected by Grisebach (information courtesy of V. Stevanović).

Descending to the agreed meeting point, Grisebach and the Turkish soldiers found no sign of the gypsy and horses, a worrying situation in a mountain full of wilde Gesellen. After several hours and much trouble they were reunited near the pass to which the gypsy had

proceeded after having been turned away by the inhabitants of the mandra. From the pass just above timberline, the border between present Makedonija and Kosovo, they descended four hours to Prizren: *Malerisch erstreckt sich die Stadt Prisdren eine halbe Stunde weit wie ein schmales Band hart am Rande des Gebirgs. Sie zählt gegen 30 Minarets und nimmt sich, von hieraus gesehen, so grossartig aus, dass man glauben könnte, sie wäre bedeutender, als Salonichi. Allein sie enthält nur 20 000 Einwohner und diese leben in den ärmlichsten Umständen.*

### Through northern Albania to the Adriatic Sea

The basin of the White Drim or Drini [not to be confused with the river Drina which flows between Serbia and Bosnia] extended from Prizren to Ipek [Peć] some 65 km to the north-west, and the still snowy peaks of the mighty North Albanian Alps formed a background crescent in the same direction. The old Latin name for this massif is Vertiscus or Bertiscus, the Serbian Prokletije and the Albanian Bjeshket e Nemuna. Grisebach wanted to botanize in this area, but news about the present situation was discouraging. Dr. Robotto, a Piedmontian physician of the Pascha, informed him that the Albanians of the mountain villages had for three years refused to pay taxes and to deliver the requested soldiers to the Turks. After long and fruitless negotiations the Pascha had sent troops a month earlier, captured some of the tribal chieftains and confiscated sheep and cattle. The chieftains were now kept as hostages under the threat of being sent to Istanbul and sold as slaves. Consequently, the Albanians in the Vertiscus area were in no mood to accommodate strangers, especially not if escorted by Turkish soldiers. Grisebach turned to Chiaja Bej, an official of the local government, but received the answer that, being responsible for his safety, the Pascha could not approve of a journey to Vertiscus and would not provide the necessary escort.

Because of the advanced season, only the higher mountains were still of major botanical interest, and Grisebach decided to travel in a westerly direction through mountainous northern Albania, well south of Vertiscus to Scutari [Shkodër] a large town in north-western Albania not far from the border with Dalmatia, which at that time constituted the southernmost extension of the Austrian empire. Staying for a few days in Prizren in the house of a Greek family he made excursions in the surroundings. A new species of *Micromeria* was collected on limestone rocks in the valley of Resna [Prizrenska Bistrica], a tributary of the White Drim; in *Reise 2: 320* it appeared in a footnote as *M. albanica* nov. sp. [nom. nud.], but in *Spicilegium* (2: 125) it was listed in synonymy of *Melissa marifolia* Pers.; it apparently corresponds to the taxon later described as *M. albanica* (K. Malý) Šilić.

The journey from Prizren to Shkodër was estimated to four days, the road mostly passing through wild and desolate mountains, often on rock ledges where it was faster to walk than to ride. *Die wilden Gebirge von Albanien und Bosnien sind von jeher die Bollwerke des Orients gegen die Sitte des Occidents gewesen, und selbst die römische Herrschaft hat hier in den candavischen Einöden, wiewohl die damalige Weltstrasse hindurchführte, keine Culturstätte gegründet, keine Ruinen zurückgelassen.* The area was sparsely inhabited by Ducajins, Mirdits and other north Albanian tribes, suspicious and independent-minded people who expected nothing good from strangers: *Sich zu isolieren, dem Auge des Türken sich verborgen zu erhalten, darauf ist das Bestreben der dortigen Albanesen gerichtet.* A series of inns had been established along the road, but apart from a place to sleep these offered nothing, neither food nor forage for the horses.



Fig. 3. – Some taxa described by Grisebach. Upper row, left *Gymnadenia frivaldii* Griseb., centre *Sideritis scardica* Griseb., right *Pinus peuce* Griseb. Middle row, left *Silene asterias* Griseb., right *Sempervivum marmoreum* Griseb. Lower row, left *Dianthus myrtinervius* Griseb., right *Saxifraga juniperifolia* Adams in Weber fil. et Mohr subsp. *sancta* (Griseb.) D. A. Webb.

On July 26 Grisebach left Prizren accompanied by Dimitri, a mail carrier and three Turkish soldiers; an extra horse was loaded with provisions and forage. Soon reaching the valley of the White Drim [Drini] they continued in south-westerly direction; some botanical collections were made, including a new species, *Veronica scardica*, found in damp, shady places in deciduous oak forest.





Fig. 4. – Upper row, left: Two of the local inhabitants of Mount Athos, right: At the summit of the Holy Mountain (2033 m), the present author on the left. Lower row, left: *Stachys scardica* Griseb., right: *Rhynchocorys elephas* (L.) Griseb.



The road followed the southern banks of the Drim, and the group appears to have spent most of the time on horseback. There are few botanical observations from the next two days, but extensive notes on geology and geomorphology. Most of the area consisted of various dark rocks (Grünstein), including serpentine. About half a day's ride east of Shkodër they found themselves in evergreen oak scrub for the first time since leaving the area of the Axios river near Thessaloniki, and here Grisebach collected a new species of *Gypsophila*, *G. spergulifolia*.

On July 29 at mid-day the party arrived in Shkodër, the most populous town in Albania, situated at the south-eastern end of a large lake and only c. 25 km from the sea. Again, the letters of endorsement proved useful, and Grisebach and his Dolmetcher got a friendly reception in the mansion of the catholic bishop, who was absent but represented by two young priests, native Albanians but educated in Rome, *treffliche Männer, die mir zum ersten Male wieder den Genuss wissenschaftlicher Unterredung auf heimischen Standpunkten gewährten*.

The foreland between the Shkodër lake and the sea was unsafe, mainly because of Montenegrinians waging guerrilla war against the Turkish overlords, and plans to approach Vertiscus from the west also proved impossible to realize. After arranging for the return journey of his Dolmetcher, Grisebach obtained the escort of six soldiers to the coastal town of Antivari [Bar] which was only a few hours from the Dalmatian border. On August 1, four months after leaving Vienna, he crossed the border between the realms of the Sultan and the Kaiser, and could declare his mission accomplished.

### New taxa in the *Spicilegium*

"*Spicilegium Florae Rumelicae et Bithynicae*" is a careful and critical Flora, based primarily on Grisebach's own collections, but also on other herbarium material at his disposal as well as earlier literature. A substantial collection by Emanuel Ritter von Friedrichsthal (Friedr.), who had travelled with the geologist Boué in 1838 and 1839, represented the summer flora of Kosovo and northern Macedonia and the late summer and autumn flora of the Athos peninsula and other localities in north-eastern Greece. Friedrichsthal had previously travelled in southern Greece and published a book on this journey in 1838. His specimens were deposited at the Imperial Museum in Vienna (Museum Caesareum Vindobonensis, W) and from there made available to Grisebach in Göttingen. Equally important were specimens gathered or commissioned by the Hungarian botanist Emrich [Emmerich or Imré] Frivaldszky von Frivald (Friv.) in 1833 and 1834; most of these are from what is now southern Bulgaria (vicinity of Plovdiv, Mt Rila, etc.) or from eastern Macedonia (Thessaloniki, Mt Chortiatis, Athos peninsula). A list of these plants was published by Frivaldszky in *Flora* (Regensburg) 18 (1), *Intelligenzblatt* 3: 53–59 (1835) and some new species based on this material were described by him in *Flora* (Regensburg) 18 (1): 331–336 (1835) and 19 (2): 433–448 (1836). Fascicles of specimens (*Plantarum exsiccatarum europaea-turcicarum*) were apparently offered for sale and are represented in several European herbaria with the most complete set at BP; through Carl Friedrich Meisner in Basel Grisebach obtained a well labelled set bought in Switzerland. Specimens gathered by Fortunato Pestalozza in the vicinity of Constantinople (*in agro byzantino*) and elsewhere in Bithynia had been sent to Grisebach and were used when preparing the *Spicilegium*. Apparently he had also received a small set of specimens from a collector named Donietti gathered in central and

eastern Anatolia and “Mesopotamia” (i. e., outside the area otherwise covered by the *Spicilegium*); no details are given about the collector or the specimens, but descriptions of a few new species based on this material are included in footnotes.

The preface gives a brief summary of the geography of the area and lists some of the most important previous travellers who had gathered specimens and published accounts on natural history. These include Pierre Belon (1517–1564), Joseph Pitton de Tournefort (1656–1708), Johann Christian Buxbaum (1693–1730), Pehr Forsskål (1732–1763), John Sibthorp (1758–1796), Edward Daniel Clarke (1779–1822), Jules Sébastien César Dumont d’Urville (1790–1842) and Pierre Martin Rémi Aucher-Éloy (1792–1838).

The organization of the *Flora* is simple and logical, although the sequence of families and genera is somewhat unconventional. Large genera are often divided into sections and provided with diagnostic keys to the species. The scientific name of the plant (and possible synonyms) is followed by a Latin description which, especially for new species, is quite detailed. There are references to published illustrations (e. g., in “*Flora Graeca*”) and sometimes to Grisebach’s own “*Reise*” where plant species are frequently listed in footnotes (new names published in the latter are *nomina nuda*). Localities are given in a second paragraph; Grisebach’s own collections are indicated by an exclamation mark (!), and for those gathered by others, the abbreviated name of the collector is given in brackets (e. g., Friedr., Friv., Pest.). When referring to material reported in the literature but not seen by Grisebach, the author’s name is preceded by *sec.*, e. g. “in collibus circa Salonichi sec d’Urv[ille]”. Finally, the month of flowering is indicated, and the capital letters M, E or A signify whether the species belongs in the Mediterranean, montane or alpine zone.

The *Spicilegium* was published in parts, and the dates of publication are as follows (cf. Stearn 1965: 251 and TL–2 1: 1009, 1976):

Vol. 1 part 1, pp. [i]–xii, [1]–160: March 1843

Vol. 1 part 2/3, pp. 161–407: December 1843

Vol. 2 part 4, pp. [i–iii], [1]–160: July 1844

Vol. 2 part 5/6, pp. 161–548: December 1845 or (probably) January 1846.

### Annotated list of new taxa

Three hundred and eighteen new taxa – 10 genera, 172 species and 136 varieties – were described in the *Spicilegium*. They are listed below in alphabetical order according to family, genus, species and variety – families according to current concepts, genera, species and varieties as published. Comments on nomenclature, typification, taxonomy and distribution are given in most cases. Material seen by the present author is indicated by an exclamation mark (!) after the abbreviation of the herbarium. The term “type” (when not further specified) is used in the dual sense of “holotype” and “obligate lectotype”. New combinations based on previously published names are not included. Some taxa which are merely mentioned in synonymy in the *Spicilegium*, sometimes referring to *nomina nuda* in the *Reise*, and thus not validly published, have been omitted. The same applies to manuscript names written by Frivaldszky on herbarium sheets and cited in synonymy in the *Spicilegium*.

The Grisebach type herbarium, which is kept separate at GOET, was studied on a visit in December 1999. This contains most, but far from all, types of taxa published in the *Spicilegium*; some may still be hiding in the general herbarium at GOET and elsewhere,

and some may have been lost. Grisebach's specimens have small labels with a tiny script that is often difficult to decipher. Most of them have collection numbers which roughly follow chronological order but are not cited in the *Spicilegium*. When several elements are included in the protologue, the best sheet at GOET has generally been designated as lectotype (unless there is reference to an earlier publication, lectotypification is made in the present paper). Several isotypes were located at K on a brief visit in September 1999, and at G-BOIS in March 2000; others are known to exist at B and BM, although no systematic search of the latter herbaria has been made. Collection numbers are usually not found on Grisebach specimens in herbaria other than GOET; most of the specimens at G-BOIS are marked "Turquie d'Europe. Grisebach 1842" (presumably the year they were received in Geneva). The main set of Frivaldszky's plants is at BP (with duplicates at several other European herbaria, including G-BOIS, GOET, K, etc.), and the main set of Friedrichsthal's specimens is at W. Incomplete sets of Pestalozza's specimens are at GOET and G-BOIS; the latter are generally labelled "Pestalozza 1846" (presumably the year they were received).

### *Apiaceae (Umbelliferae)*

*Angelica sylvestris* L. var. *rumelica* Griseb., *Spicil.* 1: 371 (1843).

In Bithynia, Thracia, Macedonia: ad rivulos Scardi alt. 850'–2850', m. Athûs pr. Pavlu (Friedr.), ad Hellespontum et in agro Byzantino sec. Forsk., ad Olympon sec Sibth.

Said to differ from the typical variety in the rounded leaf teeth and foliaceous bracteoles. It was retained as a variety by Hayek (1927: 1023); no material was found at GOET, and the status of this taxon is uncertain.

*Anthriscus laevigata* Griseb., *Spicil.* 1: 367 (1843).

In Macedonia australi: semina legi in rupe pr. Vodena [Edessa], alt. 300' (substr. calcar.), ex quibus planta in H. bot. Gotting. colitur.

Type: The above collection by Grisebach (no. 988, GOET!, iso- G-BOIS!).

Already Boissier (1872: 911) and Hayek (1927: 1063) listed this as a synonym of *A. sylvestris* (L.) Hoffm., a widespread and variable European species which, however, is rare in Greece (few and scattered records in the north).

*Bunium strictum* Griseb., *Spicil.* 1: 344 (1843).

In Macedonia (Friv.).

Syntypes in GOET and G-BOIS (fide Hartvig in Strid 1986: 696).

Now recombined as *Carum strictum* (Griseb.) Boiss. or *Carum multiflorum* (Sibth. et Sm.) Boiss. subsp. *strictum* (Griseb.) Tutin, a taxon occurring in Albania, Makedonija, southern Bulgaria and north-eastern Greece, extending to Mt Othris in east central Greece.

*Bupleurum scabrum* Griseb., *Spicil.* 1: 348 (1843).

In Mesopotamia legit Donietti.

This is one of the few cases of a species from outside the area of Rumelia and Bithynia being described in the *Spicilegium*. The diagnosis was added in a footnote under *B. odontites* L. *B. scabrum* Griseb. is now considered a synonym of *B. brevicaulle* Schlechtend., a name published in *Linnaea* 17: 124 (April 1843), whereas the second part of vol. 2 of Grisebach's *Spicilegium* appeared in December 1843. The species occurs in south-eastern Anatolia, Syria and Iraq.

*Bupleurum semiperfoliatum* Griseb., *Spicil.* 1: 350 (1843).

In Mesopotamia legit Donietti.

Cf. above. The diagnosis was added in a footnote under *B. rotundifolium* L. *B. semiperfoliatum* is apparently conspecific with *B. croceum* Fenzl, Pugillus: 16 (1842), a species occurring in Anatolia, Syria, Iraq and Iran.

*Caroselinum* Griseb., Spicil. 1: 374 (1843).

Now generally included in *Johrenia* DC., a genus with a single European species (see below) and several more in South West Asia.

*Caroselinum distans* Griseb., Spicil. 1: 374 (1843).

In peninsula Hajion-Oros: raro inter frutices sempervirentes pr. Hajianna in litore (substr. marmor.)!

Type: The above collection, Grisebach no. 614 (GOET!).

Now recombined as *Johrenia distans* (Griseb.) Halácsy (syn. *Johrenia graeca* Boiss. et Spruner). This is a rare Greek endemic otherwise occurring in Sterea Ellas and northern Peloponnissos; it has been recollected at *locus classicus*, e. g. by Strid et al., 27.7. 1979 (no. 15974; AAU, C, G).

*Cnidium athoum* Griseb., Spicil. 1: 363 (1843).

In regione sylvatica m. Athūs alt. 3000'–4500': sparsim in umbrosis querceti, frequens in sylva Laricionis (substr. marmor.)! Fructiferam leg. Friedr. in pineto Athūs.

Apparently conspecific with *Selinum silaifolium* (Jacq.) G. Beck = *Cnidium silaifolium* (Jacq.) Simonkai, a variable species of southern Europe and Anatolia. Plants from woodland localities on Athos and elsewhere in northern Greece have relatively broad leaf lobes and have been referred to subsp. *orientale* (Boiss.) Tutin.

*Echinophora tenuifolia* L. var. *incisa* Griseb., Spicil. 1: 387 (1843).

In Bithynia, Thracia, Macedonia: pr. Bolu, pr. Maltepe agri Byzantini (Pestal.), in litore pr. Salonichi (Friedr. Friv.), circa Rodosto [Tekirdağ] sec Buxb.

Said to differ from the typical variety in the shape of the leaf segments, and apparently corresponding to subsp. *sibthorpiana* (Guss.) Tutin which occurs in the eastern part of the range of the species (from Greece to the Crimea). *E. tenuifolia* is a bushy, intricately branched perennial, characteristic of harvested fields, and rarely collected because of the late flowering (end of August to October).

*Eryngium campestre* L. var. *axicum* Griseb., Spicil. 1: 339 (1843).

Frequens in collibus pr. Salonichi (substr. micasc.) atque inde vulgare per convallem Axii fluminis, cum Pegano consociatum alt. 0'–600', copia speciminum notabile e. c. in deserto Mustapha pr. Köprili [Veles]!

Lectotype: Grisebach no. 606 from the vicinity of Salonichi [Thessaloniki] (GOET!).

Probably a minor variant of the widespread *E. campestre*, differing in the leaf segments which are decurrent on the rachis and pectinate-dentate.

*Foeniculum divaricatum* Griseb., Spicil. 1: 358 (1843).

In peninsula Hajion-Oros: in litore pr. Pavlu (Friedr.).

Type: The above collection (no. 1225, GOET!).

Boissier (1872: 975) had seen Friedrichsthal's specimen in the Grisebach herbarium, concluding that it was not specifically distinct from *F. piperitum* DC. [recte (Ucria) Sweet], and calling it var. *pluriradiatum* Boiss. *F. piperitum* is the wild plant of the Mediterranean area and the Near East, now usually regarded as a subspecies of *F. vulgare*. Flora Europaea cites the name as *F. vulgare* subsp. *piperitum* (Ucria) Coutinho, but Soldano (1992: 54) has pointed out that the correct authority citation for the subspecies is "(Ucria) Bég." It is often difficult to distinguish between wild and cultivated or naturalized plants (cf. Hedge & Lamond in Davis 1972: 376). There are several subsequent records of *F. vulgare* from the Athos peninsula.

*Lophosciadium Barrelieri* (Ten.) Griseb., Spicil. 1: 372 (1843).

In montibus Albaniae, Macedoniae et Bithyniae: in pratis montanis humidis pr. Ipek [Peć] (Friedr.), sparsim in peninsula Hajion-Oros e. c. pr. Karaes et in Athō pr. Hajianna alt. 0'–3000'!; pr. Salonichi (Friv.); ad Olympum sec Buxb.

Although not evident from the text, this is actually a recombination of *Ferula barrelieri* Ten., Fl. Nap. Prodr. App. 4: 13 (1823). The specimen from "Saloniki" (Friedrichsthal, GOET!) apparently belongs to *Ferulago sylvatica* (Besser) Reichenb., a species of south-eastern Europe and north-western Anatolia (cf. Hartvig in Strid 1986: 712–713) as do probably the specimens from Ipek [Peć] and Athos. Plants collected by Thirke from the

Bithynian Olympus and listed under *Lophosciadium Barrelieri* in Spicil. 2: 510 belong to the local endemic *Ferulago silaifolia* (Boiss.) Boiss. (cf. Bernardi 1979: 141).

*Lophotaenia* Griseb., Spicil. 1: 377 (1843).

Grisebach seems to have had no followers in referring *Heracleum aureum* Sm. to the monotypic genus *Lophotaenia*; the species is now generally known as *Malabaila aurea* (Sibth. et Sm.) Boiss. and is common in the Balkan Peninsula.

*Oenanthe angulosa* Griseb., Spicil. 1: 354 (1843).

In peninsula Hajion-Oros et insula Tassos: frequens in fruticetis umbris regionis sempervirentis alt. 0'–1200' pr. Pandocratoras (substr. micasch.), sparsim pr. Panajia alt. 0'–200' (substr. calcar.)!

Lectotype: Grisebach's specimen from Pandocratoras, Agion Oros (no. 478, GOET!).

Boissier (1872: 957) retained *O. angulosa* Griseb. at species level, but it is now generally regarded as a synonym of *Oe. pimpinelloides* L., a species occurring in western and southern Europe, Anatolia, the Caucasus, Georgia and western Syria.

*Oenanthe media* Griseb., Spicil. 1: 352 (1843).

In Macedonia et Serbia: in peninsula Hajion-Oros (Friv.), in pratis pr. Toliewacz [maybe Boljevac c. 20 km S of Niš] (substr. micasch.) (Friedr.). Florentem legit Friedr. initio Junii.

Lectotype: A fruiting specimen collected by Frivaldszky at Hajion-Oros (GOET!).

Probably a synonym of *Oe. silaifolia* M. Bieb., a species occurring in much of Europe and extending through Anatolia to the Caucasus and northern Iran.

*Oenanthe thracica* Griseb., Spicil. 1: 355 (1843).

In Thracia: in fruticetis Vitice formatis umbris scaturiginosis ad ostia Maritzae [Evros] pr. Enos copiose (substr. alluv.)!

Type: The above collection, Grisebach no. 410 (GOET!).

Boissier (1872: 956), who had seen the type specimen in the Grisebach herbarium, retained *O. thracica* at species level, noting that it was similar to *O. incrassata* Bory et Chaub. It may in fact be a further synonym of the variable *O. pimpinelloides* L.

*Orlaya grandiflora* Hoffm. var. *aspera* Griseb., Spicil. 1: 384 (1843).

In saxis calcareis Albaniae borealis: pr. Prisdren [Prizren] alt. 7–800'!

Type: The above collection, Grisebach no. 1001 (GOET!).

Said to differ from the typical variety in the muricate-scabrid stem and smaller petals. These characters are not very obvious in the type specimen, and the variety is probably not worthy of taxonomic recognition.

*Scandix orientalis* Griseb., Spicil. 1: 369 (1843).

In Thracia et Macedonia australi: frequens in pratis pr. Rusköi [Keşan] alt. 600' (substr. sax. arenar.)!, in pratis humidis pr. Salonichi (Friedr.), in Macedonia (Friv.).

Lectotype: A specimen labelled "Macedonia, comm. Meisner", apparently collected by Frivaldszky (GOET!). At G-BOIS! is a duplicate labelled "*Scandix australis*. Macedonia. Frivaldszky", as well as a fragment labelled "Turquie d'Europe. Grisebach".

Listed by Boissier (1872: 917) and Hayek (1927: 1067) as a synonym of *S. grandiflora* L. The latter is now often regarded as a subspecies of *S. australis* L., and is widespread in the Balkan Peninsula and Italy.

*Scandix Russeliana* Griseb., Spicil. 1: 369 (1843).

In obs. under *S. pinnatifidum*: "*Sc. Russelianam* m. caule glabro laevigato, petalis aequalibus. – Syn. *Sc. Stella* Russ.? – Hanc in Mesopotamia legit Donietti".

Type: The above collection (GOET!).

Apparently a synonym of *S. stellata* Banks et Sol.

*Seseli oligophyllum* Griseb., Spicil. 1: 359 (1843).

In Scardi pratis montanis: raro in m. Kobelitz alt. 4000' (substr. micasch.)!

Type (Hartvig in Strid 1986: 717): [Makedonija/Kosovo] "In pratis pr. Mandani", Grisebach no. 935 (GOET!).

Now recombined as *Peucedanum oligophyllum* (Griseb.) Vandas, a species of montane and subalpine meadows, occurring in Albania, southern Jugoslavia and northern Greece, extending locally to Sterea Ellas in the south.

*Silaus meoides* Griseb., Spicil. 1: 362 (1843).

In umbris montanis Macedoniae australis: copiose in fagetis m. Nidgé alt. 3000'–4400' (substr. marmor.)!

Type (Hartvig in Strid 1986: 701): The above collection, Grisebach no. 729 (GOET!, iso- G-BOIS!).

This is apparently the oldest name for the species later known as *Carum rupestre* Boiss. et Heldr., Diagn. Pl. Orient. Nov. ser. 2, 2: 79 (1856). Halácsy (1901: 678) recombined it as *C. meoides* (Griseb.) Halácsy, but applied the latter name to the species now known as *C. graecum* Boiss. et Heldr. (= *Athamanta verticillata* Sibth. et Sm., non *Carum verticillatum* (L.) Koch). Halácsy's recombination is valid, however, and the species generally known as *C. rupestre* Boiss. et Heldr. (cf. Hayek 1927: 991, Hartvig loc. cit.) must thus be named *C. meoides* (Griseb.) Halácsy.

*Silaus virescens* Griseb., Spicil. 1: 362 (1843).

Listed under *S. carvifolius* C.A.M.: "Eadem species colitur in H. bot. Gotting. ex seminibus petropolitans. Dignoscitur *S. virescens* m. (*Bunium* DC.) foliis minus decompositis ...".

Hardly distinguishable from *S. peucedanoides* (M. Bieb.) Boiss. (= *Seseli peucedanoides* (M. Bieb.) Koso-Polj.), as pointed out already by Boissier (1872: 974) and Haussknecht (1894: 110).

*Apocynaceae**Vinca herbacea* Kit. var. *gracilis* Griseb., Spicil. 2: 66 (1844).

In Thracia: sparsim gregarie in fruticetis Chersonesi alt. 900' pr. Ainadgik [Inecik] (substr. sax. aren.)!

Type: The above collection, Grisebach no. 284 (GOET!).

Cited by Hayek (1930: 428) as a synonym of *V. herbacea* subsp. *mixta* Velen., and merged with *V. herbacea* without any taxonomic status in the Bulgarian Flora (Kožuharov & Petrova in Jordanov 1982: 424) as well as Flora Europaea and Med-Checklist.

*Aristolochiaceae**Aristolochia rotunda* L. var. *aegaea* Griseb., Spicil. 2: 326 (1846).

In fruticetis litoralibus ins. Tassos raro pr. Panajia (substr. calc.)!

Typified by the above collection (Grisebach no. 7459, GOET!) and included in *A. rotunda* subsp. *rotunda* by Nardi (in Strid & Kit Tan 1997: 74).

*Asclepiadaceae**Cynanchum triste* Griseb., Spicil. 2: 68 (1844).

In peninsula Hajion-Oros: in sylvis Castaneae umbris alt. 0'–1000' sparsim gregarie pr. coenob. Ivion (substr. micasch.)!, pr. portum Daphne (Friedr.).

Lectotype: Grisebach's collection from Ivion (no. 557, GOET!).

A synonym of *Vincetoxicum speciosum* Boiss. et Spruner in Boiss., Diagn. Pl. Orient. Nov. ser. 1, 4: 39 (June, 1844), described from Mt Timfristos and published c. one month before Grisebach's name. *V. speciosum* occurs in the central and southern Balkan Peninsula southwards to Sterea Ellas and Evvia, with a few records also from north-western Anatolia.



*Asteraceae (Compositae)**Achillea peucedanifolia* Griseb., Spicil. 2: 214 (1846).

In regione sylvatica et alpina Macedoniae et Bithyniae: sparsim in sylva Castaneae mixta m. Athûs alt. 1200'–3000', ex qua adscendit ad ipsum montis cacumen alt. 6400' (substr. marm.)! (Friedr.), in Olympo (Tk.).

Lectotype: "In sylv. Athos sparse", Grisebach no. 589 (GOET!, iso- G-BOIS!).

Apparently a synonym of *A. grandifolia* Friv., described from Calophier [Kalofer] in Bulgaria; the latter is a species of the Balkan Peninsula and Anatolia extending southwards to the mountains of northern Peloponnisos.

*Antennaria dioeca* G. var. *australis* Griseb., Spicil. 2: 198 (1846).

In regione alpina Serbiae, Macedoniae et Thraciae alt. 5000'–7900'; in lapidosis m. Kopaunik (Friedr.), rarius ac solitarie in omnibus pratis alpinis Scardi, ubi legi in m. Peristeri, Kobelitz et Ljubatrin ad cacumina usque (substr. vario)!; in m. Korthiat [Chortiat] (Friedr.), in Rhodope pr. Carlova [Karlovo] (Friv.).

Lectotype: "In pratis alpinis Kobelitz raro", Grisebach no. 973 (GOET!, iso- G-BOIS!).

Retained as a variety by Hayek (1931: 594) and said to differ from the typical variety in the leaves being tomentose on both sides and in the somewhat larger capitula.

*Anthemis Aizoon* Griseb., Spicil. 2: 210 (1846).

In regione subalpina Macedoniae: gregarie in rupibus marmoreis m. Nidgé pr. Vodena [Edessa] alt. 4000'!

Lectotype (Franzén 1986a: 27): The above collection, Grisebach no. 727 (GOET!, iso- K!).

First mentioned in Reise (2: 165, footnote) as *Plarmica Aizoon* (nom. nud.), and subsequently recombined as *Achillea ageratifolia* (Sibth. et Sm.) Boiss. subsp. *aizoon* (Griseb.) Heimerl. The taxon is endemic to north central Greece and Makedonija, growing on rocky limestone outcrops.

*Anthemis Aizoon* Griseb. var. *scardicola* Griseb., Spicil. 2: 210 (1846).

In regione alpina Scardi alt. 5000'–7000': in saxis calcareis m. Ljubatrin et Kobelitz rarissime (forma involucri pallido), sparsim in pratis alpinis (forma involucri fusco)!

Lectotype (Franzén 1986a: 27): Rarissime in fl. alp. Ljubatrin, Grisebach no. 902 (GOET!, iso- G-BOIS!).

This taxon differs in leaf shape from the typical variety and was subsequently recombined as *Achillea ageratifolia* subsp. *aizoon* f. *scardicola* (Griseb.) Hayek. Franzén (loc. cit.) included it in *A. ageratifolia* subsp. *ageratifolia*; the latter is scattered in the Balkan Peninsula southwards to Mt Parnassos.

*Anthemis montana* L. var. *macedonica* Griseb., Spicil. 2: 209 (1846).

In campis Macedoniae: inter Perlepe [Prilep] et Trojazchan [Trojaci] alt. 1500' (substr. calc.) (Friedr.).

Hayek (1931: 622) listed this as a variety of *A. orientalis* (L.) Degen subsp. *carpatica* (Willd.) Hayek. The taxon was not mentioned by Franzén (1986b), but is likely to correspond to his *A. cretica* L. subsp. *carpatica* (Willd.) Grierson which is fairly widespread in mountains of southern Europe.

*Anthemis montana* L. var. *thracica* Griseb., Spicil. 2: 209 (1846).

In campis Thraciae alt. 0'–1200': frequentissime in lapidosis pr. Rusköi [Keşan] (substr. sax. aren.)!

Type: "Freq. Chiesano(?) [=Rusköi] in lapidosis", Grisebach no. 322 (GOET!).

This is an annual or biennial plant with several suberect stems, characteristically lobed leaves and rather small capitula; it is probably referable to *A. cretica* L. subsp. *temuloba* (DC.) Grierson which is widespread in Turkey.

*Anthemis sibthorpii* Griseb., Spicil. 2: 210 (1846).

In regione superiori m. Athûs (Friedr.).

Lectotype (Franzén 1986b: 43): The above collection, Friedrichsthal Pl. Maced. no. 1266 (GOET!, iso- W).

This is a local endemic of Mt Athos, completely glabrous and with discoid capitula. Material collected by Sibthorp was described as *Santolina montana* Sibth. et Sm., Fl. Graec. Prodr. 2: 166 (1816) [non *Anthemis montana* L.] and subsequently illustrated in Fl. Graeca 9: tab. 852 (1339).

*Carduus onopordioides* Fisch. var. *scardicus* Griseb., Spicil. 2: 247 (1846).

In Scardo: in pratis montanis m. Ljubatrin raro alt. 3000'–4000' (substr. calc.)!

Type: The above collection, Grisebach no. 893 (GOET!).

Later recombined as *C. scardicus* (Griseb.) Wettst. and again as *C. kernerii* Simonkai subsp. *scardicus* (Griseb.) Kazmi; a mountain taxon of Albania, Makedonija, Bulgaria and northern Greece (cf. Kazmi 1964: 417) as well as in Serbia and Montenegro (Stevanović, pers. comm.).

*Centaurea anatolica* Griseb., Spicil. 2: 234 (1846).

In Olympe Bithyniae (Tk.). Eandemque stirpem in Anatolia orientali legit Donietti.

Collections by Thirke and Donietti present at GOET; on loan to JE, Dec. 1999.

According to Wagenitz (in Davis 1975: 580) this is a synonym of *C. depressa* M. Bieb., a species related to *C. cyanus* L. and occurring in much of South West and Central Asia.

*Centaurea cana* Sibth. et Sm. var. *pindicola* Griseb., Spicil. 2: 236 (1846).

In Macedonia: copiose in m. Nidgé regione Oxycedri alt. 2650'–3000' (substr. marm.)!

Lectotype (Gamal-Eldin & Wagenitz in Strid & Kit Tan 1991: 516): The above collection (GOET; iso-G-BOIS!, K!). This taxon is now generally regarded as a separate species, occurring in the south-western part of the Balkan Peninsula southwards to Mt Ossa. The name *C. pindicola* first appeared (as nom. nud.) in a footnote in Reise 2: 164 (1841) and was validated at species level in Flora Orientalis 3: 637 (1875) as *C. pindicola* (Griseb.) Griseb. ex Boiss.

*Centaurea graeca* Griseb., Spicil. 2: 242 (1846).

In Macedonia australi: pr. Salonichi (Friv., Friedr.).

Lectotype (Wagenitz & Gamal-Eldin 1985: 111): The collection by Frivaldszky (no. 52, G-BOIS!; iso- W).

A tall, distinctive species of sect. *Acrocentron*, occurring on rocky hills at moderate altitudes in Albania and Greece southwards to c. 39°N. Although not listed for "Ju" in Flora Europaea (Tutin et al. 1976: 266) it does in fact occur also in Makedonija northwards to the Veles area (Stevanović, pers. comm.). Grisebach's use of the name is unequivocal, but there has been subsequent nomenclatural confusion (cf. Haussknecht 1895: 45); the later homonym *C. graeca* Boiss. et Heldr. refers to a completely different species of sect. *Acrolophus*.

*Centaurea lyrophylla* Griseb., Spicil. 2: 238 (1846).

In Rhodope litorali: in m. Kuburnu insulae Tassos opposito (Friedr.).

Type: The above collection (no. 1424, GOET!, iso- G-BOIS! [fragment]).

Boissier (1875: 643) retained *C. lyrophylla* as a separate species known only from the type collection, but it is apparently a synonym of *C. cuneifolia* Sibth. et Sm. subsp. *cuneifolia*, a taxon occurring in north-eastern Greece and adjacent parts of Bulgaria and north-western Turkey. The place name Kuburnu probably refers to hills ENE of Kavalla.

*Centaurea paniculata* L. var. *macedonica* Griseb., Spicil. 2: 240 (1846).

In Macedonia australi alt. 0'–1200': sparsim in collibus pr. Salonichi (substr. micasc.)!, versus m. Korthiat [Chortiat] (substr. argillosch.) (Friedr.).

Lectotype: Grisebach's collection from Salonichi (no. 681, GOET!).

Subsequently raised to species level, as *C. macedonica* (Griseb.) Halácsy (1902) which, however, is a later homonym of *C. macedonica* Boiss. (1845). The former is now known as *C. grisebachii* (Nyman) Heldr., based on the same type as Grisebach's variety (see Gamal-Eldin & Wagenitz in Strid & Kit Tan 1991: 500); it occurs in the central and southern parts of the Balkan Peninsula southwards to northern Peloponnisos, and has been divided into three subspecies (Georgiadis 1980: 45–47).

*Cineraria crassifolia* Kit. var. *araneosa* Griseb., Spicil. 2: 220 (1846).

In Serbia, Bithynia: in m. Sturatz 3000' alto pr. Maidan (Friedr.); C. Aucheri in Olympe sec. inv.

Cufodontis (1933: 201) listed this as one of several infraspecific taxa under *Senecio papposus* Less. According to current taxonomy it is probably a synonym of *Tephroses integrifolia* (L.) Holub subsp. *aucheri* (DC.) B. Nord. (= *Senecio aucheri* DC.), a widespread Euro-Siberian taxon.

*Cineraria procera* Griseb., Spicil. 2: 219 (1846).

In peninsula Hajion-Oros: gregarie in sylvis superioribus frondosis accrosisque inter Karaes et Pavlu alt. 2500'–3000' (substr. micasc.).!

Apparently a synonym of *Senecio papposus* (Reichenb.) Less., which occurs in south-eastern Europe and is fairly rare and scattered in north-eastern Greece. No type material could be located at GOET.

*Cirsium appendiculatum* Griseb., Spicil. 2: 250 (1846).

In regione alpina inferiori omnis Macedoniae ubique ad rivulos frequens et cum aquis in regionem subalpinam descendens alt. 5500'–4000', e. c. gregarie in m. Ljubatrin usque in fageta suprema (substr. calc.), in m. Kobelitz (substr. micasc.), sparsim in m. Peristeri et Nidgé!; in Orbelo ad fluv. Rilo (Friedr.).

Lectotype: "Sparsi in form. humid. flor. alp. Nidgé", Grisebach no. 751 (GOET!, iso- G-BOIS!).

A Balkan endemic, gregarious in shady places by springs and brooks at subalpine levels and extending southwards to the mountains of Sterea Ellas.

*Cirsium candelabrum* Griseb., Spicil. 2: 251 (1846).

In Macedonia boreali: gregarie in campis pr. Kalkandele [Tetovo] alt. 1000' (substr. alluv.)!

Type: "Sparsim in camp. herbos. Tetovo infer.", Grisebach no. 822 (?872) (GOET!); a specimen at K! labelled "Scardus" is probably an isotype.

A tall, distinctive, much-branched species with small, white, nodding heads, often gregarious along mountain roads in the central Balkan Peninsula, extending to south-western Romania in the north and Peloponnisos in the south.

*Doronicum Pardalianches* L. var. *giganteum* Griseb., Spicil. 2: 217 (1846).

In fagets Scardi alt. 3000'–4360': copiose in m. Ljubatrin (substr. calc.)!

No type material could be located at GOET, but according to Stevanović (pers. comm.) the name probably refers to *D. grandiflorum* Lam. which is common in the forest zone of Šar planina.

*Echinops Rochelianus* Griseb., Spicil. 2: 229, footnote (1846).

Habitat in convallibus Banatus e. c. pr. Mehadia, leg. Frivaldszky.

This is one of the few new species from outside the area of Rumelia and Bithynia to be included in the Spicilegium. It is apparently a synonym of *E. bannaticus* Rochel ex Schrader, a variable species of which Micevski (1977) recognized several varieties in Makedonija.

*Lagoseris nemausensis* MB. var. *bellidioides* Griseb., Spicil. 2: 277 (1846).

Frequentissime in regione litorali Thraciae et Bithyniae alt. 0'–1200' ubique tempore vernali vigens, in plerisque formationibus subsolitariae: e. c. in graminosis et herbosis m. Bulgurlu ad Bosporum, in ericetis ins. Principo et Chalki, in fruticetis pr. Modania [Mudanya], in pratis maritimis pr. Hersek (substr. var.)!

Lectotype: "Thraciae ....", Grisebach no. 49 (GOET!).

Babcock (1947: 730 ff.) recombined *Lagoseris nemausensis* (Gouan) Koch [non M. Bieb.] as *Crepis sancta* (L.) Babcock subsp. *nemausensis* (Gouan) Thell. This taxon is widespread in the Mediterranean area, especially in the east. Grisebach's variety was not mentioned.

*Lagoseris nemausensis* MB. var. *runcinata* Griseb., Spicil. 2: 277 (1846).

Lectotype: "In pratis pr. Hersek(?) frequ.", Grisebach no. 139 (GOET!).

See above.

*Linosyris punctata* Cass. var. *angustifolia* Griseb., Spicil. 2: 188 (1846).

In Macedonia (Friv.).

Probably a synonym of *Aster sedifolius* L., a variable species of southern and eastern Europe.

*Pyrethrum cinereum* Griseb., Spicil. 2: 201 (1846).

In Macedonia et Bithynia: in pascuis lapidosis pr. Palanka [Kriva Palanka in north-eastern Makedonija] distr. Kostendil [Kjustendil in western Bulgaria] alt. 2000'–3000' (substr. micasch.) (Friedr.), pr. Bolu (Pest.).

Lectotype (Voith-Drescher 1986 according to a label on the sheet): Friedrichsthal's collection (no. 454) from Palanka (GOET!).

Belonging to *Tanacetum corymbosum* (L.) Schultz Bip. and subsequently recombined as *T. corymbosum* subsp. *cinereum* (Griseb.) Grierson.

*Scorzonera lorea* Griseb., Spicil. 2: 263 (1846).

In m. Athone: sparsim in graminosis pr. Panajia alt. 4500' (substr. marmor.)!

Type: The above collection, Grisebach no. 602 (GOET!).

The type consists of a single individual lacking basal parts and bearing one flowering and one fruiting head with young achenes. *S. lorea* has been regarded as a synonym of the variable *S. cana* (C. A. Meyer) O. Hoffm. The achenes have the pale tubular base characteristic of the latter, but otherwise the specimen is untypical, being tall with strictly entire cauline leaves. There are no subsequent reports of *S. cana* from Athos, and the identity of Grisebach's species remains uncertain.

*Senecio macedonicus* Griseb., Spicil. 2: 221 (1846).

In Macedonia (Friv.).

Type (Kadereit in Strid & Kit Tan 1991: 465): The collection by Frivaldszky (G-BOIS!); this collection is also represented at GOET!

A species of montane and subalpine grassland, mainly on limestone, scattered on the Greek mainland southwards to Taigetos, and also occurring in Bulgaria, Turkey-in-Europe and probably Makedonija.

*Senecio peduncularis* Griseb., Spicil. 2: 225 (1846).

In peninsula Hajion-Oros: sparsim in fruticetis apricioribus pr. Karaes alt. 2000' (substr. micasch.)!

Type: The above collection (GOET!).

As observed already by Hayek (1931: 683) this is apparently a synonym of the widespread *S. vernalis* Waldst. et Kit. of which there are several subsequent records from the Athos peninsula.

*Senecio vernalis* Kit. var. *proponticus* Griseb., Spicil. 2: 224 (1846).

In litore Propontidis: frequens in sabulosis ad sinum Nicomedicum [Gulf of Izmit] pr. Hersek!

*Tragopogon pratensis* L. var. *erubescens* Griseb., Spicil. 2: 264 (1846).

In Macedonia calidiori: ad lacum Langasa [lake Langada ENE of Thessaloniki] (Friv.).

## Boraginaceae

*Alkanna noneiformis* Griseb., Spicil. 2: 90 (1844).

In Macedonia: sparsim in herbosis m. Nidgé cum praecedente [*A. pulmonaria*] alt. 2700'–3000' (substr. marmor.)!, inter Perlepe [Prilep] et Trojaz-chan [Trojaci] alt. 1500' (substr. calcar.) (Friedr.).

Lectotype (Strid 1991: 41): Grisebach's collection from Nidgé [Piperitsa], no. 720 (GOET!).

A species with deep blue to bluish-violet corolla limb, scattered from southern Pindhos to Makedonija. For differences between this and the related *A. scardica*, see Strid (loc. cit.).

*Alkanna primuliflora* Griseb., Spicil. 2: 89 (1844).

In Thracia boreali: pr. Philippopolin [Plovdiv] (Friv.).

Type: The above collection (GOET!; iso- G-BOIS!, W).

A slender species with relatively large, golden yellow corolla, scattered at low altitudes in southern Bulgaria and northern Greece, extending locally to the Thessalian plain (vicinity of Farsala).

*Alkanna pulmonaria* Griseb., Spicil. 2: 90 (1844).

In Macedonia montibus: sparsim in herbosis m. Nidgé pr. Vodena [Edessa] alt. 2700'–3000' (substr. marm.).

Type: The above collection, Grisebach no. 719 (GOET!).

This is a yellow-flowered species ("corolla viva flava") which appears to be closely related to *A. pindicola* Hausskn. (described from the Pindhos). *A. pulmonaria* has been reported from a small area in north central Greece and Makedonija.

*Alkanna scardica* Griseb., Spicil. 2: 91 (1844).

In regione alpina Scardi et Bertisci: raro in pratis m. Kobelitz alt. 5–7000' (substr. micasc.)!, in regione summa m. Peklen pr. Ipek [Peć] alt. 5900' (substr. calc.) (Friedr.).

Lectotype (Rechinger 1965: 208): Friedrichsthal's specimen from Mt Peklen near Peć, no. 360 (W, iso- GOET!).

A mountain species of northern Albania, Makedonija and southern Serbia, related to *A. noneiformis* (see above).

*Alkanna tomentosa* Griseb., Spicil. 2: 88 (1844).

In Anatolia orientali leg. Donietti.

Type: The above collection (GOET!).

According to Boissier (1879: 197) this name is based on a monstrosity of *Onosma molle* DC., a species of eastern Anatolia and Syria. On the sheet is a basal leaf rosette and a young infructescence which indeed appears abnormally developed.

*Anchusa officinalis* L. var. *longiflora* Griseb., Spicil. 2: 97 (1844).

In Macedonia australi alt. 1200': sparsim in saxis pr. Vodena [Edessa] (substr. calcar.)!: specimina ibi lecta habitu alieno conspicua sunt, eadem vero stirps in H. bot. Gott. culta magis in vulgarem formam recurrebat.

Probably a modification of the widespread and variable *A. officinalis*.

*Anchusa undulata* L. var. *intacta* Griseb., Spicil. 2: 97 (1844).

In litore Macedoniae: pr. Salonichi et in ins. Tassos pr. Panajia (Friedr.).

Lectotype: "In litore pr. Panajia Tassos", Friedrichsthal no. 1402 (GOET!).

Bigazzi & Selvi (in litt.) have examined Friedrichsthal's specimen from Thasos, and concluded that it is a hispid form of *A. officinalis* L. var. *moesiaca* (Velen.) Guşul. (*intacta* would then be the earlier epithet at varietal level). It is not conspecific with the recently described *A. samothracica* Bigazzi et Selvi from coastal sand on the island of Samothraki.

*Echium creticum* L. var. *graecum* Griseb., Spicil. 2: 84 (1844).

Vulgare in Graecia sec. Sibth.

No herbarium material was cited. *E. creticum* of Sibthorp is synonymous with *E. parviflorum* Moench, a widespread Mediterranean species. In spite of its name, *E. creticum* L. does not occur in Crete but is a western Mediterranean species.

*Heliotropium circinatum* Griseb., Spicil. 2: 78 (1844).

In Anatolia orientali leg. Donietti.

Type (Riedl in Davis 1978: 250): The above collection (GOET!).

This is one of the few species from outside the area of Rumelia and Bithynia to be described in the Spicilegium (in a footnote). It is an Irano-Turanian species occurring in the eastern half of Anatolia, northern Iran and northern Iraq.

*Lithospermum Sibthorpiatum* Griseb., Spicil. 2: 86 (1844).

In litore Bithyniae: frequens in arenosis maritimis ad sinum Nicomedicum [Gulf of İzmit] pr. Hersek!

Type: The above collection, Grisebach no. 135 (GOET!, iso- G-BOIS!).

This is a member of the *Buglossoides arvensis* (L.) I. M. Johnston complex, appearing in Flora Europaea (Fernandes in Tutin et al. 1972: 87) as *B. arvensis* subsp. *sibthorpiana* (Griseb.) R. Fernandes. It is a white-flowered lowland form, dubiously distinct from the weedy subsp. *arvensis* although often differing in the several prostrate stems, grey-pubescent leaves and somewhat smaller corollas.

*Nonea atra* Griseb., Spicil. 2: 95 (1844).

In Thracia et Bithynia alt. 0'–1200': sparsim in campis pr. Rusköi [Keşan] (substr. sax. aren.)!, pr. Djesida (Pest.).

Grisebach's collection (no. 364, GOET!) from the vicinity of Rusköi.

Reported from Turkey-in-Europe, Bulgaria and Romania (Dobrudja); closely related to *N. pulla* (L.) DC., but differing in indumentum characters and retained as a separate species by Baytop (in Davis 1978: 410) and Kožuharov (in Jordanov 1989: 158). It has recently been collected by Selvi & Bigazzi (25. 6. 1999; C!, FI) near the village of Dikea in the north-east corner of Greece close to the Bulgarian border, confirming a gathering by Stamatiadou (no. 15292, 22.5. 1972; ATH, C! – originally called *N. pulla*) from the same area.

*Nonea lamprocarpa* Griseb., Spicil. 2: 93 (1844).

In sylvis regionis inferioris Parnassi leg. Spruner.

In Grisebach's herbarium (GOET!) is a specimen, probably the type, labelled Parness (?) in his hardly legible handwriting.

This species was described in a footnote and is one of the few taxa from outside Rumelia and Bithynia to appear in the Spicilegium. According to Halácsy (1902: 321) it is a synonym of *N. obtusifolia* (Willd.) DC., and Spruner's specimen was collected on Mt Parnes [Parnitha], not Parnassos.

*Onosma heterophyllum* Griseb., Spicil. 2: 80 (1844).

In litore Thraciae: copiose in arenosis ad mare Aegaeum pr. Makri!

Type (Teppner in Strid & Kit Tan 1991: 37): The above collection (GOET!). The locality is in Greek Thraki W of Alexandroupolis as correctly stated by Teppner, not in the Istanbul area (Riedl in Davis 1978: 369).

A variable species of the Balkan Peninsula, extending to Romania and western Anatolia.

*Onosma Tournefortii* Griseb., Spicil. 2: 80 (1844).

In agro Byzantino sec. Andr.: in litore Ponti Euxinii sec. Sibth.

This name was listed in Index Kewensis as a synonym of *O. frutescens* Lam., but overlooked in subsequent Floras. Apparently Grisebach had no herbarium material but referred to the illustration of *O. echioides* in Fl. Graeca 2: tab. 172 (1816) which he identified as being different from *O. echioides* of Linnaeus. The latter name has been widely misapplied and its precise identity remains uncertain, pending examination of the type at Herb. Clifford (BM). However, the plate in Fl. Graeca shows *O. frutescens* Lam. as currently understood; this is an eastern Mediterranean species occurring from Greece to western Syria.

*Brassicaceae (Cruciferae)**Aethionema gracile* DC. var. *athoum* Griseb., Spicil. 1: 281 (1843).

In cacumine m. Athūs alt. 6400': sparsim in rupibus marmoreis!

Type: The above collection (GOET!).

Currently named *Ae. saxatile* subsp. *athoum* (Griseb.) Hayek (= subsp. *oreophilum* I. A. Andersson et al., nom. illeg.), a taxon occurring in the southern and central Balkan Peninsula and locally in north-western Anatolia.

*Alyssum montanum* L. var. *leiocarpum* Griseb., Spicil. 1: 276 (1843).

In Macedonia: sparsim in regione Oxycedri m. Nidgé alt. 2650'–3000' (substr. marmor.)!

Type: The above collection, Grisebach no. 716 (GOET!); cf. Hartvig in Strid (1986: 288).

This is a regional variety of the polymorphic *A. montanum*, scattered in north central Greece, Bulgaria, and probably elsewhere in the Balkan Peninsula.

*Arabis alpina* L. var. *flavescens* Griseb., Spicil. 1: 247 (1843).

In regione alpina Scardi: raro in m. Ljubatrin alt. 4500'–6200', gregarie in m. Kobelitz alt. 5000' (substr. calcar.)! Probably referable to *A. alpina* subsp. *caucasica* (Willd.) Briq.

*Arabis Boissieri* Griseb., Spicil. 1: 248 (1843).

In cacumine Olympi Bithyniae sec. Sibth. et Boiss. in lit.

A synonym of *A. drabiformis* Boiss. (1842), endemic to the Bithynian Olympus (Ulu Dağ); cf. Cullen in Davis (1965: 424) and Strid (1986: 266).

*Arabis constricta* Griseb., Spicil. 1: 249 (1843).

In Scardo: raro in pratis alpinis m. Kobelitz alt. 5500' gregariae (substr. micasch.)! Fructiferam legi m. Jul.

Type (cf. Strid 1986: 264): The above collection (GOET!, iso- G-BOIS!).

Now regarded as a synonym of *A. sudetica* Tausch, a species of south-eastern Europe extending to central Peloponnisos in the south.

*Arabis drabiformis* Griseb., Spicil. 1: 248 (1843).

In summis montibus Macedoniae: in cacumine m. Athûs alt. 6400' frequens gregariae in rupium marmorearum fissuris; raro in summo m. Nidgé alt. 5500' (substr. marmor.)!; in Olympo Thessaliae sec. Boiss. in lit. Siliquis maturis in m. Athô legit. Friedr. m. August.

Lectotype: Grisebach's collection from Mt Athos (G-BOIS!).

A synonym of *A. bryoides* Boiss. (1842), a Balkan endemic occurring from southern Peloponnisos to Kosovo. Concerning the confusion as to the application of the names *A. drabiformis* Griseb., *A. drabiformis* [drabaeformis] Boiss. and *A. bryoides* Boiss., see Strid (1986: 266).

*Aubrieta erubescens* Griseb., Spicil. 1: 268 (1843).

In saxis marmoreis m. Athûs copiose pr. Panajia alt. 4500' consociata cum *Draba Aizoon*!

Cultivated in the Botanic Garden of Göttingen from seeds collected on Mt Athos. Type at GOET!, isotypes at G-BOIS! and K!

*A. erubescens* is a distinctive local endemic occurring in rocky places on the upper and middle slopes of the mountain (cf. Gustavsson in Strid 1986: 272–273).

*Aubrieta graeca* Griseb., Spicil. 1: 268 (1843).

A note under *A. deltoidea* reads: "Ex speciminibus a cl. Spruner in Hymetto lectis excludo *A. graecam* (*A. deltoideam* Fl. graec. t. 628) simillimam quidem, sed staminum longiorum ala versus apicem filamenti sensim attenuata distinctam". The plate in Fl. Graeca (tab. 628) is marked *A. deltoidea* and matches this species as traditionally understood; the distribution is stated to be "in Laconiae et Atticae montibus; nec non in rupibus Sphacioticis Cretae". Plants from all three areas mentioned are now generally referred to *A. deltoidea* (L.) DC.

*Aurinia corymbosa* Griseb., Spicil. 1: 271 (1843).

In Macedonia boreali: in m. Kobelitz pr. Kalkandele [Tetovo] semina legi, quae in H. Gotting. coluntur.

Type (cf. Hartvig in Strid 1986: 278): The above collection (GOET!).

A Balkan endemic, occurring from Serbia to north central Greece.

*Cardamine acris* Griseb., Spicil. 1: 253 (1843).

In regione alpina Macedoniae et Serbiae australis: socialis in herbosis humidis et ad rivulos m. Nidgé alt. 4400'–5500' (substr. marmor.), gregarie ad fontem m. Kobelitz juxta Mandram Weitzensem [Vejce] alt. 4200' (substr. micasch.)!; in rivulo m. Kopaunik 5700' alt. (Friedr.).

Lectotype (Strid 1986: 257): The collection from Kobelitz, Grisebach no. 943 (GOET!, iso- K!).



This is now regarded as a subspecies of *C. raphanifolia* Pourret, a mountain species of southern Europe and Anatolia; subsp. *acris* (Griseb.) O.E. Schulz occurs in central Italy, the Balkan Peninsula and through northern Anatolia to the Caucasus.

*Draba aizoides* L. var. *scardica* Griseb., Spicil. 1: 266 (1843).

In Scardo alpino: raro in rupibus summis m. Ljubatrin alt. 7300'–7900', sparsim in Kobelitz alt. 5000'–7000' (substr. calcar.). Florentem m. Jun. leg. Friedr., fructiferam ego m. Jul.

Lectotype (Buttler in Strid 1986: 309): "Sparse in pratis alpinis Kobelitz", Grisebach no. 984 (GOET!, G-BOIS!).

This variety has been raised to species level, as *D. scardica* (Griseb.) Halácsy, but is now often regarded as a synonym of *D. lasiocarpa* Rochel subsp. *lasiocarpa* (cf. Buttler, loc. cit.).

*Draba Aizoon* Wahl. var. *athoa* Griseb., Spicil. 1: 267 (1843).

In saxis marmoreis m. Athūs copiose pr. Panajia alt. 4500', in Haem (Friv.).

Lectotype (Buttler 1982, according to label on the sheet): Grisebach's collection from Mt Athos (G-BOIS!, iso- GOET!, K!).

This has been raised to species level, as *D. athoa* (Griseb.) Boiss., but is now generally regarded as a synonym of *D. lasiocarpa* Rochel subsp. *lasiocarpa* (cf. Buttler in Strid 1986: 309–310).

*Erysimum calycinum* Griseb., Spicil. 1: 260 (1843).

In m. Athō: sparsim in sylva mixta Castaneae alt. 1200'–3000' (substr. marmor.)!

Type: The above collection, Grisebach no. 576 (GOET!, iso- B, G-BOIS!, K!).

Scattered in the northern Greek mainland southwards to c. 39°N, and extending into Makedonija and Albania; there are several subsequent collections from the Athos peninsula, generally at 500–800 m.

*Eunomia orbiculata* Griseb., Spicil. 1: 282 (1843).

In cacumine m. Athūs alt. 6400': gregarie in saxis marmoreis!

Type: The above collection, Grisebach no. 647 (GOET!, iso- G-BOIS!).

In Reise 1: 312 (footnote) this species appeared under the name of *Eunomia oppositifolia* DC. It was described by Boissier in 1842 as *Crenularia orbiculata*, based on material collected by Aucher-Éloy in 1836, and is currently known as *Aethionema orbiculatum* (Boiss.) Hayek. It is a distinct species, endemic to the summit area of Mt Athos at 1700–2030 m (several subsequent collections).

*Iberis pinnata* L. var. *pilosa* Griseb., Spicil. 1: 283 (1843).

In Rumelia (Friedr.). Eandem formam in Anatolia legit Donietti.

The identity of this taxon is uncertain. As currently understood, *I. pinnata* is a species of the central and western Mediterranean region, not occurring in the area where Friedrichsthal collected, nor in Anatolia (cf. Jalas & Suominen 1996: map 2735).

*Iberis taurica* DC. var. *pubescens* Griseb., Spicil. 1: 283 (1843).

In Bithynia: pr. Modurlu (Pest.).

Type: The above collection (GOET!).

The identity of this taxon is uncertain, and the specimen is somewhat fragmentary. According to Hedge (in Davis 1965: 311), *I. taurica* is widespread in Turkey, the Crimea and the Caucasus, and closely related to *I. attica* Jord., described from Mt Hymettus, Greece.

*Isatis tinctoria* L. var. *stenocarpa* Griseb., Spicil. 1: 286 (1843).

In m. Athō: in saxis marmoreis pr. Panajia sparsim alt. 4500'!

Type: The above collection (GOET!).

This taxon was later described by Boissier (1888: 64) as *I. athoa*, based on material collected by Pichler in 1873 (G), and recombined as *I. tinctoria* subsp. *athoa* by Papanicolaou in Strid (1986: 238). As indicated by

Grisebach's varietal epithet, it differs from typical *I. tinctoria*, i.a. in the narrow siliculas (10–16 × 2–5 mm). There are several subsequent collections from Mt Athos at altitudes between c. 1100 and 1600 m.

*Koniga scardica* Griseb., Spicil. 1: 278 (1843).

In regione alpina Scardi: sparsim in pratis m. Kobelitz alt. 5000'–7000' (substr. micasc.!).

Type: The above collection (GOET, iso- G-BOIS!).

Apparently a synonym of *Ptilotrichum cyclocarpum* Boiss. subsp. *cyclocarpum*. For taxonomy and nomenclature, see Hartvig in Strid (1986: 304–305) and Jalas & Suominen (1996: 71).

*Nasturtium lippizense* DC. var. *thracicum* Griseb., Spicil. 1: 258 (1843).

In Thracia, Macedonia: copiose in pratis montanis pr. Rusköi [Keşan] alt. 600' (substr. sax. arenar.), sparsim inter frutices pr. Karaes alt. 2000' et gregarie in quercetis m. Cholomonda alt. 2100' (substr. micasc.!).; in agro Byzantino sec. Olivier.

Lectotype (Ančev & Tomšovic 1999: 267): Grisebach's specimen from Karaes (no. 346, GOET!). A Grisebach specimen at K! (evidently a syntype) is only labelled "Thracia" and was probably collected near Rusköi.

Now referred to the genus *Rorippa*. *R. lippizensis* (Wulfen) Reichenb. and *R. thracica* (Griseb.) Fritsch are sometimes regarded as separate species (cf. Turrill 1931, Ančev & Tomšovic 1999), but are doubtfully distinct. When the two are combined, the specific epithet *lippizensis* (based on *Sisymbrium lippizense* Wulfen in Jacq., Collectanea 2: 161, 1789) has priority over *thracica* which was first recombined at species level in 1867, as *Nasturtium thracicum* (Griseb.) Boiss., Fl. Orient. 1: 181. As defined by Ančev & Tomšovic (1999), *R. lippizensis* s. str. occurs in the western Balkan Peninsula from northern Albania to Istria, and *R. thracica* in the central and eastern parts from the Katara pass and Montenegro in the west to eastern Bulgaria and the Istanbul area in the east.

*Thlaspi bellidifolium* Griseb., Spicil. 2: 505 (1846).

Listed in Spicil. 1: 280 (1843) as *Th. bulbosum* Sprun. "In Scardi m. Ljubatrin: raro in rupibus calcareis regionis summae Saxifragarum alt. 7300'–7900'!". In Reise (2: 264, footnote) the same plant was named *Th. stylosum* m., a later homonym of *Th. stylosum* (Ten.) Mutel.

Type: The above collection (GOET!, iso- G-BOIS!).

*Th. bellidifolium* was retained as a separate species in subsequent Floras and is apparently endemic to the central and northern parts of the Balkan Peninsula; it is sometimes referred to the genus *Noccaea*.

*Vesicaria utriculata* Lam. var. *denticulata* Griseb., Spicil. 1: 270 (1843).

In Bithynia: frequens in pascuis inter fruticeta sempervirentia pr. Kapaklu ad sinum Modaniensem!

The identity of this taxon is not clear, and no type material could be located at GOET. It is presumably conspecific with *Alyssoides utriculata* (L.) Medicus, although the latter is rarely found at sea level and Cullen (in Davis 1965: 355) cited no records from north-western Anatolia. Grisebach's variety is said to be characterized by dentate cauline leaves, the teeth ending in tubercle-based hairs.

## *Campanulaceae*

*Campanula lactiflora* MB. var. *olympica* Griseb., Spicil. 2: 284 (1846).

In Bithynia: in Olympo (Tk.).

Boissier (Diagn. ser. 1, 4: 34, 1844) described *C. olympica* from Ulu Dağ, based on his own specimen collected in 1842. Grisebach's *C. lactiflora* var. *olympica* presumably refers to the same taxon, although there is no reference to Boissier. The true *C. lactiflora* is a species of eastern Anatolia, Caucasia and north-western Iran.

*Campanula lingulata* Kit. var. *intybacea* Griseb., Spicil. 2: 288 (1846).

In Macedonia australi: pr. Salonichi (Friedr.), sparsim in fruticetis umbrosis alt. 0'–1200' pr. Pandocratoras (substr. micasc.!).

Lectotype: Grisebach's collection from Pandocratoras (no. 484, GOET!).

This is a tall form with a well developed basal leaf rosette.

*Campanula ramosissima* Sibth. et Sm. var. *velutina* Griseb., Spicil. 2: 283 (1846).

In peninsula Hajion-Oros: copiose in fruticetis sempervirentibus alt. 0'–1200' pr. Pandocratoras (substr. micasch.)!

Type: The above collection (G-BOIS!).

Grisebach's specimen is a very slender plant with small corollas and narrow calyx lobes, matching *C. phrygia* Jaub. et Spach rather than *C. ramosissima* Sibth. et Sm.

*Campanula Rapunculus* L. var. *reclinata* Griseb., Spicil. 2: 284 (1846).

In Bithyniae Olympo (Tk.).

Boissier (1875: 941) referred Grisebach's variety to *C. olympica* Boiss., described from the same mountain in 1844. No type material of the former has been located.

*Campanula scutellata* Griseb., Spicil. 2: 282 (1846).

In Macedonia (Friv.): in rupibus travertin. pr. Vodena [Edessa] copiose alt. 6–1200'!, pr. Palanka [Kriva Palanka in north-eastern Makedonija] (Friedr.).

Lectotype: Grisebach's collection from the vicinity of Edessa (no. 695, GOET!).

An annual species restricted to the central Balkan Peninsula, southwards to the vicinity of the Katara pass.

*Campanula sphaerotherix* Griseb., Spicil. 2: 280 (1846).

In Macedonia boreali: copiose in fruticetis fagi ad m. Ljubatrin alt. 3–4000' (substr. calcar.)!, in m. Karadagh [Skopska Crna gora, a mountain between Serbia and Makedonija] pr. Katschianik [Kačanik] et versus Ueskueb [Skopje] etiam in Orbelo boreali pr. Karatova (Friedr.).

Lectotype: Grisebach's collection from Ljubatrin (no. 875, GOET!, iso- G-BOIS!).

Subsequently recombined as *C. sparsa* Friv. subsp. *sphaerotherix* (Griseb.) Hayek; a Balkan endemic related to *C. patula* L. and extending southwards to c. 39°N. Frivaldszky had described this taxon already in Flora (Regensburg) 19: 434 (1836) as *C. expansa* Friv., based on his own collection from Calophier [Kalofer] in Bulgaria; the latter is a homonym of *C. expansa* Rudolph (1811).

*Hedraeanthus* Griseb., Spicil. 2: 292 (1846).

To be regarded as an orthographic variant of *Edraianthus* A. DC.

*Jasione orbiculata* Griseb., Spicil. 2: 293 (1846).

In regione alpina Macedoniae, Bithyniae alt. 5–7000': sparsim gregarie in pratis m. Kobelitz (substr. micasch.), rarius in m. Peristeri (substr. granit.)!, in Olympo (Tk.).

Lectotype: A rather fragmentary specimen at G-BOIS! labelled "*Jasione orbiculata* Gr. Scardus. Turquie d'Europe. Grisebach 1842".

Mentioned in synonymy (as *J. orbiculata* m.) under *J. supina* Sieber [recte Sprengel]. The name *Jasione orbiculata* sp. nov. first appeared (as nom. nud.) in a footnote (Reise 2: 304) to Grisebach's account of his ascent of Mt Kobelitz. The name was later validly published by Velenovsky, and the correct author citation is *J. orbiculata* [Griseb. ex] Velen., Fl. Bulg.: 375 (1891). It is now regarded as a subspecies of *J. laevis* Lam., and is a variable taxon occurring in the Balkan Peninsula, south-western Romania and southern Italy (cf. Hartvig in Strid & Kit Tan 1991: 396–97).

*Specularia Speculum* A. DC. var. *stricta* Griseb., Spicil. 2: 279 (1846).

In Thracia alt.: in pratis montanis pr. Rusköi [Keşan] frequens (substr. sax. aren.)!

Type: The above collection, Grisebach no. 261 (GOET!).

Apparently a minor variant of the widespread *Legousia speculum-veneris* (L.) Chaix.

## Caryophyllaceae

### *Alsine falcata* Griseb., Spicil. 1: 200 (1843).

In Rhodopes regione alpina pr. Carlova [Karlovo] (Friv.); in cacumine Olympi Bithyniae sec. Sibth. (*Ar. recurva* et *striata* Prodr.), in Olympo Thessaliae leg. Auch.

Lectotype (McNeill 1963: 333): The collection from "Rhodopes pr. Carlova" [S Bulgaria] (W, probably destroyed; iso- G-BOIS!).

Now recombined as *Minuartia hirsuta* (M. Bieb.) Hand.-Mazz. subsp. *falcata* (Griseb.) Mattf., a taxon occurring in the central Balkan Peninsula and western Anatolia; two other subspecies occur from Bulgaria to Hungary and in the Crimea, respectively.

### *Alsine setacea* (Thuill.) Mert. et W. D. J. Koch var. *athoa* Griseb., Spicil. 1: 190 (1843).

In saxis marmoreis m. Athûs frequens pr. Panajia alt. 4500'.

Type (Kamari in Strid & Kit Tan 1997: 180): The above collection (GOET!, iso- K!).

Plants from Mt Athos (leg. Frivaldszky) and from the Thessalian Olympus (leg. Heldreich) are very similar, and Boissier (1867: 680) referred both to *Alsine setacea* var. *genuina*. They have subsequently been described as *Minuartia setacea* subsp. *olympica* Kamari and *M. athoa* (Griseb.) Kamari, respectively (cf. Kamari, loc. cit.).

### *Alsine verna* Bartl. var. *scardica* Griseb., Spicil. 1: 201 (1843).

In Scardo regione alpina: sparsim in pratis m. Kobelitz alt. 6000' (substr. calcar.)!

Type: The above collection (GOET!).

Apparently a local variant in the *Minuartia verna* complex, listed by Hayek (1924: 188) under *M. verna* subsp. *gerardi* (Willd.) Graebn. The specimen at GOET is a densely caespitose, glabrous high-altitude form; it is scarcely possible to determine whether it is referable to *M. verna* (L.) Hiern or *M. attica* (Boiss. et Spruner) Vierh. as currently understood (cf. Kamari in Strid & Kit Tan 1997: 185–186).

### *Arenaria filicaulis* Fenzl ex Griseb., Spicil. 1: 203 (1843).

In regione montana m. Athûs: frequens in rupibus marmoreis caespitose viget pr. Panajia alt. 4500'!

Type: The above collection (GOET!; iso- G-BOIS!, K).

A species of shady crevices in limestone rocks occurring from western Crete to Makedonija, southern Bulgaria and north-western Turkey; generally divided into three, rather poorly defined subspecies (cf. McNeill 1963: 269 ff., Strid 1986: 86–87).

### *Buffonia parviflora* Griseb., Spicil. 1: 197 (1843).

In Macedonia australi pr. Salonichi ad Axium fl. (Friv.).

Type: A specimen at G-BOIS! labelled "*Buffonia perennis* Pers. Macedonia. Frivaldszky".

A synonym of *B. paniculata* Dubois ex Delarbre, a widespread Mediterranean species which, however, is fairly rare and scattered in Greece (cf. Strid in Strid & Kit Tan 1997: 192–193). The original spelling of the generic name is *Bufonia*.

### *Cerastium alpinum* L. var. *nudipes* Fenzl ex Griseb., Spicil. 1: 210 (1843).

In regione alpina Scardi: in m. Kobelitz sparse in pratis alt. 4200'–5000' (substr. micasc.)!

Makedonija represents the southernmost extension of *C. alpinum*, a widespread arctic-alpine species, variable with respect to indumentum, etc.

### *Cerastium grandiflorum* Kit. var. *hirsutum* Fenzl ex Griseb., Spicil. 1: 211 (1843).

In regione alpina Scardi australis et Rumeliae orientalis (Friv.); in herbosis m. Peristeri sparse alt. 5200'–6000' (substr. granit.)!

This has been recombined as *C. banaticum* (Rochel) Steudel subsp. *hirsutum* (Fenzl ex Griseb.) Niketić, and is transitional between the northern subsp. *banaticum* and the southern subsp. *speciosum* (Boiss.) Jalas. The same

taxon has been described as *C. banaticum* subsp. *kosaninii* Georgiev (Niketić, pers. comm.). No type material could be located at GOET.

*Cerastium grandiflorum* Kit. var. *rosmarinifolium* Fenzl ex Griseb., Spicil. 1: 211 (1843).

In regione alpina Scardi: raro in m. Ljubatrin alt. 4360'–7000' (substr. calcar.)!

This name had been published one year earlier by Fenzl and then referred to a plant from Transcaucasia belonging to *C. argenteum* M. Bieb. (which Fenzl regarded as conspecific with *C. grandiflorum*). According to the description, Grisebach's plant may belong to *C. decalvans* Schlosser et Vuk. var. *albanicum* (Bald.) Niketić (Niketić, pers. comm.).

*Dianthus cruentus* Griseb., Spicil. 1: 186 (1843).

In Macedonia boreali: sparsim in pratis m. Ljubatrin alt. 2850'–4360' (substr. calc.) et in herbosis apricis m. Peristeri alt. 3500'–4600' (substr. granit.)!; inter Istib [Stobi] et Perlepe [Prilep] (substr. tert.) et inter Komanova [Kumanovo] et Strazin [Stracin] (substr. trachyt.) (Friedr.).

Lectotype (Strid 1986: 198): A specimen at GOET! bearing two labels marked "Peristeri" and "Ljubatrin", respectively. A duplicate of the Ljubatrin specimen is at G-BOIS!.

The species was first mentioned in Reise 2: 189 (1841) in Grisebach's account of his ascent of Mt Peristeri on July 2, 1839, as *D. atropurpureus* (nom. nud.), and later (Reise 2: 262) from the *Fagus* zone on Mt Ljubatrin. It is probably endemic to the central and southern parts of the Balkan Peninsula and belongs to a group in which taxonomy and nomenclature are still somewhat unsettled.

*Dianthus gracilis* Sibth. et Sm. var. *armerioides* Griseb., Spicil. 1: 190 (1843).

In Macedonia: sparsim in rupibus calcareis inter Ueskueb [Skopje] et Calcandele [Tetovo] alt. 600'–800'!; lusus in m. Athò (Friedr.).

A specimen at K!, probably an isotype, is labelled only "Macedonia".

The identity of this taxon is not clear. In Reise 2: 243 (1841) it was mentioned as *D. Armeria*. Hayek (1924: 229) listed it as a synonym of *D. suskalovicii* Adam., and Tutin (1963: 191) raised it to a subspecies of *D. gracilis*; it is said to be restricted to northern Macedonia and Albania (Fl. Eur. ed. 2, 1: 245, 1993).

*Dianthus myrtinervius* Griseb., Spicil. 1: 194 (1843).

In Scardo australi: copiose in herbosis regionis alpinae m. Peristeri alt. 5200'–6500', frequentius ad terminum inferiorem Iuniperi nae alt. 5200' (substr. granit.).

Type (Strid in Strid & Kit Tan 1997: 351): The above collection, Grisebach no. 804 (GOET!; iso- G-BOIS!, K!).

An attractive and distinctive species forming dense flowering mats at c. 1500–2100 m on Mt Peristeri (Pelister, Varnous, Bela Voda, Kalo Nero), on both sides of the border, and recently discovered also on Mt Vitsi slightly to the south. The name first appeared (as nom. nud.) in Reise 2: 191 (1841), „eine rasenförmig wuchernden Nelke". An even denser, cushion-forming variant restricted to the alpine zone on Mt Kajmakčalan, also straddling the border, has been described as subsp. *caespitosum* Strid et Papanicolaou (cf. Strid loc. cit.).

*Dianthus pubescens* Sibth. et Sm. var. *fasciculatus* Griseb., Spicil. 1: 190 (1843).

In Macedonia australi: sparsim in colle Heptapyrgio pr. Salonichi alt. 0'–400' (substr. micasc.)! α pr. Byzantium sec. Boiss. in lit.

Probably a synonym of *D. viscidus* Bory et Chaub. (cf. Hayek 1924: 226); listed in Reise 2: 59 (1841) as *D. diffusus* Sibth. et Sm.

*Dianthus rupestris* Friv. ex Griseb., Spicil. 1: 191 (1843).

Mentioned in discussion under *D. diffusus* Sm., with the diagnostic phrase: "Ultraque in collectione exstat: prior est *D. rupestris* Friv., herb. rum.! A. proximo *D. Seguieri* foliis angustioribus, terneritate et ni fallor petalorum fabrica differt."

This name seems to have been overlooked in all subsequent Floras and its application is uncertain. No material was found at GOET.

*Dianthus stenopetalus* Griseb., Spicil. 1: 187 (1843).

In regione subalpina Macedoniae et Thraciae: in herbosis m. Nidgé alt. 3000' solitarie (substr. marmor.), frequens in regione perangusta m. Peristeri alt. 4600' ad terminum superiorem Junip. Oxycedri (substr. granit.)!; in Haemo (Friv.); in Olympo Thessaliae sec. Boiss. in lit.

Lectotype: A sheet in GOET! bearing the label "In limite florum alp. et infer. alp. Peristeri Rumel., copiose, 4000'; Grisebach no. 786(?)", but probably collected on Nidgé [Piperitsa], cf. Grisebach, Reise 2: 164 (1841) and Strid (1986: 199). A specimen at G-BOIS! labelled "*Dianthus stenopetalus* Gr. Turquie d'Europe. Grisebach 1842" is apparently an isotype.

A distinctive species characterized by very dense heads and small, narrow, deep carmine-purple petals; it is endemic to the southern and central parts of the Balkan Peninsula from Peloponnisos to Kosovo and south-western Bulgaria.

*Dianthus tenuiflorus* Griseb., Spicil. 1: 189 (1843).

In Macedonia et Thracia: copiose in rupibus m. Babuna pr. Perlepe [Prilep] alt. 2000' (substr. granit.), inter Ueskueh [Skopje] et Calcandele [Tetovo] alt. 800'!; pr. Banja (Friv.), in collibus pr. Sarijari ad Bosporum sec. Wahlbg. Locus d'Urvilleanus est in collibus apricis ins. Tenedos, sed ipse speciem suam perennem statuit.

Lectotype: "Copiose in rup. calc. Ueskueh", Grisebach no. 852 (GOET!); A Grisebach collection at K! labelled only "Macedonia" may be an isotype.

The reference to a Grisebach collection from "vicinity of Kavalla" (Strid 1986: 193, 1997: 360) is apparently incorrect. The species was mentioned in Reise 2: 218, 243 (1841) as *D. collinus*. d'Urville's collection from Tenedos [Bozcaada, an island south of the Dardanelles], reported in Enumeratio: 47 (1822) as *D. pubescens* Sibth. (G-BOIS!, WU!), belongs to *D. glutinosus* Boiss. et Heldr., a rare species otherwise recorded from Lesbos, Limnos and a few localities in western Anatolia. *D. tenuiflorus* is a lowland species related to *D. viscidus* and restricted to a rather small area in Makedonija, north-eastern Greece and Bulgaria.

*Gypsophila spergulfolia* Griseb., Spicil. 1: 183 (1843).

In Albania occidentali: consociata cum Galio rupestri Vis. gregarie in rupium dioriticarum fissuris alt. 1200'–1500' in m. Puka octo leucas a litore adriatico pr. Alessio distante!

Type (seen by the monographer Barkoudah): The above collection (GOET!).

A Balkan endemic with a disjunct distribution, occurring (a) in central and western Serbia and eastern Bosnia and (b) through Albania to the Greek border (but not reported in Greece); it is an obligate serpentine species (Stevanović, pers. comm.).

*Heliosperma pudibundum* Griseb., Spicil. 1: 182 (1843).

In Scardo et Orbelo: gregarie in saxis calcareis humidis m. Ljubatrin alt. 4360'–5000' tantum in limite inferiori regionis alpinae Bruckenthaliae proventu indicato!; pr. Calophr (Friv.).

Although not apparent from the text in Spicilegium, this is in fact a recombination based on *Silene pudibunda* Hoffmanns. in Reichenbach, Iconogr. Bot. Pl. Crit. 9: 28 (1831), described from Austria and now usually regarded as a synonym of *S. pusilla* Waldst. et Kit. Grisebach's material most probably belongs to *S. pusilla* subsp. *albanica* (K. Maly) Greuter & Burdet which is common in wet rocky places in the area (Stevanović, pers. comm.).

*Herniaria hirsuta* L. var. *leiophylla* Griseb., Spicil. 1: 216 (1843).

In Scardo australi: sparsim in regione inferalpina Oxycedri m. Peristeri alt. 3500'–4600' (substr. granit.)!

A synonym of *Herniaria parnassica* Heldr. et Sart. in Boiss., according to Chaudhri (1968: 332); the latter is otherwise known from mountains of Greece and southern Albania.

*Paronychia hungarica* Griseb., Spicil. 1: 215 (1843).

In obs. under *P. serpyllifolia* DC., as nom. nov. for *P. capitata* sensu Roth, non (L.) L.: "*P. hungarica* m. (*P. capitata* Roth enum. 1. p. 783 et Rchb. excurs. nr. 3644), quae structura calycis nostram stirpem refert, verum dignoscitur caulibus erectiusculis, foliis argutius carinatis ellipticis et bracteis ovato-lanceolatis breviter acuminatis: hujus quae vidi specimina in colle Adlersberg pr. Budam [Budapest] lecta sunt".

Probably a synonym of *P. cephalotes* (M. Bieb.) Besser (cf. Chaudhri 1968: 255).

*Paronychia serpyllifolia* DC. var. *bithynica* Griseb., Spicil. 1: 215 (1843).

In Bithynia: in collibus pr. Modurlu (Pest.).

Probably a synonym of *P. chionaea* Boiss. (cf. Chaudhri 1968: 237).

*Polycarpon Gmelini* Griseb., Spicil. 1: 214 (1843).

In litore Propontidis et maris Aegaei: frequens pr. Kapaklu ad sinum Modaniensem, sparse in peninsula Hajion-Oros!

Lectotype: “pr. Kapaklu”, Grisebach no. 233 (GOET!).

A form of the variable *P. tetraphyllum* which it is scarcely feasible to subdivide taxonomically (cf. Hartvig in Strid & Kit Tan 1997: 233).

*Sagina apetala* L. var. *imberbis* Griseb., Spicil. 1: 196 (1843).

In litore maris penins. Hajion-Oros sparsim (substr. micasc.)!

Apparently a minor variant of the widespread *Sagina apetala*.

*Silene acarpophora* Griseb., Spicil. 1: 172 (1843).

In Mesopotamia legit Donietti.

Probably a synonym of *S. coniflora* Oth ex DC. (cf. Boissier 1867: 578).

*Silene Asterias* Griseb., Spicil. 1: 168 (1843).

In regione alpina Macedoniae: socialis in pratis humidis juxta rivulos m. Nidgé alt. 4400'–4870' (substr. marmor.) (unde descendit cum aquis nonnunquam in regionem Pinus)!

Type (cf. Melzheimer in Strid 1986: 166–167, Greuter in Strid & Kit Tan 1997: 291): “Juxta rivulos in flor. alp. Nidgé social.” Grisebach no. 738, 28.6. 1839 (GOET!; iso- G-BOIS!, K!).

This distinctive species was first mentioned, as *Saponaria Asterias* (nom. nud.), in Reise 2: 166 (1841). It is an endemic of the central Balkan Peninsula, often gregarious along mountain brooks, and extends southwards to c. 40°N in north central Greece.

*Silene inflata* Sibth. et Sm. var. *athoa* Griseb., Spicil. 1: 171 (1843).

In sylvis montanis penins. Hajion-Oros: sparsim in umbrosis pr. Karaes alt. 2000'–2400' (substr. micasc.)!; in m. Athò (Friv.); in Bithynia circa Olympum sec. Buxb.

Lectotype (Greuter in Strid & Kit Tan 1997: 274): Grisebach's specimen (no. 526) from the Athos peninsula (GOET!).

This is now considered to be a synonym of *S. vulgaris* (Moench) Garcke subsp. *bosniaca* (G. Beck) Greuter et al., a geographical/ecological race of the very polymorphic *S. vulgaris* (*S. cucubalus*, *S. inflata*) occurring in deciduous woods and woodland clearings in much of the Balkan Peninsula.

*Silene italica* Pers. var. *incana* Griseb., Spicil. 1: 173 (1843).

In Macedonia (Friv. Friedr.).

Lectotype: A specimen at G-BOIS! labelled “*Silene mollissima* Pers. Macedonia. Frivaldszky”.

The affinities of this taxon were discussed at some length by Grisebach (loc. cit.). Greuter (in Strid & Kit Tan 1997: 258) listed it as a synonym of *S. gigantea* (L.) L. subsp. *rhodopea* (Janka) Greuter = *S. gigantea* var. *incana* (Griseb.) Chowdhuri.

*Silene nemoralis* Kit. var. *platypetala* Griseb., Spicil. 1: 173 (1843).

In Bithynia et Thracia: in fruticetis ad sinum Modaniensem pr. Kapaklu (substr. alluv.)!, in regione subalpina Rhodopes borealis pr. Carlova [Karlovo] (Friv.).

Lectotype: The collection by Frivaldszky (GOET!).

This is apparently a form of the variable *Silene italica* (L.) Pers. subsp. *italica*.



*Silene tincta* Friv. ex Griseb., Spicil. 1: 174 (1843).

In Thracia boreali pr. Carlova [Karlovo], Banja ad Rhodopen (Friv.).

Lectotype (Greuter in Strid & Kit Tan 1997: 265): [Bulgaria] "Rumelia", 1834, [Hinke & Manolesko in] Frivaldszky (K [ex herb. Hooker]!; iso- GOET ["Carlovo", comm. Meisner]!, K [ex herb. Benth.]!).

This is apparently a synonym of *S. frivaldszyana* Hampe in Flora 20: 226 (1837), a central Balkan endemic occurring from Albania to Turkey-in-Europe.

*Silene waldsteinii* Griseb., Spicil. 1: 179 (1843).

In regione alpina Scardi: in rupibus m. Kobelitz copiose alt. 4700' (substr. calcar.)!; in Orbelo boreali: in alpinis pr. Calophr (Friv.).

Lectotype (Greuter in Strid & Kit Tan 1997: 283): Grisebach's collection from Kobelitz [Kobelica] in Šar planina (GOET!).

A central Balkan endemic occurring in the mountains from Albania and Montenegro to central Bulgaria, in Greece only southwards to c. 40°50'N. Normally distinctly calcifuge, its alleged occurrence on calcareous substrate on Mt Kobelica is untypical, but the type specimen (a good sheet at GOET!) matches material collected on micaceous schist in northern Greece.

*Spanizium* Griseb., Spicil. 1: 180 (1843).

Genus novum anatolicum est *Spanizium*, habitu Saponarium ocymoides plane referens, floris structura simile, sed heteroclitum: capsula globosa ..... Unica species, *Sp. ocymoides*, in Anatolia orientali lecta est.

Grisebach seems to have had no followers in referring *Saponaria ocymoides* L. to a separate, monotypic genus. *S. ocymoides* L. is a west Mediterranean species, and the Anatolian specimen at GOET! on which Grisebach based his new genus appears to belong to *S. prostrata* Willd.

*Stellaria graminea* L. var. *parviflora* Drejer ex Griseb., Spicil. 1: 206 (1843).

In regione subalpina Scardi: gregarie juxta rivulos in m. Kobelitz alt. 4200'–4600' (substr. micasch.)!

Lectotype: The above collection (G-BOIS!).

A widespread Euro-Siberian species, extending in the mountains to central Greece. There is much variation in flower size, even within populations, and the variety is probably of no taxonomic significance.

*Viscaria atropurpurea* Griseb., Spicil. 1: 166 (1843).

In regione alpina Macedoniae raro: in pratis humidis m. Nidgé alt. 4400'–4870' (substr. marmor.); in herbosis Scardi in m. Kobelitz alt. 4670'–6000' (substr. calcar.)!

Lectotype (see discussion in Strid 1986: 135): Grisebach's specimen from Nidgé [Piperitsa] (GOET!, right-hand plant only). The collection from Kobelitz apparently represents the closely related *V. vulgaris* (*Lychnis viscaria*, *Silene viscaria*) which replaces *V. atropurpurea* in Central Europe; cf. Strid (loc. cit.). An isotype at G-BOIS! labelled "Scardus. Turquie d'Europe. Grisebach 1842" matches *V. vulgaris* and was probably collected on Kobelitz.

This species has recently been recombined as *Silene atropurpurea* (Griseb.) Greuter et Burdet (cf. Greuter in Strid & Kit Tan 1997: 248–249). It is a Balkan endemic extending locally to Taigetos and Parnonas in the Peloponnese.

*Cistaceae**Helianthemum oelandicum* Walhbg. var. *scardicum* Griseb., Spicil. 1: 233 (1843).

In Scardo: copiose in herbosis alpinis m. Ljubatrin alt. 4360'–6200' (substr. calcar.)!

Type: The above collection (GOET!).

This is probably a form of *H. canum* (L.) Baumg., a variable species widespread in mountains of central and southern Europe.

## Convolvulaceae

### *Convolvulus assyricus* Griseb., Spicil. 2: 75 (1844).

Described in a footnote under *C. lineatus* L., the only habitat information being “in Anatolia orientali legit Donietti”.

Type: The above collection (GOET!, labelled “Mesopotamia”).

Parris (in Davis 1978: 210) accepted *C. assyricus* as a species related to *C. compactus* Boiss. and endemic to central and eastern Anatolia.

### *Convolvulus cochlearis* Griseb., Spicil. 2: 76 (1844).

See above. The type (GOET!) was also collected by Donietti and is labelled “Mesopotamia”.

According to Parris (in Davis 1978: 210) this is a synonym of *C. compactus* Boiss., a species occurring from the Balkan Peninsula to east central Anatolia (B6, C6). The type specimen is a densely caespitose, silvery-sericeous plant, evidently belonging to *C. compactus* in a wide sense.

## Crassulaceae

### *Procrassula* Griseb., Spicil. 1: 323 (1843).

Grisebach has had few if any followers in referring *Crassula magnolii* DC. to a new genus, *Procrassula*. The species is now regarded as a synonym of the widespread Mediterranean *Sedum caespitosum* (Cav.) DC.

### *Sedum altissimum* Poir. var. *montanum* Griseb., Spicil. 1: 328 (1843).

In montibus Macedoniae et Thraciae: raro in rupibus micascisticis m. Kobelitz alt. 4500'!, in Haemo (Friv.).

The identity of this taxon is uncertain, and no type material was found at GOET. *S. altissimum* Poir. is generally considered a synonym of *S. sediforme* (Jacq.) Pau which is a species of the Mediterranean lowland, rarely ascending to c. 900 m.

### *Sedum annuum* L. var. *racemiferum* Griseb., Spicil. 1: 325 (1843).

In rupibus Macedoniae et Serbiae: sparsim in clivis litoralibus pr. Pandocratoras alt. 0'–600' (substr. micasc.)!, in lapidosis pr. Palanka [Kriva Palanka in north-eastern Makedonija] alt. 2–3000' (substr. micasc.) et in m. Korthiat [Chortiat] pr. Salonichi (Friedr.); in m. Kopaunik (Viquesnel).

Lectotype (Hart 1984: 304): [Greece, Athos peninsula] “Pandocratoras”, Grisebach no. 503 (GOET!, fragmentary isotype at G-BOIS!). This taxon was raised to species level, as *S. grisebachii* Boiss. et Heldr. in Boiss., Diagn. ser. 2, 2: 61 (1856), and is currently recognized as such. It is a variable species of the southern and central Balkan Peninsula, also reported from the vicinity of Istanbul.

### *Sedum erythraeum* Griseb., Spicil. 1: 326 (1843).

In Scardo australi: gregarie in terra nuda regionis alpinac m. Peristeri alt. 6000'–6500' (substr. granit.)!

Type: The above collection, Grisebach no. 834 (GOET!, iso- G-BOIS!).

Recently reduced to a subspecies of *S. alpestre* Vill. (Hart, unpubl. typescript for Flora Hellenica); confined to a few mountains in northern Greece and Makedonija, probably extending into Albania and Bulgaria.

### *Sedum hispanicum* L. var. *Buxbaumii* Griseb., Spicil. 1: 324 (1843).

In Thracia, Macedonia: in apricis pr. Peram sec. Buxb.; in Scardi australis rupibus subalpinis, sparsim in m. Peristeri alt. 2400'–4600' (substr. granit.)!

Said to differ from the typical variety in the short-pedicellate flowers. Hart (unpubl. typescript for Flora Hellenica) listed it as a synonym of *S. hispanicum* without any taxonomic rank.

### *Sempervivum marmoreum* Griseb., Spicil. 1: 329 (1843).

In m. Athone: in regione subalpina versus pinetum (substr. marmor.) (Friedr.).

Type: The above collection (GOET!, iso- W!).

A pink- or purple-flowered species endemic to mountains of the Balkan Peninsula, extending to northern Peloponnisos in the south.

## Cupressaceae

*Juniperus sabinooides* Griseb., Spicil. 2: 352 (1846).

In peninsula Hajion-Oros: gregarie in sylvia Laricionis ad m. Athonem alt. 3500'–4500' (substr. marmor.)!

Lectotype (Farjon 1992: 265, cf. also notes on p. 267): The above collection (GOET!).

A synonym of *J. foetidissima* Willd., which occurs from the Balkan Peninsula through Anatolia to the Caucasus (cf. also Christensen in Strid & Kit Tan 1997: 14).

## Cyperaceae

*Carex caesia* Griseb., Spicil. 2: 412 (1846).

In Macedonia: sparsim in sylvis umbrosis pr. Karaes penins. Hajion-Oros alt. 2000' (substr. micasc.)! et in m. Athūs declivitate occidentali (substr. marmor.) (Friedr.).

Lectotype: Grisebach's collection from Karaes (no. 567, GOET!).

Based on the description Boissier (1881: 412) listed this as a synonym of *C. tomentosa* L., but the lectotype at GOET matches *C. flacca* Schreber subsp. *serrulata* (Biv.) Greuter (female spikes erect, subsessile) which is widespread in the Balkans. Subsequent authors have reported *C. flacca* subsp. *flacca* (with pedunculate, nodding female spikes) from the Athos peninsula, and it is quite possible that both occur in the area.

*Carex muricata* L. var. *australis* Griseb., Spicil. 2: 409 (1846).

In Macedonia, Thracia: in m. Korthiat [Chortiat] (Friv.), sparsim in campis pr. Rusköi [Keşan] alt. 600' (substr. sax. aren.)!

Lectotype: Grisebach's collection from Keşan in Turkish Thrace (no. 383, GOET!).

Grisebach's specimen appears to match *C. divulsa* Stokes subsp. *leersii* (Kneucker) Walo Koch (= *C. polyphylla* Kar. et Kir.).

## Dipsacaceae

*Cephalaria macrophylla* Griseb., Spicil. 2: 174 (1846).

In peninsula Hajion-Oros: pr. portum Daphne (Friedr.), in m. Athone (Friv.).

Lectotype: Friedrichsthal's collection from Daphne (GOET!).

A synonym of *Cephalaria ambrosioides* (Sibth. et Sm.) Roemer et Schultes of which there are several subsequent collections from the Athos peninsula.

*Knautia hybrida* Coult. var. *incana* Griseb., Spicil. 2: 177 (1846).

In Macedonia (Friv.).

Probably a form of *K. integrifolia* (L.) Bertol.

*Knautia hybrida* Coult. var. *tenuis* Griseb., Spicil. 2: 177 (1846).

In Bithynia: pr. Bolu (Pest.).

As above.

*Knautia macedonica* Griseb., Spicil. 2: 178 (1846).

Frequens in omni Macedonia occidentali alt. 800'–3000', ubi in fruticetis consociata crescit cum *Kn. hybrida*: in campo Bitoliensi, pr. Perlepe [Prilep], Ueskueb [Skopje], copiose in campo Tettovo (substr. var.)!

Lectotype: Grisebach no. 859 (GOET!), collected near Tetovo.

The type consists of a stem (upper part of plant) with two entire leaves and a single flowering head; the flowers appear to have been dark red. Although the type is difficult to identify with certainty, there is nothing to con-

tradict the traditional use of the name for a species of the central Balkan Peninsula, extending to south-eastern Romania, north-eastern Greece and Turkey-in-Europe.

## *Euphorbiaceae*

*Euphorbia deflexa* Sibth. et Sm. var. *athoa* Griseb., Spicil. 1: 141 (1843).

In rupibus marmoreis regionis alpinae m. Athûs alt. 5250'–6438', ubi sparsim crescit in consortio *E. Apios* et *Myrsinitidis*!

Type (seen by Aldén 1981 according to note on the specimen): The above collection, Grisebach no. 653 (GOET!).

This is a high-altitude form of *E. deflexa* with cuneate leaf bases. Similar forms occur elsewhere and there is apparently continuous variation; Grisebach actually reported the typical variety of *E. deflexa* from near sea level in the vicinity of Agios Pavlos on the Athos peninsula (leg. Friedrichsthal). The species is probably endemic to Greece, occurring from Sterea Ellas and Evvia to northern Pindhos, Mt Vermio and Samothraki, with an isolated locality in the Dikti mountains of eastern Crete.

*Euphorbia falcata* L. var. *falciformis* Griseb., Spicil. 1: 139 (1843).

In Bithynia pr. Bolu (Pest.).

Radcliffe-Smith (in Davis 1982: 608) listed this variety as a synonym of *E. falcata* subsp. *falcata* var. *falcata*. The species is widespread in the Mediterranean area and Anatolia.

*Euphorbia oblongata* Griseb., Spicil. 1: 136 (1843).

In peninsula Hajion-Oros: in umbrosis fruticum sempervirentium pr. Pandocroras sparsim alt. 0'–1200' (substr. micasch.)!

Type (cf. Radcliffe-Smith in Davis 1982: 587): The above collection (GOET!; isotypes at B and K).

Scattered in the south-eastern Balkan Peninsula and north-western Turkey.

*Euphorbia thrysiflora* Griseb., Spicil. 1: 143 (1843).

Solitariae crescit in campis Tekirdagh et Tschatal-tepé distr. Chersonesi thracici alt. 600'–1000'; sparse ad margines fruticetorum inter Malgara et Ainadgik [Inecik] pr. Rusköi [Keşan], et rarissime in arborum vesuris supra Enos e longinquo conspicua!

Lectotype: Grisebach no. 286 (GOET!); locality illegible, but evidently collected in European Turkey. A specimen at G-BOIS! labelled "Thracia. Turquie d'Europe. Grisebach 1842" is probably an isotype.

The type specimen matches *E. agraria* M. Bieb., a species described from the Crimea and scattered from south-eastern Europe to the Caucasus.

## *Fabaceae (Leguminosae)*

*Adenocarpus graecus* Griseb., Spicil. 1: 10 (1843).

In form. frutic. sempervirentium penins. Hajion-Oros alt. 0'–1200': infrequens inter Pandocroras et Caraes (substr. micasch.)!, ad portum coenobii Xeropotamos (Friedr.).

Lectotype: Grisebach's collection from the vicinity of Karaes (GOET!).

This is a slender, medium-sized shrub belonging to the complex of *A. complicatus* (L.) Gay in Durieu which is widespread but scattered in the Mediterranean area from Portugal to southern Anatolia; it is doubtful whether *A. graecus* is specifically distinct from the western Mediterranean *A. complicatus* (cf. Castroviejo 1999: 192–193). Distribution in Greece is restricted to the North Aegean region, from central Evvia and Ikaria to Chalkidiki and the Kavala area; there are several collections from the Athos peninsula.

*Astragalus angustifolius* Lam. var. *bracteatus* Griseb., Spicil. 1: 57 (1843).

In rupestribus apricis regionis montanae m. Athûs alt. 4500' copiose (substr. marmor.)!

Type: "Pr. Panagia Ath. freq.", Grisebach no. 611 (GOET!, iso- G-BOIS!).

This is one of several local variants of the widespread *A. angustifolius*. Hayek (1926: 790) included it in subsp. *pungens* (Willd.) Hayek, but this seems to merge into subsp. *angustifolius* (cf. Strid 1986: 469). The species has been collected repeatedly on Mt Athos at altitudes between c. 1400 and 1900 m.

*Astragalus chlorocarpus* Griseb., Spicil. 1: 50 (1843).

In Macedonia boreali ad viam inter Komanova [Kumanovo] et Strazin [Stracin] (substr. trachyt.) (Friedr.); in Thracia boreali prope Philippopolin [Plovdiv] (Friv.) et in campis Haemo vicinis sec. Sibth.

Lectotype: Frivaldszky's collection from the vicinity of Plovdiv in southern Bulgaria (GOET!, iso- G-BOIS!).

This is generally believed to be a variety or synonym of the polymorphic *A. onobrychis* L., differing only in the narrow leaves (cf. Chamberlain & Matthews in Davis 1970: 211, Strid 1986: 471). Examination of the type specimen confirms this view.

*Astragalus depressus* L. var. *ioleucus* Griseb., Spicil. 1: 61 (1843).

In summo cacumine m. Athûs copiose in saxis marmoreis alt. 6400'!

Type: The above collection (GOET!, iso- G-BOIS!).

Said to differ from typical *A. depressus* in the purplish corolla and somewhat sericeous leaflets. Similar plants occur elsewhere, and the variant is scarcely worthy of taxonomic recognition.

*Astragalus hamosus* L. var. *multiflorus* Griseb., Spicil. 1: 53 (1843).

In Haemo (Friv.) et in agro Byzantino sec. Schubert.

Type: The above collection by Frivaldszky (GOET!, iso- G-BOIS!).

Apparently a minor variant of the widespread Mediterranean annual *A. hamosus*, characterized by lax, up to 12-flowered racemes.

*Astragalus leucocyaneus* Griseb., Spicil. 1: 50 (1843).

In Bithynia pr. Modurlu (Pestal.).

Type: The above collection (GOET!, iso- G-BOIS!).

This is a synonym of *A. lydius* Boiss. which was published 1–2 months earlier and based on syntypes from western Anatolia. It is a Turkish endemic, extending as far as A4 Ankara and C5 Adana.

*Astragalus mesopterus* Griseb., Spicil. 1: 49 (1843).

In campis regionis calidae Thraciae et Macedoniae alt. 0–1200': gregarie in collibus lapidosis pr. Rusköi [Keşan] (substr. sax. aren.), in planitie litorali Kalameria dicta inter Galatzist. et Salonichi!

Lectotype: Grisebach no. 299 (GOET!) with an illegible label, probably collected near Rusköi. At G-BOIS! and K! are Grisebach specimens, apparently isotypes, labelled only "Thracia".

The identity of this taxon is uncertain. Chater (1968: 120) recognized it as a species endemic to north-eastern Greece and Turkey-in-Europe, whereas Chamberlain & Matthews (in Davis 1970: 196), having examined the non-fruiting syntype from Rusköi (K), concluded that it may be conspecific with *A. ornithopodioides* Lam. It also resembles the widespread and variable *A. onobrychis* L., but has a laxer inflorescence. Fruiting material would be needed for definitive identification.

*Astragalus sericophyllus* Griseb., Spicil. 1: 52 (1843).

In regione montana Macedoniae occidentalis: in m. Nidgé, cum Junipero Oxycedro alt. 2650'–3000' (substr. marmor.); inter Trojaz-chan [Trojaci] et Perlepe [Pri!ep] (substr. calc.) (Friedr.).

Lectotype (Strid 1986: 475): Grisebach's collection from Nidgé [foothills of Piperitsa] in north central Greece (GOET!, iso- G-BOIS!, K!).

This species is scattered on rocky limestone hills in the central Balkan Peninsula. A closely related species, *A. mayeri* Micevski (1970), has a partly overlapping distribution (from Sterea Ellas to south-western Makedonija) and differs mainly in the zebra-striped fruits.

*Astragalus subulatus* M. Bieb. var. *strictus* Griseb., Spicil. 1: 52 (1843).

In pascuis pr. Ueskueb [Skopje] Macedoniae borealis alt. 600' (substr. tert.) (Friedr.); in Thracia boreali pr. Stanimak [Stanimaka] (Friv.).

Lectotype: "Rumelia". Frivaldszky (G-BOIS!).

This is apparently a synonym of *A. pugniferus* Fischer, a species of the central Balkan Peninsula (recently discovered in northern Greece) which is doubtfully distinct from the west Anatolian *A. gladiatus* Boiss.

*Astragalus thracicus* Griseb., Spicil. 1: 55 (1843).

In campis Thraciae litoralis crescit socialis viatoremque comitatur a Propontide, ubi primum vidi pr. Silivria (Heracleae vet.), usque ad planitiem Dorisci [Dedeğaç or Alexandroupolis] pr. Enos alt. 0'–600' (substr. argillosch. arenar. calcar.), nunc in apricis fruticeta humilia formans nunc sub umbra Quercuum frutescentium parum occultus: c. c. pr. Rusköi [Keşan], Rodosto [Tekirdağ] etc.; in penins. Hajion-Oros (Friedr. Friv.) atque frequens in collibus pr. Salonichi sec. d'Urv.

Lectotype (Strid 1986: 466): "Prope Salonichi", Friedrichsthal (GOET!).

A spiny, cushion-forming dwarf shrub belonging to the group of astragali sometimes referred to the genus *Astracantha*. According to Reer & Podlech (1986), *Astracantha thracica* (Griseb.) Podl. can be divided into five subspecies ranging from southern Italy to north-western Turkey with several closely related species in Anatolia. As lectotypified above, *A. thracica* subsp. *thracica* is a lowland race restricted to north-eastern Greece and Makedonija, possibly extending to southern Bulgaria and north-western Turkey. Plants from Mt Athos, which grow at an altitude of 1200–2000 m, have been described as *Astragalus monachorum* Širj., and have later been reduced to subspecies rank as *Astragalus thracicus* subsp. *monachorum* (Širj.) Strid or *Astracantha thracica* subsp. *monachorum* (Širj.) Greuter. Two other subspecies occur in the mountains of Sterea Ellas and northern Peloponnisos, respectively.

*Coronilla varia* L. var. *pauciflora* Griseb., Spicil. 1: 62 (1843).

In pratis montanis Orbeli borealis sive Rilo-Dagh alt. 3090' (substr. granit.) (Friedr.).

This is a high-altitude variety of the widespread *C. varia*, differing in the 4- to 6-paired leaflets and 3- to 6-flowered umbels. It was retained at variety level by Boissier (1872: 182), Hayek (1926: 919) and Kožuharov (in Jordanov 1976: 222).

*Ebenus stipulacea* Griseb., Spicil. 1: 12 (1843).

In obs. after the generic description of *Ebenus*: "Comparari speciem ineditam in Mesopotamia lectam (*E. stipulaceam*): caule herbaceo villosa, capitulo terminali subrotundo, stipulis connatis ad medium multifidis".

The identity of this taxon is not clear. Boissier (1872: 556) listed it as a synonym of *E. montbretii* Jaub. et Spach, described in the same year. According to Flora of Turkey (3: 495, 1970) the latter is a synonym of *E. laguroides* Boiss. also described in 1843. The names were not mentioned in Flora Iranica.

*Genista carinalis* Griseb., Spicil. 1: 3 (1843).

Copiose in form. frutic. sempervirent. Pteridisque Macedoniae et Thraciae alt. 0'–1200': in penins. Hajion-Oros pr. St. Lavra (substr. micaschist.)!, in regione media mont. Cortasch [Chortiatiss] pr. Salonichi (Friedr. Friv.), in montosis circa Bosporum sec. Buxb.

Lectotype (Strid 1986: 456): Grisebach's collection from Agion Oros (GOET!; iso- G-BOIS!, K!).

This is a distinctive species, endemic to the eastern part of the Balkan Peninsula and western Turkey. In Greece it is fairly common in the north and north-east, east of the Pindhos and southwards to Mt Pilio, generally in woodland clearings and dry open scrub between c. 300 and 1400 m.

*Genista procumbens* Waldst. et Kit. ex Willd. var. *hirsuta* Griseb., Spicil. 1: 2 (1843).

In regione inferiori mont. Peklen Bertisci pr. Ipek [Peć] Albaniae borealis inter rupes calcareas (Friedr.).

Type: The above collection (GOET!).

This taxon belongs to a taxonomically difficult group, and its identity is not quite clear. Hayek (1926: 896) listed it as a synonym of *Cytisus decumbens* (Durande) Spach, but according to Strid (1986: 447) it is probably conspecific with *Cytisus agnipilus* Velen. which would fit the patent-villous leaves and legumes.

*Lathyrus latifolius* L. var. *elongatus* Griseb., Spicil. 1: 71 (1843).

Inter frutices sempervirides pr. Modania [Mudanya] raro ad sinum maris marmorei (substr. calc.)!; ad ripas Bospori sec. Sibth.

This variety is probably referable to *L. sylvestris* L. which is known to occur in the Istanbul area (cf. Davis 1970: 351).

*Onobrychis megalophylla* Griseb., Spicil. 1: 68 (1843).

In Macedonia boreali inter Istib [Stobi] et Kaffadar [Kavadarci], alt. 600' (substr. molass. tert.) (Friedr.).

Type: The above collection (GOET!; isotypes at G-BOIS! [fragment] and K; see also Rechinger 1973: 130).

Hedge (1970: 586) and Greuter, Burdet & Long (1989: 152) listed this as a synonym of *O. hypargyrea* Boiss., Diagn. Pl. Or. Nov. ser. 1, 2: 91 (1843) which was described from western Anatolia and apparently published 1–2 months earlier. Two closely related taxa have recently been described from Greece, viz. *O. aliacmonia* Rech. fil. from the Aliakmon river valley in north central Greece only c. 110 km S of the type locality for *O. megalophylla*, and *O. aliacmonia* subsp. *peloponnesiaca* Iatrou et Kit Tan from southern Peloponnisos, the latter subsequently raised to species level as *O. peloponnesiaca* (Iatrou et Kit Tan) Iatrou et Kit Tan (see Kit Tan & Iatrou 1996 and in Willdenowia 29: 59, 1999). The type of *O. megalophylla* is rather different from *O. aliacmonia*, being less pubescent throughout and having larger fruits with spiny-dentate margins. In fruit characters it thus resembles, rather surprisingly, *O. peloponnesiaca*, whereas the fruits of *O. aliacmonia* are more similar to those of *O. hypargyrea*. *O. megalophylla* has subsequently been collected several times in the steppe region of central Makedonija between Veles and Kavaradci (Stevanović, pers. comm.). There are small but presumably constant differences between the four disjunct taxa which for the time being are best retained at species level, the alternative being to lump them all into one variable species.

*Onobrychis sativa* Lam. var. *scardica* Griseb., Spicil. 1: 65 (1843).

In regione alpina Scardi: sparse in m. Ljubatrin alt. 5000'–6200' et in m. Kobelitz alt. 4200'–4670' (substr. micasc.).

Lectotype: "Sparse in fl. alp. Ljubatrin", Grisebach no. 918 (GOET!, iso- K!).

Ball (1968: 42) recombined this name as *O. montana* DC. subsp. *scardica* (Griseb.) P. W. Ball. It is a taxon of montane and subalpine pastures in the central and southern Balkan Peninsula (cf. Strid 1986: 536), possibly extending to the Dinaric Alps.

*Orobis Friedrichsthalii* Griseb., Spicil. 2: 498 (1846).

This is a new name for the taxon appearing in Spicil. 1: 74 (1843) as *O. Jordani* Ten.: "... nam nostram plantam ab *O. Jordani* differre, docent nunc specimina authentica Gasparriniana. Potius noster accedit ad *O. alpestrum* Kit."

In Orbelo boreali: in regione media m. Rilo prov. Kostendil [Kjustendil or Djusendil in western Bulgaria] (substr. granit.) (Friedr.).

Type: The above collection, Friedrichsthal no. 568 (GOET!, iso- G-BOIS!).

A taxon of the central Balkan Peninsula, now recombined as *Lathyrus alpestris* (Waldst. et Kit.) Čelak. subsp. *friedrichsthalii* (Griseb.) K. Malý in Ascherson et Graebner.

*Orobis hirsutus* L. var. *glabratus* Griseb., Spicil. 1: 76 (1843).

In declivitate Haemi meridionali pr. Slivno (Friv.).

Apparently a form of *Lathyrus laxiflorus* (Desf.) O. Kuntze, a woodland species occurring from southern Italy through the Balkans and Anatolia to the Caucasus and north-western Iran.

*Syspone* Griseb., Spicil. 1: 5 (1843).

A synonym of *Chamaespartium* Adanson, a small genus often included in *Genista* L. The only Balkan species is *Ch. sagittale* (L.) P. Gibbs [= *Genista sagittalis* L., *Syspone sagittalis* (L.) Griseb.] which Grisebach reported from Mt Peristeri near Bitola.

*Tetragonolobus aduncus* Griseb., Spicil. 1: 46 (1843).

In pratis maritimis insulae Tassos pr. Casavi sparse!

Type: The above collection (GOET!, iso- G-BOIS!).

This species, now recombined as *Lotus aduncus* (Griseb.) Nyman, Syll. Fl. Eur.: 298 (1855), is rather common on Thasos and has been considered as a local endemic, distinguished principally on its purplish-red flowers (cf. Drossos 1995); however, it is scarcely different from red-flowered Turkish plants of *L. gebelia* Vent.



*Tetragonolobus aegaeus* Griseb., Spicil. 1: 45 (1843).

Socialis in litori arenoso Thraciae pr. Makri, oppidum insula Samothrake oppositum!; in vineis pr. Salonichi (Friedr.), in Macedonia (Friv.).

Lectotype: Grisebach's collection (no. 434) from the vicinity of Makri (GOET!, iso- G-BOIS!). At G-BOIS! and K! are syntypes labelled "Macedonia Fr[ivaldszky]".

A conspicuous species with large, yellow flowers, now recombined as *Lotus aegaeus* (Griseb.) Boiss., Fl. Or. 2: 167 (1872). It is fairly common in north-eastern Greece and extends from here through Anatolia to Syria and northern Iraq where it is doubtfully distinct from the variable *L. gebelia* Vent.

*Trifolium alpestre* L. var. *incanum* Cesati in Griseb., Spicil. 1: 25 (1843).

In rupestribus inter Palanka [Kriva Palanka in north-eastern Makedonija] et Kostendil [Kjustendil or Djustendil in western Bulgaria] alt. 2960' (substr. trachyt.) (Friedr.).

Type: The above collection (GOET!).

Listed by Hayek (1926: 873) as a minor variant of *T. pratense* var. *lanigerum* Ser. in DC., and not mentioned by Zohary & Heller (1984: 397 ff.).

*Trifolium cryptoscias* Griseb., Spicil. 1: 30 (1843).

In regione sempervirente peninsulae Hajion-Oros alt. 0'–2300': copiose in rupibus inter frutices pr. Iviron, raro in terra arida pr. Caraes (substr. micasc.)!

Lectotype: Grisebach's collection (no. 542) from the vicinity of Karaes (GOET!, iso- G-BOIS!, K!).

This is a local variant of the polymorphic *T. uniflorum* L., characterized by small leaves, subglabrous inflorescence and pedicels, short calyx with teeth separated by rounded incisions, and whitish calyx and corolla (cf. Vierhapper 1919: 203); Hayek (1926: 856) recognized it as one of five varieties of *T. uniflorum*, an eastern Mediterranean species common in the Aegean area.

*Trifolium fulcratum* Griseb., Spicil. 1: 26 (1843).

In regione montana Macedoniae et Albaniae ad fines Bosniae: in fagetis m. Nidgé pr. Vodena [Edessa] alt. 3000'–4400' copiose (substr. marmor.); in montibus Metallitza inter Novibazar [Novi Pazar] et Ipek [Peć] 3000' fere altis (substr. argilloschist. saxis calcareis intersperso) (Friedr.). [first mentioned, as rom. nud., in Reise 2: 165, footnote].

Lectotype: "Copiose in fagetis Nidgé", Grisebach no. 731 (GOET!, iso- G-BOIS!, K!).

This is a synonym of *T. pignattii* Fauché et Chaub. in Bory, a Balkan endemic described from mountains of northern Peloponnisos. It is a woodland species, fairly widespread on the Greek mainland and extending southwards to Mt Taigetos, but not reaching any of the islands.

*Trifolium hybridum* L. var. *pingue* Griseb., Spicil. 1: 28 (1843).

In Haemo (Friv.).

Type: The above collection (GOET!).

This is a variant with fistulous stem, large subulate stipules and relatively long pedicels, probably to be included in *T. hybridum* subsp. *hybridum* (cf. Kožuharov in Jordanov 1976: 240).

*Trifolium nidificum* Griseb., Spicil. 1: 32 (1843).

In regione litorali Thraciae: in pascuo arenoso-lapidoso ad ostium Maritzae [Evros] pr. Enos solitarie, ibidemque in campo Trifoliorum frequens solo humoso-lutoso (substr. conglom.)!

Type: The above collection, Grisebach no. 411 (GOET!, iso- G-BOIS!).

Retained as a separate species by Boissier (1872: 133). *T. nidificum* is now generally listed as a synonym of *T. globosum* L. (*T. radiosum* Wahlenb.), an annual with globose flower heads appearing fuzzy from numerous sterile calyces and occurring in dry or seasonally damp grassland at low altitudes in the Aegean area, southern Bulgaria and western and southern Turkey eastwards to C6 Hatay. The Linnaean type of *T. globosum* is said to come from the vicinity of Montpellier in southern France, however, and its identity should be checked.

*Trifolium pratense* L. var. *brevialatum* Griseb., Spicil. 1: 25 (1843).

In rupestribus regionis supremæ m. Cortasch [Chortiatis] pr. Salonichi (Friedr.).

According to Hayek (1926: 869) this is a minor variant of the widespread and polymorphic *T. pratense*; it was not cited by Zohary & Heller (1984: 357 ff.), and the precise identity is not clear.

*Trifolium pratense* L. var. *pilosum* Griseb., Spicil. 1: 25 (1843).

Frequens in pratis subalpinis Scardi: in m. Kobelitz pr. Kalkandele [Tetovo] alt. 2800'–4670' (substr. micasch.)!

As above.

*Trifolium procumbens* L. var. *erythranthum* Griseb., Spicil. 1: 36 (1843).

In pratis pr. Rusköi [Keşan] Thraciæ sparse in consortio *Tr. leucanthi* et *Gussoni* (substr. sax. aren.)!

Type: The above collection (GOET!).

The ambiguous Linnaean name *T. procumbens* is usually regarded as a synonym of *T. campestre* Schreber. Zohary & Heller (1984: 340) listed *T. procumbens* var. *erythranthum* as a synonym of *T. campestre* var. *lagrangei* (Boiss.) Zohary (= *T. lagrangei* Boiss., Fl. Or. 2: 154, 1872), although *erythranthum* would be the older epithet at variety level.

*Trifolium procumbens* L. var. *pauciflorum* Griseb., Spicil. 1: 36 (1843).

A nostra vero non recedit icon *Tr. brutii* Ten. nap. t. 177 f. 2. Sparse in graminosis ins. Chalki! sociale cum *Tr. scabro* et  $\alpha$  [var. *campestre* Schreb.].

According to Zohary in Davis (1970: 400) this is a synonym of *T. mesogitanum* Boiss., which Zohary & Heller (1984: 324) reduced to synonymy of *T. brutium* Ten. The name Chalki refers to one of the Princes islands near Istanbul.

*Trifolium stellatum* L. var. *longiflorum* Griseb., Spicil. 1: 19 (1843).

In regione semperviridi Bithyniæ et Thraciæ alt. 0–1200': copiose in campis siccis pr. Modania [Mudanya], in pascuis pr. Cartal, in pratis maritimis pr. Hersek; frequens in pratis campisque lapidosis collium pr. Rusköi [Keşan] et in campo summi m. Tschatal-tepé pr. Enos (substr. vario)!, in declivitate boreali Orbeli pr. Carlova [Karlovo] (Friv.); pr. Byzantium sec. Sibth.

Lectotype: A Grisebach collection (no. 108, GOET!) with an illegible label, apparently collected in Turkish Thræce.

Zohary & Heller (1984: 402) retained this taxon as a variety of the common and widespread *T. stellatum*, but made no lectotypification. It is apparently scattered in the distribution area of the species and is said to be distinguished by the patent pubescence and pink corolla somewhat longer than the calyx.

*Trifolium vesiculosum* Savi var. *rumelicum* Griseb., Spicil. 1: 35 (1843).

In regione montana Scardi et in Moesia: raro in pratis promontorii Ljubatrin pr. Staresel [Staro Selo] alt. 2500'–2850' isohyps. cum *Quercus apennina* (substr. calc.)!; in Rumelia orientali (Friv.); pr. Ineada Bulgariæ in nemoribus sec. d'Urv.

Lectotype (Zohary & Heller 1984: 276): Frivaldszky's specimen from "Rumelia orientalis" (GOET; iso- G-BOIS!, K!).

Boissier (1872: 139) listed Grisebach's variety as a synonym of *T. multistriatum* Koch. It was raised to species level by Halácsy (1900: 399), but retained as a variety of *T. vesiculosum* by Zohary in Davis (1970: 407) and Zohary & Heller (1984: 276). *T. vesiculosum* occurs in Italy, south-eastern Europe and western Anatolia; var. *rumelicum* tends to have a more southerly distribution than the typical variety and differs in the less inflated fruiting calyx with less prominent transverse veins.

*Trigonella biflora* Griseb., Spicil. 1: 41 (1843).

In Bithynia pr. Modurlu (Pestalozza).

Type: The above collection (GOET!, iso- G-BOIS!).

Huber-Morath in Davis (1970: 459) listed this as a synonym of *T. lunata* Boiss., Diagn. ser. 1, 2: 19 (1843). Boissier's name was apparently published 1–2 months earlier and thus has priority. However, when transferred to the genus *Medicago* (Small 1987), the correct name of the species becomes *M. biflora* (Griseb.) E. Small, since

*M. lunata* would be a later homonym of *M. lunata* Reichenb. (1832). It is an Irano-Turanian species with the western limit of its distribution in western Anatolia.

*Trigonella torulosa* Griseb., Spicil. 1: 40 (1843).

In Bithynia pr. Modurlu (Pestaloza).

Type: The above collection (GOET!, iso- G-BOIS! [fragment]).

This was similarly listed as a synonym of *T. spruneriana* Boiss., which is based on several syntypes from Greece and Anatolia. It is an Eastern Mediterranean species extending from Greece (Attiki, Evvia) to Anatolia, Cyprus, Syria and further into the Irano-Turanian region.

*Vicia grandiflora* Scop. var. *phaeosemia* Griseb., Spicil. 1: 78 (1843).

Pr. Panajia ins. Tassos et pr. Karaes penins. Hajion-Oros inter frutices (substr. calc. et micasch.)!

Lectotype: The specimen from Thasos, Grisebach no. 453 (GOET!).

*V. grandiflora* is a variable species extending from central and south-eastern Europe through Anatolia to northern Iran and Afghanistan. Kuzmanov (in Jordanov 1976: 476) recognized four varieties, including var. *phaeosemia*, in Bulgaria alone; cf. also discussion on variation by Davis & Plitmann (in Davis 1970: 316).

*Vicia tenuifolia* Roth var. *laxiflora* Griseb., Spicil. 1: 82 (1843).

In Thraciae et Macedoniae litoralis fruticetis alt. 0'–2400' frequens: e. c. in collibus pr. Enos, in litore pr. Maragona, in ins. Tassos et in peninsula Hajion-Oros (substr. var.)!

Lectotype: Grisebach's specimen from Thasos (no. 423, GOET!).

This is a taxon in the widespread and polymorphic *V. cracca* complex. *V. tenuifolia* subsp. *stenophylla* Velen. was based on syntypes of *V. tenuifolia* var. *laxiflora* (at K). The specimen from Thasos has narrowly linear leaflets only c. 1 mm wide; it matches *V. tenuifolia* subsp. *dalmatica* (A. Kerner) Greuter, which is fairly widespread in northern Greece and has been recollected several times on the island of Thasos.

*Vicia villosa* Roth var. *australis* Griseb., Spicil. 1: 82 (1843).

In dumetis Haemi sec. Sibth.

This was based on the illustration in Sibthorp & Smith (1832: tab. 699) which shows a plant with pale lilac-and-whitish corolla and relatively narrow legume. *V. villosa* is a widespread and very polymorphic species; the precise identity of Grisebach's variety is not clear.

## Geraniaceae

*Geranium columbinum* L. var. *holopetalum* Griseb., Spicil. 1: 123 (1843).

In Thracia: in collibus pr. Rusköi [Keşan] alt. 8–900' frequens in campis rupestribus (substr. sax. arenar.)!

Said to differ from the typical variety of this widespread European-Anatolian species in the entire, obtuse petals.

*Geranium dissectum* L. var. *byzantinum* Griseb., Spicil. 1: 123 (1843).

In Bithynia: in scaturiginosis ins. Principio sociale et in arenosis maritimis pr. Hersek sparse!

Said to differ from the German variety of this widespread species in the lack of glands on peduncles and calyx, and the long-mucronate sepals.

*Geranium Freyeri* Griseb., Spicil. 1: 126 (1843).

In sylvis montanis Macedoniae australis alt. 1200'–2300' cum Geo urbano consociatum: in castanetis pr. Karaes penins. Hajion-Oros frequens et in quercetis m. Cholomonda Chalcidicis sparse (substr. micasch.)!

Apparently a synonym of *G. versicolor* L. (= *G. nodosum* auct., non L.), a species of deciduous woods occurring in the Balkan Peninsula and Italy. A specimen at GOET is annotated "*G. Freyeri* m.", but was apparently collected elsewhere ("in m. Kromberg, Aug. 1839"); it matches *G. versicolor*.

## Globulariaceae

### *Globularia vulgaris* L. var. *bithynica* Griseb., Spicil. 2: 294 (1846).

In regione calida Bithyniae alt. 0'–1200': frequens in campis pr. Cartal, in fruticetis versus Dilbaschi, etc. (substr. alluv.)!

Probably a synonym of *G. bisnagarica* L. = *G. aphyllanthes* auct. non Crantz (cf. Milletti & Strid in Strid & Kit Tan 1991: 257).

## Hypericaceae

### *Hypericum barbatum* Jacq. var. *adscendens* Griseb., Spicil. 1: 225 (1843).

In montibus Macedoniae et in Albania boreali: sparsim in herbosis apricis m. Nidgé alt. 2650'–3000' (substr. marmor.)!; in arenosis pr. Ipek [Peč] alt. 1100' (substr. alluv.) (Friedr.).

Lectotype: Grisebach's specimen from Nidgé (G-BOIS!).

According to Robson & Strid (in Strid 1986: 605–606) this is referable to *H. rumeliacum* subsp. *rumeliacum*. *H. rumeliacum* is a Balkan endemic with subsp. *rumeliacum* occurring throughout most of the range of the species and subsp. *apollinis* (Boiss. et Heldr.) Robson et Strid in the chain of mountains from Sterea Ellas to southern Albania. Plants recognized as *H. barbatum* var. *adscendens* or *H. aucheri* Jaub. et Spach var. *punctatofimbriatum* Rech. fil. have unusually long and slender sepal fimbriae tipped with small black glands, maybe a result of introgression from *H. barbatum* which occurs in the same area.

A similar plant collected by Grisebach in Makedonija was described by Boissier (1867: 815) as *H. grisebachii* (type: "inter Kalkandele et Prisdren", G-BOIS!). It has later been recombined as *H. richeri* Vill. subsp. *grisebachii* (Boiss.) Nyman.

### *Hypericum montanum* L. var. *athoum* Griseb., Spicil. 1: 224 (1843).

In peninsula Hajion-Oros: in umbrosis supra Karaes alt. 3000'!

Type: The above collection (GOET!).

The specimen is fragmentary, but apparently referable to *H. montbretii* Spach, a species occurring in the eastern Balkan Peninsula and western half of Turkey (cf. Rechinger 1943: 265, Robson in Davis 1967: 389); in Greece it is restricted to the north-east, approximately east of 22°E and north of 39°N, and fairly common in this area. Boissier (1867: 814) recombined Grisebach's variety as *H. montbretii* var. *athoum*; it was said to differ from the typical variety in quantitative characters of the leaves and petals and is scarcely worthy of taxonomic status. It should not be confused with *H. athoum* Boiss. et Orph., a small procumbent plant restricted to Mt Athos, Pangeo, Thasos and Samothraki where it grows in shady rock crevices.

### *Hypericum thasium* Griseb., Spicil. 1: 227 (1843).

In insula Tassos (Thasos vet.): frequens inter frutices pr. Panajia alt. 0'–200' locis apricioribus, ubi consociatum viget cum *H. perfoliato* et *perforato* (substr. calcar.)!; ad Hellespontum ex syn. Forsk.

Type: The above collection from Thasos, Grisebach no. 460 (?) (GOET!, iso- G-BOIS!).

A characteristic species with 5 styles, growing in damp meadows, usually at low altitude, in a small area of north-eastern Greece, southern Bulgaria and (probably) Turkey-in Europe. The occurrence on Thasos has been confirmed by several subsequent collections.

### *Hypericum trachyphyllum* Griseb., Spicil. 1: 222 (1843).

In Bithynia pr. Modurlu (Pestal.).

Type: The above collection (GOET!).

Robson (in Davis 1967: 398) listed this as a synonym of *H. aviculariifolium* Jaub. et Spach subsp. *byzantinum* (Azn.) Robson; as defined here *H. aviculariifolium* is a very polymorphic species occurring throughout the western half of Turkey; subsp. *byzantinum* is restricted to the north-west.

### *Hypericum vesiculosum* Griseb., Spicil. 1: 226 (1843).

In m. Athô: gregarie in sylvae mixtae scaturiginosis pr. Kellaeon Kerasia dictum unico loco alt. 2100' (substr. marmor.)! Capsuliferam autumnno leg. Friedr.

Lectotype: Grisebach's collection from Kerasia (no. 572, GOET!; iso- G-BOIS!).

A characteristic species scattered from Taigetos to Olimbos, Athos and Samothraki and also reported from Gelibolu in north-western Turkey; usually a rather tall erect woodland plant, occasionally (on Taigetos) represented by a smaller high-altitude ecotype.

## *Iridaceae*

*Crocus hybernus* Friv. in Griseb., Spicil. 2: 374 (1846).

In Thracia: pr. Philippopolin [Plovdiv] versus Carlova [Karlovo] (Friv.).

A synonym of *C. pallasii* Goldb. subsp. *pallasii*, an autumn-flowering taxon occurring from southern Serbia and northern Makedonija through Anatolia to the Crimea, Lebanon and Israel (cf. Mathew 1982: 54, Stevanović 1999: 189, 459).

## *Lamiaceae (Labiatae)*

*Acinus alpinus* Mch. var. *elator* Griseb., Spicil. 2: 122 (1844).

In regione subalpina Rhodopes borealis pr. Kalophir (Friv.), in m. Athone (Friedr.).

The specimen from Mt Athos probably represents *A. alpinus* subsp. *nomismophyllus* (Rech. fil.) Leblebeci.

*Betonica scardica* Griseb., Spicil. 2: 136 (1844).

In Scardo et Bertisco: frequens in fruticetis inferalpinis m. Ljubatrin alt. 3000'–4500' (substr. calcar.), raro in m. Peristeri!, pr. Ipek [Peć] (Friedr.).

Lectotype: Grisebach's collection (no. 874) from Mt Ljubatrin, labelled "Freq. in fruticetis reg. med. Tettovo" (GOET!); specimen at G-BOIS! and K! labelled "Scardus. Grisebach" are apparently isotypes.

A Balkan endemic often occurring on serpentine, southwards to Mt Timfristos in Sterea Ellas; now recombined as *Stachys scardica* (Griseb.) Hayek. Later in the same year (Diagn. ser. 1, 5: 27, Oct–Nov. 1844), Boissier & Spruner described a *Betonica graeca* from "montis Velugo Aetoliae" [Timfristos]; this is a different species, probably conspecific with *B. alopecurus* L. (*Stachys alopecurus* (L.) Bentham).

*Lamium garganicum* L. var. *glabratum* Griseb., Spicil. 2: 133 (1844).

In Bithynia: frequens in muris saxisque circa Brussam et in ipsa urbe juxta pontem!

Type: The above collection, Grisebach no. 180 (GOET!; iso- G-BOIS!, W).

Listed by Mennema (1989: 107) as a synonym of *L. garganicum* subsp. *garganicum*, a variable taxon of the central and eastern Mediterranean area.

*Lamium maculatum* L. var. *echinatum* Griseb., Spicil. 2: 134 (1844).

In Thracia, Macedonia alt. 0'–2500': inter frutices ins. Tassos pr. Panajia sparsim, copiose ad sepes pr. Karaes consociatum cum *L. striatum*.

Lectotype: Grisebach's collection from Thasos (no. 447, GOET!).

Listed by Mennema (1989: 82) as a synonym of *L. maculatum*, a widespread European species which was not taxonomically subdivided.

*Lamium moschatum* Mill. var. *pictum* Griseb., Spicil. 2: 133 (1844).

In m. Tschataltepé pr. Enos alt. 1200' inter frutices!

Type: The above collection, Grisebach no. 390 (GOET!, iso- G-BOIS!).

Listed by Mennema (1989: 88) as a synonym of *L. moschatum* subsp. *moschatum*, a lowland taxon of the Aegean area.

*Lamium striatum* Sibth. et Sm. var. *glabratum* Griseb., Spicil. 2: 133 (1844).

In peninsula Hajion-Oros alt. 0'–4500': copiose ad sepes pr. Karaes, sparsim in m. Athone pr. Panajia!

Lectotype: Grisebach's collection from the vicinity of Karaes, no. 557 (GOET!).

Listed by Mennema (1989: 112) as a synonym of *L. garganicum* substr. *striatum* (Sibth. et Sm.) Hayek, a taxon occurring from Italy and the Balkan Peninsula through Anatolia to north-western Iran.

*Salvia argentea* L. var. *macedonica* Griseb., Spicil. 2: 110 (1844).

In Macedonia (Friv.).

Type: The above collection (GOET!, iso- G-BOIS!).

Raised to species level by Haussknecht (1898: 34), who cited a number of distinguishing characters with respect to basal leaves and inflorescence, but retained as a variety by Hayek (1929: 308). Further studies are needed on the status of this taxon.

*Salvia Forsskalii* L. var. *bithynica* Griseb., Spicil. 2: 109 (1844).

In sylvis Bithyniae: pr. Bolu (Pest.), in umbrosis Olympi (post Sibthorpium Tirke).

Lectotype: Pestalozza's collection from the vicinity of Bolu (GOET!)

Raised to species level by Briquet & Post in Bull. Herb. Boissier 7: 158 (1899), but retained without taxonomic rank within the variable *S. forskahlei* by Hedge (in Davis 1982: 451).

*Salvia sylvestris* L. var. *tomentosa* Griseb., Spicil. 2: 112 (1844).

In Bithynia: pr. Bolu (Pest.).

Apparently a minor variant of *S. nemorosa* L.

*Sideritis scardica* Griseb., Spicil. 2: 144 (1844).

In Scardo: in pratis montanis m. Ljubatrin sparsim in angusta regione: alt. 3000' (substr. calcar.).

Type (Baden in Strid & Kit Tan 1991: 89): The above collection, Grisebach no. 887 (GOET!, iso- G-BOIS!, K!).

Endemic to the central Balkan Peninsula, southwards to Ossa and Pilio in east central Greece. *S. scardica* belongs to a group of perennial, slightly woody-based species of which the dried leaves and inflorescences are used for "mountain tea".

*Stachys germanica* L. var. *subalpina* Griseb., Spicil. 2: 137 (1844).

In Scardo australi: sparsim in fruticetis inferalpinis m. Peristeri alt. 3500'–4600' (substr. granit!)

Type: The above collection, Grisebach no. 778 (GOET!).

This was mentioned in Reise (2: 189, footnote) as *S. sericea* Benth.; it is apparently conspecific with *S. lymphaea* Hausskn.

*Stachys Iva* Griseb., Spicil. 2: 143 (1844).

In Macedonia occidentali: inter Perlepe [Prilep] et Trojaz-chan [Trojaci] alt. 1400' (substr. calcar.) (Friedr.).

Type: The above collection, Friedrichsthal no. 678 (GOET!).

A distinctive species of rocky limestone ridges at moderate altitudes, endemic to a small area in Makedonija and north central Greece.

*Stachys leucoglossa* Griseb., Spicil. 2: 140 (1844).

In peninsula Hajion-Oros alt. 0'–1200': e. c. gregarie in rupibus pr. Ivion, in m. Athone pr. Hajianna (substr. micasc. et marmor.).

Lectotype: A collection by Grisebach (no. 550) from the vicinity of Karaes on the Athos Peninsula (GOET!, iso- G-BOIS!, K!).

Endemic to a relatively small area in Makedonija, Bulgaria and north-eastern Greece; a member of the *S. recta* complex first mentioned in Reise (1: 272, footnote) as *S. arenaria* Vahl?

*Stachys patula* Griseb., Spicil. 2: 142 (1844).

In Macedonia boreali: rarius in rupibus calcareis inter Ueskueb [Skopje] et Kalkandele [Tetovo] alt. 800'. Colitur nunc in H. bot. Gotting.

Type: The above collection, Grisebach no. 853 (GOET!).

The identity of this taxon is uncertain; it is a member of the difficult *S. recta* complex, and was not mentioned in Med-Checklist.

*Stachys plumosa* Griseb., Spicil. 2: 139 (1844).

In Macedonia boreali: inter Komanova [Kumanovo] et Strazin [Stracin] (substr. trachyt.) (Friedr.).

Type: The above collection, Friedrichsthal no. 447 (GOET!).

A Balkan endemic, occurring southwards to the Pindhos. The species is variable and in need of further study.

*Teucrium Polium* L. var. *bithynicum* Griseb., Spicil. 2: 150 (1844).

In Bithynia: pr. Bolu (Pest.).

Type: The above collection (GOET!).

Apparently a minor variant of the widespread and variable *T. polium* (cf. Ekim in Davis 1982: 69).

*Thymus heterotrichus* Griseb., Spicil. 2: 116 (1844).

In m. Athone: sparsim gregarie in castanetis umbrosis pr. Kerasia alt. 1200'–3000' (substr. marm.)!

Type: The above collection, Grisebach no. 583 (GOET!).

A taxon of uncertain status, related to *Th. sibthorpii* Benthham and occurring in north-eastern Greece and Bulgaria.

*Thymus integer* Griseb., Spicil. 2: 116 (1844).

In obs. under *Th. heterotrichus* nov. sp.: “Characteribus nec vegetatione affinis est *Th. integer* m. (*Th. villosus* Fl. graec.: ab homonymo Linnæi lusitanico bracteis integris distinctus) calycis labio superiori breviter tridentato, dentibus ovatis, et corolla longiori dignoscendus”.

This plant was illustrated in Fl. Graeca (6: tab. 578, 1827) as *Th. villosus* L., but is clearly different from the Linnaean taxon with this name which was described from Portugal, hence the nom. nov. of Grisebach. The locality given in Fl. Graeca is “in Archipelagi insulis” [i. e., Aegean islands], apparently in error since the species is almost certainly an endemic of Cyprus (cf. Meikle 1985: 1270–71).

*Thymus zygoides* Griseb., Spicil. 2: 118 (1844).

In campis et pascuis Thraciae calidae vulgaris alt. 0'–1200': ita frequens inter Silivria et Rodosto [Tekirdağ] secus Propontidem, in Chersonesi oropedio Tekirdagh copiose, pr. Ainadgik [Inecik], Rusköi [Keşan] (substr. vario)!

Lectotype: Grisebach no. 316 (GOET!), label illegible, but specimen probably gathered in Turkish Thrace. A specimen at WU (Herb. Kerner) labelled “ad Rodosto” is apparently a syntype (Jalas 1971: 256), and so is a specimen at G-BOIS! labelled “Thracia. Turquie d'Europe. Grisebach 1842”.

A variable species occurring in the eastern Balkan peninsula and western half of Anatolia.

## *Lentibulariaceae*

*Pinguicula albanica* Griseb., Spicil. 2: 9 (1844).

In Albania boreali: in scaturiginosis muscosis distr. Ducagin pr. Chan X. sive Vlet alt. 2000' (substr. jasp.)!

Type: The above collection, Grisebach no. 1002 (?) (GOET!).

A synonym of *P. crystallina* Sibth. et Sm. subsp. *hirtiflora* (Ten.) Strid, cf. Strid (1991: 276). This is a taxon of wet rock faces, occurring in the Balkan Peninsula from Herzegovina and Montenegro southwards to northern Peloponnisos, and locally in southern Italy (see also Stevanović 1999: 374, 522).

## *Liliaceae* s. l.

*Allium erythraeum* Griseb., Spicil. 2: 396 (1846).

In Macedonia australi (Friv.): rarius in collibus micaschisticis herbosis pr. Salonichi!

Lectotype: Grisebach's collection from the vicinity of Thessaloniki, no. 764 (?) (GOET!); according to Brullo et al. (1994: 183) there are isotypes at BM and G-BOIS [the latter is a syntype, collected by Frivaldszky].



Haussknecht (1900: 30) examined Grisebach's type specimen (which had been sent on loan from Göttingen) and concluded that it is conspecific with *A. maritimum* Raf. from Sicily. Stearn (1978: 156) was of the same opinion, although using the older name *A. obtusiflorum* DC. in Redouté for the plant from Sicily. Recently, however, *A. erythraeum* Griseb. has been restored to species status by Brullo et al. (loc. cit.); it is apparently endemic to a small area in north-eastern Greece.

*Allium sphaerocephalum* L. var. *Hallerianum* Griseb., Spicil. 2: 394 (1846).

In Macedonia: sparsim in rupibus calcareis pr. Vodena [Edessa] alt. 6–1200'!

Probably referable to *A. sphaerocephalon* subsp. *sphaerocephalon* (cf. Bothmer 1972: 68).

*Allium trachyanthum* Griseb., Spicil. 2: 395 (1846).

In Bithynia: pr. Bolu (Pestal.).

The status of this taxon is uncertain (cf. Kollmann in Davis 1984: 210). Boissier (1884: 233) listed it as a synonym of *A. rotundum* L.

*Bellevalia caucasica* Griseb., Spicil. 2: 387 (1846).

In obs. under *B. Clusiana*: "... nostra valde accedit ad *B. caucasicam* (*Muscari pallens* Hohenack!) racemo laxifloro, perigonis coeruleis foliisque scapo superatis distinguendam, ...".

Type: "In montosis aridis Georgiae caucas.". Hohenacker, May 1831 (G-BOIS!).

Now recombined as *Muscari causicum* (Griseb.) Baker (cf. Davis & Stuart in Davis 1984: 251).

*Bellevalia Clusiana* Griseb., Spicil. 2: 387 (1846).

In regione calida Bithyniae: copiose in arvis Tritici litoralibus pr. Jevisa, solitarie in ericetis ins. Principio!

Lectotype (Wendelbo 1980, according to label on the sheet at GOET!): Grisebach's collection (no. 125) from the vicinity of Jevisa.

Listed as a synonym of *B. dubia* Guss. by Boissier (1884: 302), but recognized by Wendelbo (in Davis 1984: 268) as a Turkish endemic, occurring mainly in central Anatolia.

*Fritillaria montana* St. Hochst.! var. *gracilis* Griseb., Spicil. 2: 517 (1846).

In Albania boreali: in regione superiori m. Sutorman substr. calc. sec. Eb.

The locality is in Montenegro, above the south-western banks of the Skadar lake where there is submediterranean forest communities with *Ostrya carpinifolia*, *Carpinus orientalis*, etc. The *Fritillaria* has been recollected several times in this area and apparently represents a variety of *F. messanensis* Raf. (information courtesy of V. Stevanović).

*Lilium albanicum* Griseb., Spicil. 2: 385 (1846).

In regione alpina Scardi: rarissime in cacumine m. Kobelitz alt. 7000', ubi legi duo specimina (substr. micasch.)!

Type: The above collection, Grisebach no. 989 (GOET!).

An endemic of the western part of the Balkan Peninsula where it occurs in grassy meadows at subalpine and alpine levels; now sometimes regarded as a subspecies of the more widespread *L. carniolicum* Bernh. ex Koch.

*Ornithogalum prasandrum* Griseb., Spicil. 2: 390 (1846).

In Bithynia: rarissime in graminosis Olympi in regione Castaneae alt. 1500'!

Type: The above collection, Grisebach no. 183 (GOET!).

This name was overlooked by Cullen (in Davis 1984). The specimen is rather fragmentary but probably conspecific with *O. nutans* L.

*Veratrum album* L. var. *flavum* Griseb., Spicil. 2: 381 (1846).

In Scardo omni frequens: copiose in m. Peristeri alt. 5200'–6000' (substr. granit.), sparsim in pratis alpinis m. Kobelitz alt. 4200'–6000', unde cum rivulis descendit ad pagum Weitz [Veje] alt. 2800' (substr. micasch.), frequens in angusta regione m. Ljubatrin alt. 4360'–5000' (substr. calc.)!

Lectotype: The collection from Kobelitz, Grisebach no. 950 (GOET!).

In plants from the Balkan Peninsula the perianth segments are usually yellowish-green on both sides whereas typical *V. album* has perianth segments white above with greenish veins. Green-flowered plants have also been called *V. lobelianum* Bernh. The status of the two colour variants remains uncertain.

## Linaceae

*Linum decoloratum* Griseb., Spicil. 1: 117 (1843).

In Macedonia et Bithynia: sparse in umbrosis reg. Quercus Cerris pr. Vodena [Edessa] alt. 1500'–1700' (substr. micasc.).!; in herbidis Olympi Bith. sec. Sibth.

Lectotype: Grisebach's collection from the vicinity of Edessa, no. 708 (GOET!).

Conspecific with *L. hirsutum* L., a variable species occurring in much of eastern and south-eastern Europe and Anatolia. This should not to be confused with *L. hirsutum* sensu Sibth. et Sm. (Fl. Graeca tab. 302) which corresponds to *L. pubescens* Banks et Sol., a pink-flowered annual from southern and western Greece.

## Lythraceae

*Lythrum cinereum* Griseb., Spicil. 1: 110 (1843).

In Asia minori legit Donietti.

A synonym of *L. salicaria* L. (cf. Chamberlain in Davis 1972: 175).

## Malvaceae

*Lavatera thuringiaca* L. var. *villosa* Griseb., Spicil. 1: 157 (1843).

In Macedonia boreali: sparse in fruticetis distr. Tettovo alt. 850'–2850' (substr. alluv. et calc.).!

This variety seems to differ only in the somewhat denser indumentum on the underside of the leaves and is probably not taxonomically distinct.

*Malva sylvestris* L. var. *incanescens* Griseb., Spicil. 1: 160 (1843).

Frequentissime in campis Chersonesi alt. 0'–900' e. c. circa Rusköi [Kesan] socialissima planta (substr. sax. arenar.).!; in peninsula Hajion-Oros pr. Pandocratoras! et pr. Pavlu (Friedr.).

Lectotype: The specimen from "Khesan", Grisebach no. 287 (?) (GOET!).

One of many forms of this widespread weedy species.

*Malva sylvestris* L. var. *socialis* Griseb., Spicil. 1: 160 (1843).

Frequentissime in vastis pascuis Thraciae secus Propontidem inter Eski Heracli [Silivri] et Rodosto [Tekirdağ] (substr. argillosch.).!

Type: The above collection, Grisebach no. 280 (GOET!).

As above.

## Orchidaceae

*Gymnadenia Frivaldii* Hampe ex Griseb., Spicil. 2: 363 (1846).

In Rumelia (Friv.).

Type: The above collection (G-BOIS!).

This plant was first mentioned (without description) as *Gymnadenia Friwaldszkyana* in an article by Hampe in Flora (Regensburg) 20: 230 (1837). It is a rare species occurring in marshy places at upper montane to alpine levels in the central Balkan Peninsula; it is sometimes referred to the genus *Leucorchis* or *Pseudorchis*.

*Orchis leucostachya* Griseb., Spicil. 2: 359 (1846).

In m. Athone: rarissime in sylva Castaneae mixta locis umbrosis alt. 2000' (substr. marm.)!

Type: The above collection, Grisebach no. 568 (GOET!).

Apparently a synonym of *O. provincialis* Balbis, which is widespread in mountains of the Mediterranean area.

*Orchis saccifera* Brongn. var. *procera* Griseb., Spicil. 2: 361 (1846).

In scaturiginosis m. Athûs alt. 2000'–3000' raro gregarie et pr. Karaes!

Type: The above collection, Grisebach no. 587 (GOET!).

Apparently referable to *Dactylorhiza saccifera* (Brongn.) Soó; this species has not been subsequently reported from the Athos peninsula but is otherwise fairly widespread in northern Greece.

*Orobanchaceae**Orobanche Bartlingii* Griseb., Spicil. 2: 57 (1844).

Habitat in fruticetis Hassiae inferioris pr. Allndorf [Allendorf] auctore Bartl. (parasit. in Libanotide): quo loco consociata est cum *O. apiculata* Walldr. eaque similis est nec satis adhuc adumbrata, habitu potius ad *O. minorem* Sm. accedit, sed stigmatibus flavo facile dignoscitur.

Type: The above collection (GOET!).

Described in a footnote under *O. leucantha*. The locality is in Germany, and *O. Bartlingii* is probably conspecific with *O. alsatica* Kirschleger, a widespread central and eastern European species.

*Orobanche cruenta* Bert. var. *leiostemon* Griseb., Spicil. 2: 55 (1844).

In regione montana Macedoniae: copiose in format. Pteridis alt. 2400'–4600' in m. Peristeri pr. Bitola (parasit. in Thymo Serpyllo)! Leguminosam non ullam in illa format. effusam vidi, itaque forsitan mutata stirpe matrice filamenta pubem amittunt.

Type: The above collection, Grisebach no. 771 (?) (GOET!). A specimen at G-BOIS! labelled "Thracia. Turquie d'Europe. Grisebach 1842" may be an isotype.

First mentioned in Reise 2: 188 (1841), as *O. annulata* nov. sp. (nom. nud.). The identity of the taxon is uncertain; Boissier (1879: 509) listed it as a synonym of *O. epithymum* DC., but it may be conspecific with *O. alba* Stephan ex Willd. or *O. gracilis* Sibth. et Sm.

*Orobanche leucantha* Griseb., Spicil. 2: 57 (1844).

In peninsula Hajion-Oros: in castanetis umbrosis pr. Karaes alt. 2000' solitarie!

Type: The above collection, Grisebach no. 545 (GOET!).

Possibly conspecific with *O. reticulata* Wallr.; the type specimen is fragmentary.

*Phelipaea rufescens* Griseb., Spicil. 2: 59 (1844).

In litore Thraciae: copiose in arenosis pr. Kutschuk Tschekmedsche [Küçükçekmece] ad Propontidem (parasit. in Plantagine Lagopode)!

Type: The above collection (GOET!).

Probably a synonym of *Orobanche mutellii* F.W. Schultz.

*Pinaceae**Pinus peuce* Griseb., Spicil. 2: 349 (1846).

In Scardo australi: in m. Peristeri supra Bitoliam, ubi cum Oxycedro et Junipero ampla fruticeta eaque non raro conifera format alt. 2400'–5400', sylvam autem constituit truncis distantibus ad litem superiorem tortuosis valde interruptam alt. 5400'–5800' (substr. granit.)!

Lectotype (Christensen in Strid & Kit Tan 1997: 9): The above collection, Grisebach no. 836 (GOET! – fine specimen including a cone; iso- G-BOIS!).

This is a distinctive 5-needle pine endemic to mountains of the Balkan Peninsula, forming tall forest, e. g. on Mt Rila in Bulgaria, and extending just south of the border in north central and north east Greece. Well developed

and protected forests occur at locus classicus (Mt Pelister) as well as the northern slopes of Sar planina and in several places in the siliceous parts of Mt Prokletije in northern Albania (Stevanović, pers. comm.). The specific epithet is apparently derived from the general Greek name for pine (πεύκη).

## Plantaginaceae

*Plantago gentianoides* Sibth. et Sm. var. *scardica* Griseb., Spicil. 2: 303 (1846).

In regione alpina Scardi australis: copiose in pratis m. Peristeri alt. 5200'–6500' (substr. granit.)!

Type: The above collection, Grisebach no. 755 (?) (GOET!, iso- G-BOIS!).

This taxon was not mentioned by Petrova (in Kožuharov & Kuzmanov 1995), but is likely to fall within the range of variation of *P. gentianoides* (cf. below).

*Plantago media* L. var. *orbetica* Griseb., Spicil. 2: 302 (1846).

In regione alpina Orbeli: ad rivulos nivales m. Rilo-dagh (Friv.).

Type: The above collection, Frivaldszky no. 564 (GOET!).

According to Petrova (in Kožuharov & Kuzmanov 1995: 341) this is a synonym of *P. gentianoides* Sibth. et Sm., a species described from Ulu Dağ and scattered in damp places at alpine levels in western Anatolia and the central and northern Balkan Peninsula. The difference between the latter and small alpine forms of *P. media* is obscure, however.

## Plumbaginaceae

*Armeria plantaginea* All. var. *rotundata* Griseb., Spicil. 2: 295 (1846).

In Rumelia (Friv.).

The identity of this taxon is uncertain; it is probably conspecific with the widespread and variable *A. canescens* (Host) Boiss. in DC.

*Statice collina* Griseb., Spicil. 2: 300 (1846).

In Thracia: in summo colle Tschatal-tepé pr. Enos alt. 1200' solitarie (substr. porphyr.)!, in Haemo (Friv.), ad Hellespontum sec. Forsk.

Lectotype (Bokhari & Edmondson in Davis 1982: 477): The above collection by Grisebach (no. 395, GOET!).

Subsequently recombined as *Goniolimon collinum* (Griseb.) Boiss. in A. DC. The species is scattered in Anatolia and the central and eastern parts of the Balkan Peninsula (Bulgaria, north-eastern Greece, northern Makedonija and central and southern Serbia).

## Poaceae (Gramineae)

*Alopecurus crypsoides* Griseb., Spicil. 2: 466 (1846).

In regione calida Macedoniae: pr. Salonichi (Friv.).

Type: The above specimen (GOET!).

This is not conspecific with *Phalaris crypsoides* d'Urv. (1822), based on material from Attica (cf. comments under *Phalaris*, Spicil. 2: 467). The latter is now generally recombined as *Phleum crypsoides* (d'Urv.) Hackel, and occurs in sandy places near the sea in the central and eastern Mediterranean area. Wagenitz (label on sheet dated 1976) has identified Grisebach's specimen as *Phleum phleoides* (L.) Karsten which is doubtfully distinct from the widespread *P. montanum* C. Koch.

*Avena agrostoides* Griseb., Spicil. 2: 454 (1846).

In regione calida Thraciae alt. 0'–1200': frequens in graminosis collium Tschatal-tepé pr. Enos solo humoso-lutoso (substr. porphyr.)!

Type: The above specimen, Grisebach no. 417/418 (GOET!).

This name was not mentioned by Hayek (1933), nor in any subsequent Floras. The plant is evidently conspecific with *Parvotrisetum myrianthum* (Bertol.) Chrték = *Trisetum myrianthum* (Bertol.) Parl. (cf. Chrték

1965), a species occurring from Italy to the Greek/Turkish border area. Doğan (in Fl. Turkey 9: 325, 1985) listed the above collection as the only one in Turkey without mentioning the name under which it was described by Grisebach, however. There are only few collections from northern Greece.

*Bromus tectorum* L. var. *virens* Griseb., Spicil. 2: 449 (1846).

In regione calida Thraciae: gregarie in campis pr. Rusköi [Keşan], alt. 600' (substr. sax. aren.)!

Type: The above collection (GOET!).

This is apparently the form illustrated in Fl. Graeca (1: tab. 82, 1808). The name was not listed by Hayek (1933: 210), nor in any subsequent Floras.

*Catapodium Halleri* Rchb. var. *tenuiculum* Griseb., Spicil. 2: 431 (1846).

In Macedonia australi: ad m. Korthiat [Chortiat] (Friv.).

Probably referring to the taxon now known as *Micropyrum tenellum* (L.) Link which is rare and scattered in Greece. Grisebach's varietal name may be a recombination of *Triticum tenuiculum* Loisel. (1809), although there is no reference to the latter.

*Deschampsia cespitosa* PB. var. *colorata* Friv. ex Griseb., Spicil. 2: 457 (1846).

In Rhodope (Friv.).

Type: The above collection (G-BOIS!).

The type is a small plant with purplish spikelets, apparently a high-altitude form of the widespread and variable *D. cespitosa*. It was retained at variety level by Boissier (1884: 531).

*Deschampsia cespitosa* PB. var. *triflora* Griseb., Spicil. 2: 457 (1846).

In Rhodope: in subalpinis pr. Carlova [Karlovo] sec. Friv.

Although not stated in the Spicilegium, this is apparently a recombination of *Aira triflora* Friv. in Flora (Regensburg) 19: 433 (1836). It is said to differ from typical *D. cespitosa* only in the 3-flowered spikelets.

*Eragrostis bithynica* Griseb., Spicil. 2: 441 (1846).

The following text appears under Species Inquirenda: "*E. bithynica* (*Poa capillaris* Sm., prodr. cum. cit. Moris. sect. 8. t. 6. f. 33). Bithynia: Sibth. – Huc forsans spectat Buxb. cent. 3. t. 54: figura *E. pilosae* similis, ramis paniculae sparsi. Bithynia ad margines rivulorum pr. Brussa".

Grisebach refers to illustrations in two pre-Linnaean works, Morison's "Plantarum historiae universalis" (1699) and Buxbaum's "Plantarum minus cognitarum ... circa Byzantium et in Oriente observatas" (1729). The name *E. bithynica* is not easy to interpret, but may be a synonym of *E. pilosa* (L.) P. Beauv.

*Erianthus Hostii* Griseb., Spicil. 2: 548 (1846).

In agro Byzantino m. Jul (Noë).

A synonym of *Saccharum strictum* (Host) Sprengel, a widespread Mediterranean species (cf. Mill in Davis 1985: 604).

*Festuca fibrosa* Griseb., Spicil. 2: 433 (1846).

No locality was indicated in the description. In the Grisebach herbarium at GOET! is a specimen, apparently the type, with a hardly decipherable label reading "in pratis alpinis Kobelitz, no. 978 (?)". The plant is clearly conspecific with *F. paniculata* (L.) Schinz et Thell. which is widespread in mountains of central Europe and the Mediterranean area.

*Festuca ovina* L. var. *scardica* Griseb., Spicil. 2: 432 (1846).

In regione alpina Scardi alt. 5–7000': constituit graminosa in m. Ljubatrin et Kobelitz (substr. calc.).

Lectotype: Grisebach's collection from Ljubatrin (no. 920, GOET!).

Subsequently recombined as *F. halleri* All. subsp. *scardica* (Griseb.) Markgr.-Dannenb., a regional high-altitude endemic of the western Balkan Peninsula.

*Festuca ovina* L. var. *secunda* Griseb., Spicil. 2: 432 (1846).

In regione montana Macedoniae, Thraciae: in m. Peristeri (substr. granit.)!, in Rhodope pr. Carlova [Karlovo] (Friv.).

Lectotype: Grisebach's collection from Peristeri (no. 822, GOET!).

The specimen is somewhat fragmentary. On a label dated 1984, I. Markgraf-Dannenbergh has identified it as *F. koritnicensis* Hayek et Vetter; this species is widespread in the mountains of the western Balkan Peninsula.

*Lolium multiflorum* Lam. var. *excelsum* Griseb., Spicil. 2: 430 (1846).

In insula Tassos: in arvis pr. Panajia!

Type: The above collection, Grisebach no. 473 (GOET!).

Said to differ from the typical variety in the long, many-flowered spikelets, but scarcely taxonomically different.

*Lolium multiflorum* Lam. var. *muticum* Griseb., Spicil. 2: 430 (1846).

In regione calida Macedoniae, Thraciae: pr. Salonichi (Friv.), sparsim in litore maris Aegaei arenoso pr. Makri!, in insulis Byzantino vicinis sec. Buxb.

Lectotype: Grisebach's collection from the vicinity of Makri (no. 442, GOET!). A specimen at G-BOIS! labelled "Thracia. Turquie d'Europe. Grisebach 1842" is probably an isotype.

A form without awn on the lemma; the species is common in southern Europe and awn-less individuals or populations are found occasionally throughout the range.

*Phacelurus* Griseb., Spicil. 2: 423 (1846).

A small genus based on *Roettboellia digitata* Sm. in Sibth. et Sm., Fl. Graec. Prodr. 1: 71 (1806) which is typified by a Sibthorp specimen from Ulu Dağ. *Phacelurus digitatus* (Sm.) Griseb. was retained under this name in Flora Europaea and Flora of Turkey; it occurs from the Balkans to eastern Anatolia.

*Phalaris Sibthorpii* Griseb., Spicil. 2: 468 (1846).

Ph. Sibthorpii m. (*Ph. paradoxa* Sm. Fl. graec. t. 58), praeterea a *Ph. paradoxa* L. panicula obovato-oblonga inferne abortiente, spiculis superioribus fertilibus (neque omnibus fere ex utraque evolutione mixtis in panicula cylindrica) secundum specimina calabrica a cl. Philippi lecta et cum planta graeca convenientia dignoscenda.

Although Grisebach interpreted the *Phalaris paradoxa* illustrated in Fl. Graeca as distinct from *Ph. paradoxa* of Linnaeus and gave it the new name *Ph. sibthorpii*, Halácsy (1904: 340) nevertheless listed the latter as a synonym of *Ph. paradoxa* L., a widespread Mediterranean species.

*Phleum exaratum* Hochst. ex Griseb., Spicil. 2: 463 (1846).

In regione calida Thraciae: sparsim gregarie pr. Rusköi [Keşan] alt. 600' (substr. sax. aren.)!, pr. Banjo (Friv.).

Type: "Thracia. Turquie d'Europe. Grisebach 1842" (G-BOIS!).

Included in *Ph. arenarium* L. by Boissier (1884: 481) but retained at species level by Doğan (in Davis 1985: 396); widespread in the eastern Mediterranean area and South West Asia.

*Poa alpina* L. var. *polystachya* Griseb., Spicil. 2: 439 (1846).

In regione montana Macedoniae: sparsim in pratis m. Peristeri alt. 3000' (substr. granit.)!

Type: The above collection. Grisebach no. 783 (GOET!).

The type specimen has swollen stem base, filiform leaves, long ligules and mainly viviparous spikelets, thus matching *P. timoleonis* Heldr. ex Boiss.

*Poa alpina* L. var. *stolonifera* Griseb., Spicil. 2: 438 (1846).

In sylvis Macedoniae: frequens in umbris Fagi et in format. Oxycedri in m. Nidgé alt. 2650'–4400' (substr. marmor.)!

Type: The above specimen, Grisebach no. 730 (GOET!).

In spite of the varietal name, the single individual on the sheet is caespitose and not stoloniferous. It has short and rather broad leaves, short ligules and pale greenish spikelets with densely hairy lemma keel, thus matching *P. thessala* Boiss. et Orph.

*Scleropoa* Griseb., Spicil. 2: 431 (1846).

This generic name was based on *Poa rigida* L. The genus has been variously interpreted, but as defined by Stace (in Davis 1985: 461) it is a synonym of *Catapodium* Link which comprises only two species, *C. marimum* (L.) C. E. Hubbard and *C. rigidum* (L.) C. E. Hubbard ex Dony, both widespread annuals of South West Asia, the Mediterranean area and western Europe.

*Sesleria coerulea* Ard. var. *rigida* Griseb., Spicil. 2: 442 (1846).

In Rhodope: in regione montana pr. Philippopolin [Plovdiv], Batschkova (Friv.).

The identity of this taxon is uncertain. *S. caerulea* (L.) Ard. is widespread in central Europe, extending southwards to central Bulgaria but probably not as far as the Plovdiv area. The variety was not mentioned in Deyl's monograph (1946), neither in the Bulgarian Flora.

*Sesleria marginata* Griseb., Spicil. 2: 442 (1846).

In regione alpina Macedoniae, Thraciae: frequens in pratis m. Kobelitz alt. 5–7000' (substr. micasch.)!, in Orbello ad m. Rilo (Friedr.), in Rhodope pr. Carlova [Karlovo] (Friv.).

There are two sheets at GOET!:

(1) The first sheet bears a single specimen but two labels, "562, Re<sub>3</sub> suprema Rilo" and "551 Rilo dagh"; this is apparently the specimen collected by Friedrichsthal, and is designated as the lectotype of *S. marginata* Griseb. The monographer Deyl (1946: 136 and label on the sheet) identified it as *S. orbelica* (Velen.) Hayek, a name incorrectly substituting the older *S. marginata* Griseb. According to Gustavsson (in Strid & Kit Tan 1991: 778) it is synonymous with *S. coerulans* Friv.

(2) The second sheet (Grisebach 988 from Kobelitz) also bears a single specimen, identified by Deyl as *S. wettsteinii* Dörfner et Hayek, a taxon closely related to the more southerly *S. vaginalis* Boiss. et Orph. (see Gustavsson op. cit.).

Fridvaldszky's specimen from "Rhodope pr. Carlova [Karlovo]" (not located at GOET) presumably belongs to *S. coerulans* as well (cf. Deyl op. cit. and note by Wagenitz dated 10.2. 1955, pinned to sheet no. 1 above).

*Primulaceae**Androsace hedraeantha* Griseb., Spicil. 2: 3 (1844).

In Orbello: in regione alpina m. Rilo (Friedr.).

Type: The above collection, Friedrichsthal no. 557 (GOET!, fragmentary).

An endemic of the central parts of the Balkan Peninsula, from Albania to Bulgaria.

*Ranunculaceae**Delphinium bithynicum* Griseb., Spicil. 1: 320 (1843).

In Bithynia: pr. Bolu (Pest.).

Type: The above collection (GOET!).

Apparently conspecific with *Consolida phrygia* (Boiss.) Soó. *Delphinium bithynicum* P. H. Davis in Notes Roy. Bot. Gard. Edinburgh 26: 172 (1965) is a later homonym, belonging to *Delphinium* s. str. The name of the latter was changed to *D. davisii* Munz in J. Arnold Arbor. 48: 256 (1967); it is apparently endemic to a small area in northern Anatolia (Turkey A4) and related to the Balkan *D. balcanicum* Pawl.

*Nigella tuberculata* Griseb., Spicil. 1: 318 (1843).

In Rumelia (Friv.).

Type (Strid 1970: 30): The above collection (GOET!).

A synonym of *N. arvensis* L. subsp. *arvensis*, a taxon formerly widespread as a weed of cereal fields in southern and central Europe and now vanishing in many areas; in southern Greece it is replaced by subsp. *aristata* (Sibth. et Sm.) Nyman and in western Anatolia by subsp. *glauca* (Boiss.) A. Terracc. which both grow in semi-natural habitats.

*Ranunculus glechonoides* Griseb., Spicil. 1: 314 (1843).

In Macedonia australi: in aquis pr. Salonichi ad aquaeductum m. Korthiat [Chortiat] (Friedr.).

This was based on a single specimen said to resemble *R. parviflorus* L. The name has been overlooked in all Floras for the region as well as in Med-Checklist.

*Ranunculus graecus* Griseb., Spicil. 1: 314 (1843).

In agri Byzantini insulis Principum alt. 0'–200': frequens in fossis et graminosis udis ins. Chalki, ubi consociatus cum *R. parvifloro* viget; gregarie ad fontem ins. Principo pr. oppidum!

Lectotype: "Freq. in foss. et graminosis udis ins. Chalki" [one of the Princes islands near Istanbul], Grisebach s.n. (GOET!).

Clearly a synonym of *R. muricatus* L., a widespread Mediterranean annual.

*Ranunculus granulatus* Griseb., Spicil. 1: 306 (1843).

In Bithyniae regione calida alt. 0'–1200': solitarie in colle Bulgurlu pr. Scutari [Üsküdar] (substr. argillosch.), frequens in graminosis convallis Gögdere pr. Brussa (substr. granit.)!

Lectotype: "In m. Bulgurlu", Grisebach no. 24 (GOET!).

A synonym of *R. gracilis* Clarke, differing in the somewhat more dissected basal leaves, a character of little taxonomic significance (cf. Davis 1965: 180). *R. gracilis* occurs in the southern Balkan Peninsula, western Anatolia and locally in southern Italy.

*Ranunculus oxyrhynchus* Griseb., Spicil. 1: 312 (1843).

In Orbelo: prope coenobium Rilo alt. 3090' (substr. granit.) (Friedr.).

Type: The above collection (no. 488, GOET!).

This taxon has been overlooked in all subsequent Floras for the region as well as in Med-Checklist. It is probably conspecific with *R. sprunerianus* Boiss., although the beak of the achenes is shorter and less curved than usual and the basal leaves (rather fragmentary) are untypical.

*Ranunculus psilostachys* Griseb., Spicil. 1: 304 (1843).

In regione subalpina Scardi: solitarie in m. Peristeri pr. Bitola in fruticetis alt. 4000' (substr. granit.)! In Rumeliae montibus legit eundem Friedr.

Lectotype (Strid 1986: 217): Grisebach's collection from Mt Peristeri (GOET!). At K! is a specimen labelled "*Ranunculus monspeliacus* DC. Rum. 1837. Friv."; this is apparently a syntype of *R. psilostachys*.

A Balkan endemic, fairly common at montane and subalpine levels in Greece, Albania, Makedonija and Serbia.

*Ranunculus psilostachys* Griseb. var. *Friedrichsthali* Griseb., Spicil. 1: 304 (1843).

In Albania boreali, Thracia: in m. Peklen pr. Ipek [Peć] (substr. calcar.) (Friedr.); pr. Carlova [Karlovo] (Friv.).

Lectotype: The collection by Frivaldszky from the vicinity of Karlovo (GOET!).

The type specimen is somewhat fragmentary; it appears to be a depauperate form of *R. psilostachys*.

*Ranunculus rumelicus* Griseb., Spicil. 1: 305 (1843).

In Macedonia australi et Thracia: pr. Salonichi (Friedr.); mixtus etiam erat speciminibus praecedentis [*R. psilostachys* var. *Friedrichsthali*] pr. Carlova [Karlovo] lectis (Friv.).

Lectotype: The collection by Frivaldszky from the vicinity of Karlovo (GOET!).

A species of the central and eastern Balkan Peninsula, Anatolia and Cyprus, rather similar to *R. psilostachys*, but differing in the more rounded leaf lobes and in the shorter and thicker root tubers.

*Rhamnaceae**Rhamnus infectoria* L. var. *pubescens* Griseb., Spicil. 1: 150 (1843).

In fruticetis pr. Rusköi [Keşan] Chersonesi thracici sparsim alt. 6–800' (substr. sax. aren.), rarius in sylva mixta m. Athūs alt. 1200'–2600' (substr. marm.); in Macedonia (Friv.).



Type: A specimen at G-BOIS! labelled "Thracia. Turquie d'Europe. Grisebach 1842".

Probably a synonym of *Rh. saxatilis* Jacq. subsp. *prunifolius* (Sibth. et Sm.) Aldén, a taxon occurring in Greece and western Anatolia (cf. Aldén in Strid 1986: 586).

## Rosaceae

### *Crataegus azarella* Griseb., Spicil. 1: 88 (1843).

In Thraciae et Macedoniae fruticetis ac sylvis alt. 0'–2100'; raro inter *Quercus frutescentes* pr. Rusköi [Keşan]; fruticeta cum Paliuro format pr. Panagia in litore ins. Tassos; frequens occurrit in fagetis m. Cholomonda Chalcidicis, rarius in fruticetis distr. Tettovo!

Lectotype: "... ins. Tassos pr. Panagia", Grisebach no. 450 (?) (GOET!, iso- G-BOIS!).

Some authors regard this taxon as a subspecies of *C. monogyna*, but according to Christensen (1992: 104) it is merely a synonym of var. *monogyna* which occurs almost throughout Europe.

### *Crataegus Tournefortii* Griseb., Spicil. 1: 90 (1843).

Nomen novum for *C. orientalis* Lindl. nec Pall. et MB, Bot. reg. 1852. According to Christensen (1992: 43) Lindley's illustration in Bot. Reg. 22: tab. 1852 (1836) – the type of *C. tournefortii* Griseb. – falls within the range of variation of *C. orientalis* M. Bieb. subsp. *orientalis*.

### *Potentilla hirta* L. var. *pinnatifida* Griseb., Spicil. 1: 98 (1843).

Pr. Rusköi [Keşan] Thraciae solitarie gregarie in campis alt. 600' (substr. sax. aren.)!

Type: The above collection, Grisebach no. 300 (GOET!).

According to Soják (label on type specimen dated 1994) this is a variety of *P. laciniosa* Willd.

### *Potentilla hirta* L. var. *subsericea* Griseb., Spicil. 1: 98 (1843).

In m. Nidgé regione media inter *Oxycedros* alt. 2650'–3000' (substr. marmor.)! et in arenosis planitie pr. Ipek [Peç] Albaniae superioris alt. 1100' (Friedr.).

Lectotype: The collection from Nidgé, Grisebach no. 726 (GOET!)

Haussknecht (1894: 94) raised this taxon to species rank, reporting it from the Pindhos ("in schistosis supra Malakasi P[indi] T[ymphacii]"); according to Soják (label on type specimen dated 1994) it is a synonym of *P. pedata* Willd.

### *Potentilla holosericea* Griseb., Spicil. 1: 99 (1843).

In pratis montanis Scardi in m. Ljubatrin copiose alt. 2850'–4360' (substr. calc.)!

Type: The above collection, Grisebach no. 894 (GOET!, iso- G-BOIS!).

The fact that Grisebach described the petals of his plant as white and only drying yellowish has caused some difficulties in interpreting this taxon. Haussknecht (1894: 92–94) made a careful examination of Grisebach's specimen, comparing it to his own collections from Mt Voutsikaki and Karava in the Pindhos as well as authentic material of *P. detommasii* Ten. from Italy (a species with bright yellow petals), and concluded that they are all conspecific. *P. holosericea* was consequently reduced to a variety of *P. detommasii*, a variable species of dry, montane to subalpine meadows in Italy and the Balkan Peninsula. Re-examination of the type specimen confirms that it does indeed match *P. detommasii* Ten.

## Rubiaceae

### *Galium aristatum* L. var. *scabrum* Griseb., Spicil. 2: 157 (1844).

In regione montana Macedoniae: in Orbelo boreali pr. coenob. Lessnowacz (substr. trachyt.) (Friedr.), copiose in fruticetis Fagi in m. Ljubatrin alt. 2850'–4500' (substr. calcar.)!

Lectotype: Grisebach's collection from Ljubatrin (no. 876, GOET!).

According to Hayek (1930: 460) and Ančev in Kuzmanov (1989: 81) this is a form of *G. pseudoaristatum* Schur, a species occurring from Slovakia to Makedonija.

*Galium floribundum* Sm. var. *lasiocarpum* Griseb., Spicil. 2: 162 (1846).

In Macedonia australi: pr. Salonichi (Friv.), mixtum cum specim. praecedentis [*G. trichophorum* = *G. intricatum*].

The identity of this taxon is uncertain. According to Ehrendorfer & Schönbeck-Temesy (in Davis 1982: 843) *G. floribundum* is endemic to western Anatolia, the East Aegean islands and Cyprus.

*Galium rotundatum* Griseb., Spicil. 2: 157 (1844).

In agro Byzantino sec. DC.

This name has been overlooked in all subsequent Floras for the region; it is apparently a synonym of *Asperula laevigata* L., a widespread Mediterranean species.

*Galium trichophorum* Griseb., Spicil. 2: 161 (1846).

In Macedonia australi: pr. Salonichi (Friedr.), versus m. Korthiat [Chortiat] (Friv.).

Lectotype: Friedrichsthal's specimen from the vicinity of Thessaloniki (GOET!).

According to Hayek (1930: 470) this is a synonym of *G. zacyanthium* Margot et Reuter which has later been merged with *G. intricatum* Margot et Reuter. Examination of the type specimen confirms that it matches *G. intricatum*. This is a small annual, occurring in Greece and Albania, probably extending into Makedonija. In Friedrichsthal's specimen the fruits are covered with patent, more or less hooked bristles; in other forms they may be glabrous and papillose.

*Rubia Doniettii* Griseb., Spicil. 2: 156 (1844).

In Anatolia legit Donietti.

Type: The above collection (GOET!).

Now reduced to a subspecies of *R. tenuifolia* d'Urv. (cf. Ehrendorfer & Schönbeck-Temesy in Davis 1982: 859).

*Sherardia arvensis* L. var. *maritima* Griseb., Spicil. 2: 169 (1846).

In litore Propontidis et maris Aegaei: in arenosis pr. Hersek ad sinum Nicomedicum [Gulf of Izmit], in pratis ins. Principo frequens!, in agro Byzantino sec. Sest. et Bergg., pr. Salonichi (Friv.).

Lectotype: "In sabulos. marit. pr. Hersek freq.", Grisebach no. 136 (GOET!).

This is apparently a coastal ecotype of the widespread *S. arvensis*, characterized by several procumbent stems and somewhat succulent leaves; variation and distribution was discussed by Haussknecht (1894: 122).

*Rutaceae**Haplophyllum coronatum* Griseb., Spicil. 1: 129 (1843).

In Macedonia australi (Friv.): in sylvaticis Juglande obumbratis inter Vodena [Edessa] et Ostrovo [Armissa], alt. 8–1300' sparsim (substr. calc.)!; in Parnasso sec. Sibth.

Lectotype (Townsend 1986: 315): Grisebach's specimen from the vicinity of Edessa (no. 707, GOET!). The plant illustrated as *Ruta patavina* L. in Sibth. et Sm., Fl. Graeca 4: tab. 369 (1824) matches *Haplophyllum coronatum*, although the locality ("in monte Parnasso") is probably incorrect. The species is endemic to the central Balkan Peninsula.

*Santalaceae**Osyris alba* L. var. *serotina* Griseb., Spicil. 2: 324 (1846).

In Bithynia: pr. Brussa (Tk.).

Type: The above collection (no. 154, GOET!).

Included in *O. alba* without taxonomic rank by Miller (in Davis 1982: 545).

## *Saxifragaceae*

### *Saxifraga coriophylla* Griseb., Spicil. 1: 333 (1843).

In saxis alpinis Albaniae borealis: in m. Peklen pr. Ipek [Peć] alt. 5900' (substr. calcar.) (Friedr.).

A synonym of *S. marginata* Sternb., a variable species of the Carpathians, Balkan Peninsula and southern Italy; var. *coriophylla* (Griseb.) Engler which is the most common form in Greece (extending to Taigetos in the south) has columnar shoots forming dense, hard cushions.

### *Saxifraga media* Gouan var. *Sibthorpiana* Griseb., Spicil. 1: 331 (1843).

In saxis alpinis Macedoniae, Thraciae (Friv.) et Serbiae: frequens in cacumine m. Athûs alt. 6400' (substr. marmor.), rarius in m. Nidgé alt. 4000' (substr. marmor.), copiose in regione summa m. Ljubatrin alt. 7300'–7900' (substr. calcar.) et sparsim in m. Kobelitz alt. 4500' (substr. calcar.); in cacumine m. Kopaunik Serbiae australis alt. 5700' (Viquesnel).

Lectotype: Grisebach's collection from Mt Athos (no. 639, GOET!).

At GOET! are specimens from Kopaunik, Kobelitz, Ljubatrin and <sup>^</sup>thos, all matching *S. sempervivum* C. Koch (= *C. frederici-augusti* sensu Degen et Dörfler, Halácsy et al., non Biasol.). Grisebach's collection from Nidgé, which was not found at GOET, probably belongs to a taxon described by Degen & Dörfler (1897: 721) as *S. Grisebachii* (based on their own collections from Makedonija) and later recombined as *S. porophylla* Bertol. subsp. *grisebachii* (Degen et Dörfler) Aldén et Strid (cf. Strid 1986: 378–379). The plate in Sibthorp & Smith, Fl. Graeca tab. 376 (1824) cited by Grisebach shows *S. sempervivum* as currently understood, and was presumably based on a specimen from Mt Athos. *S. sempervivum* occurs in the southern and central Balkan Peninsula with a single locality (locus classicus!) on Ulu Dağ in north-western Anatolia.

### *Saxifraga rotundifolia* L. var. *geoides* Griseb., Spicil. 1: 336 (1843).

In regione alpina Macedoniae: sparsim in herbosis m. Peristeri alt. 6000'–6500' (substr. granit!)

Type: The above collection, Grisebach no. 794 (GOET!).

Apparently a synonym of *S. rotundifolia* subsp. *heucherifolia* (Griseb. et Schenk) Engler et Irmischer; the latter occurs by brooks at high altitudes in the Carpathians and the Balkan Peninsula, extending to the border mountains of Greece in the south. It differs from subsp. *rotundifolia* (a forest taxon) in the long horizontal rhizome, inflorescence with suberect 2-flowered branches, and petals with large purple dots. *S. rotundifolia* s.lat. occurs from Catalonia through the Alps, Italy, the Balkan Peninsula and northern Anatolia to the Caucasus.

### *Saxifraga rotundifolia* L. var. *glandulosa* Griseb., Spicil. 1: 336 (1843).

In regione alpina Macedoniae: gregarie ad rivulos m. Peristeri alt. 4–5000' (substr. granit.)!

Type: The above collection, Grisebach no. 792 (?) (GOET!).

This specimen is in full flower whereas no. 794 (above) is in bud; they are scarcely taxonomically different.

### *Saxifraga sancta* Griseb., Spicil. 1: 333 (1843).

In summo cacumine m. Athûs alt. 6400' frequentissime supra rupes marmoreas humidiores expansa! Fructo maturo ibidem leg. Friedr. Aug.

Lectotype (Webb & Gornall 1989: 91): The above collection, Grisebach no. 644 (GOET!; iso- BM!, G-BOIS!).

Very close to *S. juniperifolia* Adams and sometimes regarded as a subspecies of the latter. *S. sancta* is only known from Mt Athos and Mt Pangeo in north-eastern Greece and from Kaz Dağ (Mt Ida) in north-western Anatolia; it is commonly grown in rock gardens, being a showy, early-flowering species. *S. juniperifolia* s. str. occurs in the Caucasus and in several high mountains of Bulgaria.

### *Saxifraga scardica* Griseb., Spicil. 1: 332 (1843).

In saxis alpinis Scardi: frequens cum *S. media* consociata ubique in m. Nidgé alt. 4000' (substr. marmor.), copiosissime in regione summa m. Ljubatrin alt. 7300'–7900' (substr. calcar.) et sparsim in m. Kobelitz alt. 4500' (substr. calcar.)!

Lectotype (Webb & Gornall 1989: 84): "In saxis reg. fagi Nidgé ...", 28.6. 1839, Grisebach no. 734 (GOET!).

The species is endemic to the western and central parts of the Balkan Peninsula southwards to northern Peloponnisos, and is related to *S. marginata* Sternb. Reports from Montenegro apparently refer to the latter (Stevanović, pers. comm.).

## Scrophulariaceae

*Digitalis brachyantha* Griseb., Spicil. 2: 513 (1846).

In Bithynia: pr. Brussa (Tk.).

Type: The above collection (no. 163, GOET!).

According to Boissier (1879: 429) this is a synonym of *D. ferruginea* L. The type specimen is in bud or early flower and has obtuse calyx lobes with wide scarious margins, thus confirming Boissier's identification.

*Digitalis ferruginea* L. var. *distans* Griseb., Spicil. 2: 33 (1844).

In Macedonia: in monte Korthiat [Chortiatis] pr. Salonichi (Friedr.).

Type: The above collection, Friedrichsthal no. 693 (GOET!).

The type specimen has acute calyx lobes without scarious margins, and the corolla is c. 20 mm long; it is thus referable to *D. laevigata* Waldst. et Kit. subsp. *graeca* (Ivanina) Werner and not to *D. ferruginea*.

*Digitalis lanata* Ehrh. var. *Buxbaumii* Griseb., Spicil. 2: 34 (1844).

In Thracia: in montibus apricis circa Bosporum sec. Buxb.

Based on an illustration in Buxbaum, Pl. minus cogn. ... Byzantium, Cent. 5: tab. 49 (1740).

*Eufragia latifolia* (L.) Griseb. var. *pumila* Griseb., Spicil. 2: 14 (1844).

Pr. Carlova [Karlovo] et ad Haemum (Friv.).

Apparently a minor variant of *Parentucellia latifolia* (L.) Caruel in Parl., a common species in the Balkans and much of southern Europe.

*Janthe* Griseb., Spicil. 2: 40 (1844).

This generic name was created for *Verbascum bugulifolium* Lam., a species of north-western Turkey and south-eastern Bulgaria reported by Grisebach from localities in the vicinity of Istanbul. The name does not seem to have been taken up by others.

*Linaria concolor* Griseb., Spicil. 2: 21 (1844).

In Macedonia et Thracia: in rupibus graniticis Rhodopes litoralis pr. Cavala (Friedr.), in agro Byzantino sec. Sibth.

Type: The above collection by Friedrichsthal (no. 1447, GOET!).

The illustration of *Antirrhinum supinum* in Fl. Graeca 6: tab. 595 (1827) was cited as a synonym. The herbarium material is rather fragmentary (without flowers), but according to Stevanović (pers. comm.) *L. concolor* is a good species occurring in much of the Balkan Peninsula, and not synonymous with *L. genistifolia* (L.) Miller (cf. Tutin et al. 1972: 230).

*Linaria concolor* Griseb. var. *serpens* Griseb., Spicil. 2: 21 (1844).

In Macedonia: inter Salonichi et m. Korthiat [Chortiatis] ad aquaeductum (Friedr.).

Type: The above collection, Friedrichsthal no. 790 (?) (GOET!).

Mounted on the same sheet as Friedrichsthal no. 1447 and hardly distinguishable from it.

*Linaria genistifolia* Mill. var. *polystachya* Griseb., Spicil. 2: 20 (1844).

In agro Byzantino et in m. Athone sec. Sibth.

The name was apparently based on the illustration in Fl. Graeca 6: tab. 596 (1827) which shows a much-branched specimen referable to *L. genistifolia* s. lat.

*Linaria macedonica* Griseb., Spicil. 2: 19 (1844).

In Macedonia occidentalis: solitarie in rupibus graniticis jugi Babuna inter Perlepé [Prilep] et Köprili [Veles] alt. 2500', pr. Bitola (Friedr.).

Lectotype: Grisebach's collection from the Babuna [Pletvar] pass (no. 893, GOET!).

Possibly a synonym of *L. genistifolia* (L.) Miller subsp. *dalmatica* (L.) Maire et Petitm., although a distinct species according to Micevski (in litt.).

*Pedicularis leucodon* Griseb., Spicil. 2: 17 (1844).

In regione alpina Scardi: sparsim in pratis m. Kobelitz alt. 5–7000' (substr. micasch.)!

Lectotype (Raus in Strid & Kit Tan 1991: 248): The above collection, Grisebach no. 970 (GOET!, iso-G-BOIS!).

Endemic to the higher mountains of eastern Albania, Makedonija, northern Greece and Bulgaria; Bulgarian material has been recognized as subsp. *occulta* (Janka) E. Mayer.

*Pedicularis orthantha* Griseb., Spicil. 2: 15 (1844).

In regione alpina Scardi australis et Rhodopes: frequens in herbosis m. Peristeri alt. 5200'–6500' (substr. granit.)!, pr. Carlova [Karlovo] (Friv.).

Lectotype (Raus in Strid & Kit Tan 1991: 244): The collection from Peristeri, Grisebach no. 797 (GOET!, iso-G-BOIS!).

Endemic to the higher mountains of Makedonija, northern Greece and Bulgaria.

*Rhynchocorys* Griseb., Spicil. 2: 12 (1844).

This name was based on *Rhinanthus elephas* L., the only European species in a small genus of peculiar hemiparasites. It has been accepted as a distinct genus by most modern authors.

*Scrophularia aestivalis* Griseb., Spicil. 2: 36 (1844).

In Scardo: inter Kalkandele [Tetovo] et m. Kobelitz (Friedr.).

Type (Raus in Strid & Kit Tan 1991: 189): The above collection, Friedrichsthal no. 402 (GOET!, iso-G-BOIS! [fragment]).

A species of damp shady places at montane and subalpine levels in the central Balkan Peninsula, extending to Mt Ossa in the south.

*Thapsandra* Griseb., Spicil. 2: 40 (1844).

A segregate of *Verbascum* L., created to accomodate *Verbascum creticum* (L.) Cav. (= *Celsia cretica* L.) and said to be intermediate between *Janthe* (see above) and *Verbascum* sect. *Thapsi*. Most modern authors include *Thapsandra* in *Verbascum*.

*Trixago carnea* Griseb., Spicil. 2: 12 (1844).

In Macedonia et Thracia: in sylvis fruticetisque unbrosis penins. Hajion-Oros sparsim inter Pandocratoras et Karaes alt. 0'–2000' (substr. micasch.), copiose in graminosis inter frutices pr. Panajia ins. Tassos (substr. calcar.)!; pr. Bujukdere sec. Bergg.

Lectotype: Grisebach's collection from Thasos (no. 448, GOET!).

Clearly a synonym of *Bellardia trixago* (L.) All., a widespread Mediterranean species.

*Verbascum cylindrocarpum* Griseb., Spicil. 2: 46 (1844).

In insula Tasso: in arena litorali pr. Panajia versus Kastro (Friedr.).

Type: The above collection, Friedrichsthal no. 1406 (GOET!). The specimen was seen and annotated by Murbeck in 1929.

Apparently a local endemic of the island of Thasos where its occurrence has been confirmed by several subsequent collections.

*Verbascum garganicum* Ten. var. *heterophyllum* Griseb., Spicil. 2: 49 (1844).

In Scardo: sparsim in pratis subalpinis m. Kobelitz alt. 4200'–4670' (substr. micasc.).!

Type: The above collection, Grisebach no. 962 (GOET!).

First mentioned in Reise 2: 303 (1841) as *V. heterophyllum* m. (nom. nud.), and apparently not referring to *V. heterophyllum* Velen. nor to *V. heterophyllum* J. Miller. The identity of the plant from Šar planina is uncertain; it may be conspecific with *V. scardicola* Bornm., which is common in the area (Micevski in litt.).

*Verbascum leiostachyon* Griseb., Spicil. 2: 43 (1844).

In Albania boreali: inter Ipek [Peć] et Drsnik [village c. 25 km ESE of Peć] (substr. alluv.) (Friedr.).

Type: The above collection, Friedrichsthal no. 373 (GOET!).

This is a synonym of *V. glabratum* Friv. (described from "Rumelia"; cf. Flora 19: 440, 1836), as noted on the sheet by Murbeck (1929) and confirmed by K. I. Christensen.

*Verbascum leucophyllum* Griseb., Spicil. 2: 46 (1844).

In rupibus Macedoniae australis: solitarie in collibus pr. Salonichi alt. 0'–200' (substr. micasc.).!

Type: The above collection, Grisebach no. 685 (?) (GOET!).

A Balkan endemic, scattered in Albania, Makedonija and northern Greece.

*Verbascum undulatum* Lam. var. *integrifolium* Griseb., Spicil. 2: 48 (1844).

In Macedonia: in pascuis siccis pr. Salonichi versus m. Korthiat [Chortiatis] (Friedr.).

Type: The above collection, Friedrichsthal no. 732 (GOET!).

Probably identical with the taxon later described as *V. rigidum* Boiss. et Heldr., based on a Heldreich collection from Mt Chortiatis (cf. Murbeck 1933: 214, Karagiannakidou & Raus 1996: 535). The taxonomic status is uncertain, but it is probably best regarded as a variety of the widespread *V. undulatum*.

*Verbascum xanthophoeniceum* Griseb., Spicil. 2: 42 (1844).

In regione calida Thraciae alt. 0'–1200': ibidem in montibus aridis sec. Buxb., pr. Hunkiar-Iskelessi sec. Bergg., sparsim in omni Chersoneso, ubi plantam saepe vidi inter Rodosto [Tekirdağ] et Rusköi [Keşan], inprimis in campis juxta hoc oppidum (substr. sax. aren.).! in vineis pr. Carlova [Karlovo] (Friv.).

Lectotype: Frivaldszky's collection from the vicinity of Karlovo (GOET!). The specimen was seen and annotated by Murbeck in 1929.

A species related to *V. phoeniceum* L. and *V. flavidum* (Boiss.) Freyn et Bornm., scattered in north-eastern Greece, Bulgaria and western Anatolia.

*Veronica chamaepitys* Griseb., Spicil. 2: 25 (1844).

In Thracia meridionali: in scaturiginosis et ad fossas gregarie, at raro pr. Rusköi [Keşan] alt. 600' (substr. sax. aren.).!

Type: The above collection, Grisebach no. 313 (GOET!).

This name is a later homonym for *V. chamaepitys* Pers., and the species is now known as *V. grisebachii* S. M. Walters. It is a distinct annual, occurring in eastern Bulgaria, Turkey-in-Europe, western Anatolia and on the East Aegean islands of Chios, Lesbos and Samos (cf. Fischer & Fischer 1981: 224); literature records from Thasos and Athos need confirmation.

*Veronica scardica* Griseb., Spicil. 2: 31 (1844).

In Albania boreali: gregarie in sylvis umbrosis pr. confluentiam utriusque Drinii locis udus alt. 700' (substr. diorit.).!

Type: The above collection, Grisebach no. 1003 (GOET!, iso- G-BOIS!).

This species, which is related to the widespread *V. heccabunga* L., is scattered in south-eastern Europe, Anatolia and Syria.

## Solanaceae

### *Hyoscyamus pungens* Griseb., Spicil. 2: 52 (1844).

Described in a footnote under *H. aureus* L., the only habitat information being "Asia minore legit Donietti". According to Baytop (in Davis 1978: 453) it is a synonym of *H. pusillus* L., a species widespread in South West and Central Asia.

## Tamaricaceae

### *Tamarix tetrandra* Pall. var. *rosea* Griseb., Spicil. 1: 219 (1843).

In litore maris Aegaei: sparsim pr. Enos; forma fruticosa pr. Makri et solitarie in penins. Hajion-Oros!

Not cited by Hayek or Davis, and not mentioned in the monograph by Baum (1978); the identity of this taxon is not clear. There is an isotype at K!

### *Tamarix tetrandra* Pall. var. *breviflora* Griseb., Spicil. 1: 219 (1843).

In Bithynia (Pest.).

Type: The above collection (GOET!).

Also overlooked by all subsequent authors. *T. tetrandra* occurs from Greece to eastern Anatolia and the Crimea.

## Valerianaceae

### *Centranthus ruber* DC. var. *byzantinus* Griseb., Spicil. 2: 172 (1846).

In agro Byzantino: in ruderalis ad Bosporum, pr. Sarijari sec Bergg.

Probably a minor variant of *C. ruber*; not mentioned in Flora of Turkey.

## Violaceae

### *Viola tricolor* L. var. *olympica* Griseb., Spicil. 1: 237 (1843).

In montanis Bithyniae: frequens in regione Coniferarum Olympi, ubi praecedentis speciei [*V. sylvestris* Lam.] vicaria ascendit ab alt. 2500' ad 4600'; ad Bosporum sec. Wahlbg.

Type: Grisebach's collection from the Bithynian Olympus (no. 187, GOET!).

Raised to species level by Boissier, Diagn. ser. 2, 1: 55 (1853). The specimen at GOET was annotated as *V. gracilis* Sibth. et Sm. by Becker in 1927, and listed in synonymy of the latter by Coode & Cullen in Davis (1965: 532). *V. gracilis* was also described from the Bithynian Olympus (Ulu Dağ), based on a collection by Sibthorp.

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## Souhrn

Práce přináší popis cesty Augusta Grisebacha do oblasti Přední Asie a Balkánského poloostrova v roce 1839. V průběhu cesty, která vedla přes severozápadní Turecko, severní Řecko, Makedonii, Kosovo a severní Albánii, shromáždil Grisebach rozsáhlou kolekci herbářových položek. Na základě těchto sběrů a materiálu dalších botaniků bylo popsáno více než 300 nových taxonů v díle „*Spicilegium Florae Rumelicae et Bithynicae*“. V práci je provedena typifikace jednotlivých taxonů. Vedle toho obsahuje poznámky k taxonomii, nomenklatuře a rozšíření většiny zmíněných taxonů.

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## Appendix 1. – Index to geographical names.

- Agia Anna: Settlement near the coast, SW of the summit of Mt Athos.
- Agion (Ajion) Oros = Athos.
- Agios Pavlos: Monastery by the south coast of Athos, due north of Agia Anna.
- Ainadgik = Inecik.
- Akr. Arapis = Cape Plati.
- Akr. Elevation = Cape Levtheridha.
- Alexandria: Coastal city in Egypt.
- Alexandroupolis: Coastal town in north-eastern Greece, c. 25 km from the Turkish border.
- Ano Achlada: Village in north central Greece, W of Mt Voras and just S of the border.
- Antivar = Bar.
- Arnea: Town on eastern Chalkidiki.
- Arnissa: Village at the northern shore of Lake Vegoritis.
- Athanasios: Spring on the Athos peninsula, between Ivron and Megisti Lavra.
- Athos: Peninsula in north-eastern Greece, the easternmost of the 3 fingers of Chalkidiki, a semi-independent monastic community; the name is sometimes restricted to Mount Athos (2033 m) near the tip of the peninsula.
- Axios: River in northern Greece, flowing south into the Aegean Sea c. 24 km SW of Thessaloniki, called Vardar north of the border.
- Baba [planina] = Peristeri.
- Babuna: Mountain between Prilep and Veles.
- Bachkovo: Village near Plovdiv.
- Banja: As used by Frivaldszky this name probably refers to a village in Bulgaria, c. 11 km S of Karlovo.
- Bar: Town by the Adriatic Sea, W of the Skhodër Lake.
- Batschkova = Bachkovo.
- Bela Voda = Peristeri.

Bertiscus = Prokletije.

Bithynia: Ancient name for the north-western part of Asia Minor, limited in the north and north west by the Black Sea, the Bosphorus and the Marmara Sea.

Bithynian Olympus = Ulu Dağ.

Bitola: City in the SW part of the Republic of Makedonija.

Bjeshket e Nemuna = Prokletije.

Bolu: Large town in northern Anatolia, c. 140 km NW of Ankara.

Bosphorus: Waterway connecting the Black Sea and the Marmara Sea and dividing Istanbul into a European and an Asiatic part.

Bozcaada: Turkish island c. 80 km SSE of Samothraki.

Brussa = Bursa.

Bulgurlu: Hill just E of Istanbul.

Bursa: City in north-western Anatolia, c. 115 km SSE of Istanbul.

Byzantium = Istanbul.

Calcandele = Tetovo.

Calophi[e]r = Kalofer.

Cape Levtheridha: Promontory on the eastern side of Chalkidiki.

Cape Plati: A north-western spur of the Athos peninsula.

Caraes = Karies.

Carlova = Karlovo.

Cartal = Kartal.

Casavi = Skala Kazaviti.

Catirli: Village near Yalova.

Chalki: One of the Princes islands, just SE of Istanbul.

Chalkidiki: Large peninsula in north-eastern Greece, with three fingers, Kassandra, Sithonia and Athos.

Chersonesi: Part of European Turkey around Tekirdağ and Keşan.

Chilandar (Chiliandri): Monastery in the north-western part of Athos.

Cholomon[da]: Mountain on Chalkidiki (1165 m).

Chortiatis: Small mountain c. 15 km ESE of Thessaloniki (1201 m).

Constantinopel = Istanbul.

Cortasch = Chortiatis.

Crucherat = Ano Achlada.

Daphne: Harbour on the south-western side of the Athos peninsula.

Dardanelles: Waterway connecting the Marmara Sea and the Aegean.

Dilbaschi: Unidentified locality in Bithynia, probably by the Gulf of Izmit.

Djesida: Unidentified locality in Bithynia.

Djustendil = Kjustendil.

Dorisci = Dedeğaç, the Turkish name for Alexandroupolis.

Drim (Drini): River in northern Albania. The White Drim originates in Prokletije and meets the Black Drim (coming from the Ohrid Lake) near the town of Kukës; the Drim then flows west into the Adriatic Sea near Skhodër.

Drsnik: Village c. 25 km ESE of Peć.

Edessa: Town in north central Greece, c. 75 km WNW of Thessaloniki.

Enez = Enos.

Enos = Town in European Turkey, at the eastern shore of the Evros river, near the Greek border.

Eski Heracli = Silivri.

Evros: River forming the border between Greece and Turkey.

Evvia: Large island just E of Sterea Ellas.

Farsala: Town in the Thessalian plain.

Galatista: Village on Chalkidiki, c. 32 km ESE of Thessaloniki.

Galatzista = Galatista.

Gallikos: River just W of Thessaloniki.

Gelibolu (Gallipoli): Large peninsula NW of the Dardanelles.

Gemlik = Coastal town c. 80 km SSE of Istanbul, by a gulf with the same name.

Giannitsa: Town in north central Greece, c. 50 km WNW of Thessaloniki.

Gioura: Rocky island in the Northern Sporades.

Gornicevo = Kella.

Great Lavra = Megisti Lavra.

Haemus: Ancient name for Stara planina.

Hajianna = Agia Anna.

Hajion Oros = Agion Oros or Athos.

Hellespontos = Dardanelles.

Hersek: Coastal locality in the Gulf of Izmit.

Hilandar = Chilandar.

Holy Mountain = Athos.

Hymettus (Imittos): Mountain just E of Athens (1026 m).

Ierissos: Town just W of the border of the Athos peninsula.

Ikaria: Island in the East Aegean.

Inecik: Village c. 20 km SSW of Tekirdağ.

Insulis Principum = Princes Islands (Kızıl Adalar).

Ipec = Peč.

Istanbul: Large city in north-western Turkey, the capital of the Ottoman Empire.

Istib = Stobi.

Iviron: Monastery on the north-eastern coast of Athos.

Izmir: City in western Turkey, E of the Greek island of Chios.

Izmit: Town c. 80 km ESE of Istanbul, at the innermost part of a deep gulf with the same name.

Jenidgé = Giannitsa.

Jenidze Vardar = Giannitsa.

Jevisa: Unidentified locality in Bithynia.

Jura-Pula = Gioura.

Kačanik: Village c. 30 km NNW of Skopje.

Kaffadar = Kavadarci.

Kajmakčalan: The Turkish name for Voras, sometimes used only for the main summit.

Kalameria (Kalamaria): Village just S of Thessaloniki, now part of the city.

Kalkandele = Tetovo.

Kalofer: Town in Bulgaria, c. 260 km E of Sofija.

Kalo Nero = Peristeri.

Kalopfir = Kalofer.

Kapaku: Unidentified locality near Mudanya.

Karadagh = Skopska Crna gora.

Karaes = Karies.

Karatova: Unidentified locality in Mt Rila.

Karies or Karyes: Small town on Athos, the administrative capital of the monastic community.

Karlovo: Large town in Bulgaria, c. 240 km E of Sofija.

Kartal: Town c. 25 km SE of Istanbul.

Katara: Mountain pass in the Pindhos (c. 1600 m).

Katschianik = Kačanik.

Kavadarci: Town in Makedonija, c. 72 km NE of Bitola.

Kavala (Kavalla): Large town on the North Aegean coast.

Kella: Village W of Lake Vegoritis.

Kerasia: Small settlement on Mt Athos.

Keşan: Town in European Turkey c. 45 km E of the Greek border.

Kholomon = Cholomon.

Kızıl Adalar: Group of small islands just SE of Istanbul.

Kjustendil: Town in western Bulgaria, c. 70 km SW of Sofija.

Kobelica: Central peak in Šar planina (2526 m).

Kobelitza = Kobelica.

Komanova = Kumanovo.

Konstantinopel = Istanbul.

Kopaunik (Kopaonik): Long mountain massif in Serbia c. 80 km W of Niš (2017 m).

Köprili = Veles.

Korthiat = Chortiatis.

Kostendil = Kjustendil.

Kriva Palanka: Town in north-eastern Makedonija, c. 80 km ENE of Skopje.

Krušograd = Ano Achlada.

Kuburnu: Probably hills ENE of Kavalla in north-eastern Greece.

Küçüçekmece: Coastal locality just W of Istanbul.

Kumanovo: Town c. 28 km NE of Skopje.

Kutschuk Tschekmedsche = Küçüçekmece.

Langada: Lake ENE of Thessaloniki.

Langasa = Langada.

Laregovi = Arnea.

Lavra = Megisti Lavra.

Lessnowacz: Unidentified locality in Mt Rila.

Lesvos (Mitolini): Large island in the East Aegean.

Limnos: Large island in the North Aegean, c. 140 km NW of Lesvos.

Ljubatrin = Ljuboten.

Ljuboten: The north-eastern summit of Šar planina (2499 m), c. 30 km NW of Skopje.

Macedonia: Large Balkan region comprising north central Greece, the southern part of the former Yugoslavia, and a smaller area in south west Bulgaria.

Magarevo: Town c. 8 km WNW of Bitola.

Maidan: Unidentified locality in Serbia.

Makedhonia: Region in north central Greece, bordering on Epirus in the west, Thessaly in the south and Thraki in the east, more or less corresponding to Grisebach's "Macedonia australis".

Makedonija: The southernmost republic in the Yugoslav Federation, now an independent country officially recognized as the Former Yugoslav Republic of Makedonija (FYROM), more or less corresponding to Grisebach's "Macedonia borealis".

Makri: Small town on the north Aegean coast, c. 12 km W of Alexandroupolis.

Malgara: Town in European Turkey c. 180 km WSW of Istanbul.

Malkara = Malgara.

Maltepe: Coastal town just SE of Istanbul.

Maragona or Marogna = Maronia.

Margarovo = Magarevo.

Maritza = Evros.

Marmara: Sea between the Bosphorus and the Dardanelles.

Maronia: Cape on the north Aegean coast, c. 30 km W of Alexandroupolis.

Megisti Lavra: The largest monastery on Athos, near the eastern tip of the peninsula.

Modania = Mudanya.

Modurlu = Mudurnu.

Monastir = Bitola.

Monte santo = Athos.

Mudanya: Town at the southern shore of the Gulf of Gemlik, c. 90 km SSW of Istanbul.

Mudurnu: Town c. 195 km SSE of Istanbul.

Nestos: River in north-eastern Greece, forming a delta N of Thasos.

Nidgé [planina]: The Slavic name for Voras.

North Albanian Alps = Prokletije.

Novibazar = Novi Pazar.

Novi Pazar: Large town in Kosovo, c. 56 km NNE of Peć.

Olympus: See Bithynian Olympus and Thessalian Olympus.

Orbeli: Part of Mt Rila; not to be confused with Orvilos (Alibotusch, Slavjanka) in south-western Bulgaria near the Greek border.

Ossa: Mountain in east central Greece, SE of the Thessalian Olympus (1978 m).

Ostrovo = Arnissa.

Othris: Mountain in east central Greece (1726 m).

Palanka = Kriva Palanka.

Panagia (Panajia): Village on the north-eastern coast of the island of Thasos; also a chapel by timberline on Mt Athos.

Pandokratoras (Pandocratoras): Monastery on the north coast of the Athos peninsula.

Pangeo: Mountain in north-eastern Greece (1956 m), c. 100 km ENE of Thessaloniki.

Parnassos: Mountain in Sterea Ellas (2457 m).

Parnes = Parnitha.

Parnitha: Mountain just N of Athens (1413 m).

Parnonas: Mountain range in the Peloponnese (1935 m), E of Taigetos.

Pavlu = Agios Pavlos.

Peć: Large town in western Kosovo.

Peklen: Mountain just NW of Peć, part of the Prokletije range.

Pelister = Peristeri.

Peloponnisos (Peloponnese): Large peninsula in the southern part of the Greek mainland.

Peristeri: Large mountain in south-western Makedonija and north-western Greece (2600 m).

Perlepé = Prilep.

Philippopolis = Plovdiv.

Pilaf-Tepé = Pangeo.

Pilio: Mountain in east central Greece (1610 m).

Pindhos: Large mountain range running from NNW to SSE through much of the Greek mainland.

Piperitsa: The south-western part of Mt Voras.

Pletvar: Pass at the southern end of Mt Babuna (997 m).

Plovdiv: Large town in southern Bulgaria, c. 130 km ESE of Sofija.

Prilep: Town in Makedonija, c. 40 km NNE of Bitola.

Princes islands = Kızıl Adalar.

Prisdren = Prizren.

Prizren: Town in south-western Kosovo, at the foot of Šar planina.

Prizrenska Bistrica: A tributary to the White Drim, near Prizren.

Prokletije: Large mountain range in northern Albania and adjacent parts of Kosovo and Montenegro (2656 m).

Propontis: Ancient name for the Marmara Sea.

Puka: Low mountain c. 30 km E of Skhodër.

Resna = Prizrenska Bistrica.

Rila: Large mountain in Bulgaria, c. 60 km SSE of Sofia, the highest in the Balkans (2925 m).

Rodosto = Tekirdağ.

Rumelia: Ancient name for a region between the Balkan mountains in the north and the Aegean Sea in the south, and the Black Sea in the east and Albania in the west.

Rusköi = Keşan.

Salonichi = Thessaloniki.

Samanli: Small mountain range between Gemlik and Yalova.

Samothraki: Island in the North Aegean.

Šar (Shar) planina: Large mountain range on the borders of Makedonija and Kosovo.

Sarijari: Unidentified locality near Bosporus.

Scardus = Šar planina.

Scutari = Skhodër.

Sedes: Village on Chalkidiki, just SE of Thessaloniki.

Sidhirolakkos: Village on the eastern side of Chalkidiki.

Silivri (Silivria, Silvri): Town c. 65 km W of Istanbul.

Sinum Nicomedicum = Gulf of Izmit.

Skala Kazaviti: village on north-western Thasos.

Skala Prinos = Skala Kazaviti.

Skhodër: Large town in north-western Albania.

Skopje: Capital of the Republic of Makedonija.

Skopska Crna gora: Mountain c. 25 km N of Skopje (1651 m).

Skutari = Üsküdar.

Sliven: Large town in eastern Bulgaria.

Slivno = Sliven.

Smyrna = Izmir.

Stambul: The European part of Istanbul.

Stara planina: Large mountain range in central Bulgaria.

Stellaria = Gulf of Ierissos.

Sterea Ellas: The south central part of the Greek mainland.

Stobi: Archaeological site in the Vardar valley, c. 70 km SE of Skopje.

Stracin (Strazin): Mountain pass c. 53 km ENE of Skopje (560 m).

Stratoniki: Village on the eastern side of Chalkidiki.

Stratonion: Village on the eastern side of Chalkidiki.

Strimnica: Village at the foot of Šar planina, below the peak of Ljuboten.

Strinitza = Strimnica.

Sturatz: Unidentified locality in Serbia.

Taigetos: Large mountain range in southern Peloponnisos (2407 m).

Tassos = Thasos.

Tearce: Village at the south-eastern foot of Šar planina, c. 30 km WNW of Skopje.

Teehartscha: Probably = Tearce.

Tekirdağ = Town in European Turkey, c. 130 km WSW of Istanbul.

Tenedos = Bozcaada.

Tetovo (Tettovo): Town W of Skopje and just S of Šar planina.

Thasos: Large island in the North Aegean.

Thessalian Olympus: Large mountain on the border of Thessaly and Makedhonia, the highest in Greece (2917 m).

Thessaloniki: Coastal city in north-eastern Greece.

Thessaly: Greek region S of Makedhonia.

Thracia (Thraki, Thrace): Ancient name for the eastern part of the Balkan Peninsula between the Nestos river and the Bosphorus, thus comprising north-eastern Greece, Turkey-in-Europe and parts of southern Bulgaria.

Timfristos: Mountain in northern Sterea Ellas (2315 m).

Titov Veles = Veles.

Toliewacz = ?Boljevac, a town c. 20 km S of Niš in Serbia.

Trojaci: Village between Prilep and Veles.

Trojaz-chan = Trojaci.

Tschatal-tepé: Low mountain near Enez.

Ueskueb (Üsküb) = Skopje.

Ulu Dağ = Large mountain in north-western Anatolia, near Bursa (2493 m).

Üsküdar = The Asiatic side of Istanbul.

Vardar: River in Makedonija, flowing south through Skopje and Veles, called Axios south of the border.

Varnous = Peristeri.

Vasilika: Town on Chalkidiki, SE of Thessaloniki.

Vegoritis: Lake in north central Greece, S of Mt Voras.

Vejce: Village c. 9 km NNW of Tetovo.

Veles: Town in the Vardar valley, c. 50 km SE of Skopje.

Vermio[n]: Large mountain S of Edessa (2052 m).

Vertiscus = Prokletije.

Vitsi: Mountain SSE of Peristeri (2128 m).

Vodena = Edessa.

Voras: Large mountain N of Edessa, on the borders of Greece and the Republic of Makedonija (2524 m).

Weitzza = Vejce.

Xeropotamos: Monastery on Athos, by the coast W of Karies.

Xerxes canal: Low-lying swampy strip at the neck of the Athos peninsula.

Yalova: Town at the northern shore of the Gulf of Gemlik, c. 50 km SSE of Istanbul.