Notes on some taxa of *Hieracium* and *Pilosella* (*Asteraceae*), new for the Greek flora

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Abstract: During floristic investigation of the northern Greek flora, emphasis was laid on the genera *Hieracium* and *Pilosella*. As a result, six species and three subspecies of the genus *Hieracium* and three species of the genus *Pilosella* were detected in Greece for the first time and reported here. According to the original description and classification, three of these are suggested as meriting the species rank.

Key words: Greece, *Hieracium*, new records, *Pilosella*, taxonomy

Introduction

Recent checklist of the vascular flora of Greece (Dimopoulos & al. 2013, 2016) reflects remarkable diversity of the genera *Hieracium* L. and *Pilosella* Vaill. (*Asteraceae*) in Greece. Many of these species belong to endemic sections of the Balkan Peninsula or have their center of evolution and diversity in this area, i.e., the *Hieracium* sect. *Bracteolata* Zahn, *H*. sect. *Cernua* R. Uechtr., *H*. sect. *Naegeliana* Zahn ex Szeląg and *H*. sect. *Pannosa* (Zahn) Zahn.

As with the entire flora, the basic set of the Greek *Hieracium* species had already been detected in the "golden age of botanical exploration of Greece" (Dimopoulos & al. 2013) by Heldreich and Orphanides and described by Boissier in the middle of the 19th century (Boissier 1842–1859). Later collections made by Sintenis, Haussknecht, Baldacci, Halacsy, Bornmüller and others were evaluated and determined by Freyn (1895, 1897) and Zahn. This resulted in about six new descriptions by Freyn (partly with Sintenis) and many more by Zahn (1921–23), mainly in his last monographic account for Ascherson & Graebner's *Synopsis der Mitteleuropäischen Flora* (Zahn 1922–38). Zahn did not limit himself to the actual geographical range in this publication; rather, he extended his tremendous work to all species of the genus across the Balkans and up to Greece.

In the second half of the 20th century, several new *Hieracium* species were described (Buttler 1991). They were followed only recently with some lectotypifications by Szeląg (2014). Collection activities generally remained on a rather low level. *Hieracium* specimens were mostly gathered unsystematically, as "bycatches" of other botanical projects.

In several recent materials seen by one of the authors (G.G.), some collections proved to be new taxa for the Greek flora (Gottschlich & al. 2006, 2013, 2014). This led to a hypothesis that a more systematic collection activity with special emphasis on *Hieracium* and *Pilosella* would substantially increase the knowledge about these genera in Greece. This assumption has been sustained by collections of the first author since 2012.

The new field project "*Hieracium* and *Pilosella* in Greece" has started in the northern parts of the country (Epirus, West, Central and East Macedonia

(Fig. 1). Here, in the granite mountains of Central and East Macedonia, the highest biodiversity could have been expected. Indeed, a richness of different species was found combined with high local abundance along the forest roads, especially bordering on the woods and on decomposed granite slopes. In the calcareous mountains, habitats rich in species of *Hieracium* and *Pilosella* are restricted to subalpine and alpine meadows, screes and rocks.

As a result of the present investigation, twelve taxa (nine species, and three subspecies) have been newly found for Greece. Three taxa were suggested as warranting the rank of species, according to the original description.

Abbreviations used in the data sets: NE, NC, NPI = phytogeographical regions according to Dimopoulos & al. (2013), Go- = specimen in the herbarium of G. Gottschlich, Du- = specimen in the herbarium of F. G. Dunkel, Hier. Eur. Sel. = specimens distributed in the exsiccata series Hieracia Europaea Selecta (B, FI, FR, H, IBF, LI, M, PAL, PRA, UPA, W, Hb. Brandstätter, Hb. Dunkel, Hb. Gottschlich); ! = specimen seen by G.G.

***Hieracium argyrotrichum* Freyn**

≡ *H. olympicum* subsp. *argyrotrichum* (Freyn) Zahn

Hieracium argyrotrichum is recorded for Greece as *H. olympicum* subsp. *argyrotrichum* (Freyn) Zahn. Although *H. olympicum* shows great morphological variation, *H. argyrotrichum* differs substantially from this species. The shape of the broad lower leaves is similar to that of *H. racemosum* (see Szeląg 2014: Fig. 2). Therefore, *H. argyrotrichum* can be interpreted morphologically as an intermediate species "olympicum > racemosum" and should be treated in the rank of species.

NE – Nom. Serres, road from Serres to Leilias, 1410 m (41°14'27"N 23°34'24"E), *Pinus-Fagus*-forest, leg. F.G. Dunkel & G. Gottschlich, 17.07.2017, Go-68311;

NE – Nom. Serres, road from Serres to Leilias, 1360 m (41°14'13"N 23°34'33"E), *Pinus*-(*Abies-Fagus*)-forest, granite, leg. F.G. Dunkel & G. Gottschlich, 17.07.2017, Go-68309, Du-34745+46;

NE – Nom. Serres, street from Serres to Leilias, 1280 m (41°13'51"N 23°34'45"E), granite, leg. F.G. Dunkel & G. Gottschlich, 17.07.2017, Go-68305, Du-34741;

NE – Nom. Drama, Mt. Orvilos E Katafito, 700 m (41°21'06"N 23°42'10"E), sunny slopes along the road, leg. F.G. Dunkel, 01.08.2016, Du-33806-1/2;

NE – Nom. Serres, Menikio, 590 m (41°11'33"N 23°48'05"E), *Castanea* grove, 17.07.2017, leg. G. Gottschlich, Go-68334;

NE – Nom. Drama, Paranesti, Forest of Frakto, above Thermia, 800 m (41°29'19"N 24°26'07"E), cemented detritus of granite, leg. F.G. Dunkel & G. Gottschlich, 15.07.2017, Go-68234;

NE – Nom. Drama, Paranesti, Forest of Frakto, above Thermia, 880 m (41°29'50"N 24°26'16"E), detritus of granite, F.G. Dunkel & G. Gottschlich, 15.07.2017, Go-68237, Du-34662;

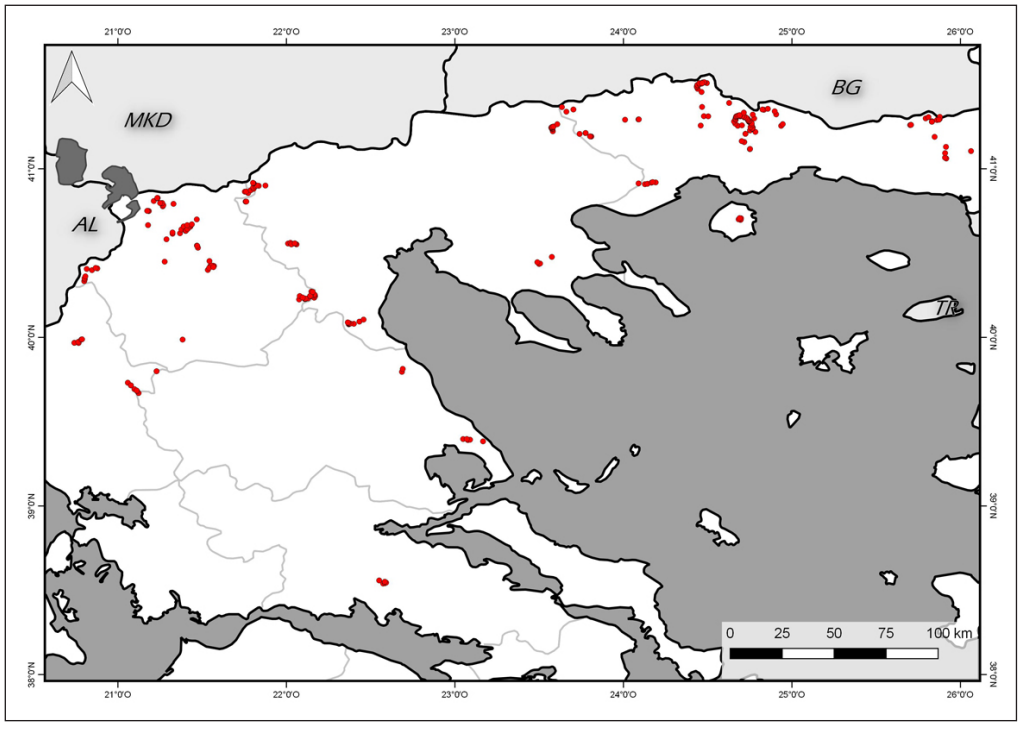

Fig. 1: Localities of the collected *Hieracium* specimens.

NE – Nom. Xanthi, between Dipotama and border to Bulgaria, 850–1150 m (41°23'26"N 24°37'37"E), slopes along the road, silicates, leg. F.G. Dunkel, 03.08.2016, Du-33860-1;

NE – Nom. Xanthi, Stavroupoli, road to Livaditis, S Kato Karyofito, 520 m (41°15'18"N 24°40'42"E), detritus of granite, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68215, Du-34612;

NE – Nom. Xanthi, above Kallithea, 1250 m (41°17'19"N 24°44'19"E), *Pinus* forest, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Du-34596;

NE – Nom. Xanthi, above Kallithea, 1190 m (41°16'50"N 24°44'40"E), detritus of granite under *Fagus* forest, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68174, Du-34635;

NE – Nom. Xanthi, Stavroupoli, between Kallithea and Dasiko Chorio, 1209 m (41°17'03"N 24°44'45"E), slopes along the road in *Fagus* forest; leg. F.G. Dunkel, 30.07.2016, Du-33837-1-4;

NE – Nom. Xanthi, between Likodromio and Kallithea, 490 m (41°13'59"N 24°45'22"E), stony slopes along the road, granite, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68154;

Fig. 2: *Hieracium jankae* subsp. *wagneri* (Du-34536, Go-68114).

NE – Nom. Xanthi, between Likodromio and Kallithea, 680 m (41°15'01"N 24°45'33"E), bushy slopes along the road, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68166, Du-34629;

NE – Nom. Xanthi, between Likodromio and Kallithea, 550 m (41°14'15"N 24°45'51"E), shady humid slopes along the road, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68155, Du-34620;

NE – Nom. Xanthi, between Likodromio and Kallithea, 640 m (41°14'54"N 24°45'53"E) bushy slopes along the road, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68163, + Du-34627 + Du-34628;

NE – Nom. Rodopi, NE Organi, 410 m (41°15'34"N 25°42'05"E), *Rubus* shrubbery, leg. F.G. Dunkel & G. Gottschlich, 16.07.2017, Go-68273, Du-34693;

NE – Nom. Rodopi, SW Virsini, 530 m (41°17'56"N 25°47'36"E), *Quercus* shrubbery, leg. F.G. Dunkel & G. Gottschlich, 16.07.2017, Go-68276, Du-34704;

NE – Nom. Rodopi, NW Virsini, 580 m (41°18'23"N 25°48'36"E), fine granite waste, leg. F.G. Dunkel & G. Gottschlich, 16.07.2017, Go-68282, Du-34706;

NE – Nom. Rodopi, NE Arriana, 700 m (41°11'22"N 25°50'47"E), slopes along the road in *Fagus* forest, leg. F.G. Dunkel & G. Gottschlich, 16.07.2017, Go-68300, Du-34735.

Hieracium crinitopannosum Szeląg & Vladimirov

This recently described species is known from the Central Rhodopes of Bulgaria (Szeląg & Vladimirov 2013). Morphologically, it is very similar to the collective species *H. chalcidicum* Boiss. but differs by its sharply dentate leaves. Now, it can also be documented as occurring in the Greek parts of the Rhodope Mountains.

NE – Nom. Drama, Mt.Orvilos E Katafito, 700 m (41°21'06"N 23°42'10"E), sunny slopes along the road, leg. F.G. Dunkel, 01.08.2016, Du-33813-1, Go-66678.

Hieracium jankae subsp. *wagneri* Zahn (Fig. 2)

H. jankae subsp. *wagneri* is characterized by long branches and subglobose capitula. It has been known so far only from Bulgaria but obviously is widespread in North Greece.

NC – Nom. Florina, Triklário, street to lake Prespa, near lookout point, 1120 m (40°45'02"N 21°10'40"E), slope with detritus, 12.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68114, Du-34536;

NC – Nom. Florina, Pisoderi, N-slope Kalo-Nero: street Pisoderi → Ag.Germanos, 1900–2100 m (40°49'30"N 21°14'00"E), stony slopes with single *Fagus* trees, silicate, 19.7.2016, leg. F.G. Dunkel, Go-66811, Du-33653;

NC – Nom. Florina, Mt.Vernon, surroundings of Vitsi Ski Center, 1750–1850 m, 40°38'24"N 21°22'35"E, silicate, 10.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68066, Du-34458;

NC – Nom. Kozáni, M.Askion, Kataphygion → M.Askion, 1360 m (40°25'30"N 21°33'51"E), slope with detritus, 12.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68107, Du-34523;

NC – Nom. Kozáni, M.Askion, Kataphygion → M.Askion, 1380 m (40°25'24"N 21°34'11"E), edge of *Fagus* forest, 12.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68104, Du-34520;

NC – Nom. Kozáni, Pieria, Katafigi → Velventós, 1380 m (40°14'43"N 22°04'44"E), granite rock, 13.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68146;

NC – Nom. Kozáni, Piéria, Velventós → Katafigi, 1340 m (40°14'45"N 22°08'26"E), granite detritus, 13.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68122, Du-34553;

NC – Nom. Kozáni, Piéria, Velvent¢s → Katafigi, 1390 m (40°14'39"N 22°08'44"E), granite rock, 13.7.2017, leg. F.G. Dunkel, Du-34556;

NE – Nom. Serres, Serres, road to Leilias, 18 km NNE Serres, 1485 m (41°14'45"N 23°34'24"E), mixed *Fagus* forest; 28.7.2016, leg. F.G. Dunkel, Go-66810, Du-33732-1;

NE – Nom. Serres, Serres, road to Leilias, 1410 m (41°14'27"N 23°34'24"E), *Pinus*/*Fagus* forest, 17.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68313, Du-34749;

NE – Nom. Serres, road to Leilias, 1360 m (41°14'13"N 23°34'33"E), *Pinus*/*Abies*/*Fagus* forest, granite, 17.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68308;

NE – Nom. Serres, road to Leilias, 1480 m (41°14'50"N 23°34'33"E), thinned-out *Pinus* forest, 17.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68320, Du-34758;

NE – Nom. Serres, road to Leilias, 3,2 km NNW Oreini, 1500 m (41°14'54"N 23°34'40"E), *Pinus*/*Fagus* forest, 28.7.2016, leg. F.G. Dunkel, Du-33745-1/2;

NE – Nom. Serres, road to Leilias, 6 km NNW Oreini, 1540 m (41°16'10"N 23°36'06"E), *Fagus* forest, 28.7.2016, leg. F.G. Dunkel, Du-33752-2;

NE – Nom. Serres, road to Leilias, 5,1 km NNW Oreini, 1332 m (41°14'07"N 23°34'41"E), *Pinus* forest, 29.7.2016, leg. F.G.Dunkel, Du-33728-1;

NE – Nom. Serres, Serres, road to Leilias, 1280 m (41°13'51"N 23°34'45"E), slope with granite rocks, 17.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68306a, Du-34743;

NE – Nom. Serres, Leilas, near Kataphygion, 1580 m (41°15'52"N 23°36'26"E), granite rocks in *Pinus* forest, 28.7.2016, leg. F.G. Dunkel, Du-33754-1;

NE – Nom. Drama, Paranesti, Forest of Frakto above Thermia, 1080 m (41°30'27"N 24°27'03"E), granite detritus in young *Pinus* stands, 15.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68246, Du-34675;

NE – Nom. Drama, Paranesti, Forest of Frakto above Thermia, 1150 m (41°30'06"N 24°27'05"E), bushy slope, 15.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68256, Du-34684;

NE – Nom. Drama, Paranesti, Forest of Frakto above Thermia, 1250 m (41°30'27"N 24°27'59"E), slope under *Pinus nigra* forest, 15.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68262, Du-34698;

NE – Nom. Drama, 6,0 km NE Loutra Thermion, 4,3 km S border of Bulgaria, 1347 m (41°30'46"N 24°28'49"E) rocks along the road, 8.7.2013, leg. T. Gregor, FR;

NE – Nom. Drama, Paranesti, Forest of Frakto above Thermia, 1340 m (41°30'46"N 24°28'49"E), granite rocks and granite detritus, 15.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68267;

NE – Nom. Drama, 25 km N Paranesti, NE Thermia, Forest of Frakto, 1300 m 41°30'46"N 24°28'50"E), along the forest road, 8.7.2013, leg. L. Meierott;

NE – Nom. Drama, 25 km N Paranesti, NE Thermia, virgin forest, 1380 m (41°30'32"N 24°29'14"E, forest opening, stony grassland, 8.7.2013, leg. L.Meierott;

NE – Nom. Xanthi, Livaditis, 2 km E Neohori → Karyofyto → Livaditis, 1000 m (41°16'50"N 24°39'22"E), pasture with shrubbery and rocks, 13.8.2012, leg. F.G. Dunkel, Go-59575+76+77, Du-29514+16+17+19+22;

NE – Nom. Xanthi, Stavroupoli, 3,8 km S Livaditis, between Ano Karyofyto and Livaditis, 650 m (41°16'04"N 24°39'47"E), slope, 28.7.2016, leg. F.G. Dunkel, Du-33691-1;

NE – Nom. Xanthi, Stavroupoli, road to Livaditis, 1260 m (41°17'46"N 24°39'53"E), granite detritus under young *Pinus* stands, 14.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68208+09, Du-34606+07;

NE – Nom. Xanthi, Stavroupoli, 900 m S Livaditis, 1266 m (41°17'47"N 24°39'54"E), slope in *Fagus* forest, 28.7.2016, leg. F.G. Dunkel, Go-66693, Du-33700;

NE – Nom. Xanthi, Livaditis, 2 km E Neohori → Karyofyto → Livaditis, 1210–1280 m, (41°17'26"N 24°39'57"E), granite rocks and detritus, 13.8.2012, leg. F.G. Dunkel, Go-59535+79, Du-29528+29;

NE – Nom. Xanthi, 0,9 km SSW Livaditis, 1266 m (41°17'48"N 24°39'59"E), slope along the road in *Fagus* forest, 10.7.2013, leg. T. Gregor FR;

NE – Nom. Xanthi, Livaditis → Kallithea, E Livaditis, 1160–1245 m (41°18'37"N 24°40'08"E), granite rocks, *Fagus* forest, 13.8.2012, leg. F.G. Dunkel, Go-59547+580, Du-29545+46;

NE – Nom. Xanthi, Stavroupoli, road to Livaditis, 1190 m (41°18'40"N 24°41'35"E), granite detritus, 14.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68204, Du-34605;

NE – Nom. Xanthi, NE Livaditis, 1300 m (41°20'42"N 24°43'13"E), rocky slopes along the forest road, 10.7.2013, leg. L. Meierott;
NE – Nom. Xanthi, above Kallithea, 1350 m (41°18'19"N 24°43'31"E), light *Fagus* forest, 14.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68196, Du-34602, UPA;
NE – Nom. Xanthi, above Kallithea, 1250 m (41°17'19"N 24°44'19"E), *Pinus* forest, 14.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68183, Du-34589;
NE – Nom. Xanthi, NW Xanthi: Lykodromio → Kallithea → Livaditis, 973 m (41°14'51"N 24°45'14"E), rocky slopes along the road, 5.7.2014, leg. F.G. Dunkel, Go-64740, Du-32159;
NE – Nom. Rodopi, NE above Chloi, near the windmills, 990 m (41°17'28"N 25°52'18"E), grassland with shrubbery, 16.7.2017, leg. F.G. Dunkel & G. Gottschlich, Go-68294.

Hieracium klisurae Zahn ex Urum.

Hieracium klisurae s. str. has been known so far only from Bulgaria (SOM-13080!, SOM-89659!). It can be regarded as intermediate between *H. sparsum* and *H. racemosum*. Both presumptive parents are very common in the Rhodope Mountains. However, the character of the species – a primary recent or stabilized hybrid? – is so far unknown.

NC – Nom. Florina, Kalo Nero 4 km E Pissoderi, 1460 m (40°26'57"N 21°16'38"E), grassy slopes along the road, leg. F.G. Dunkel, 30.06.2014, Du-31532;
NE – Nom. Xanthi, above Kallithea, 1330 m (41°18'01"N 24°43'55"E), slopes along the road, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68194.

Hieracium olympicum subsp. *permulticeps* Jasiewicz & Pawł.

Found/Discovered in the Central Rhodopes of Bulgaria (Pawłowski 1963, type: KRAM!), it differs from the type subspecies (G!) by its large basal leaves, which are strongly dentate.

NE – Nom. Drama, Sidironero, *Betula pendula* forest, 1100–1350 m, leg. E. Eleftheriadou, 1994, Eleftheriadou-s.n.; Go-26602;
NE – Nom. Drama, Paranesti, Forest of Frakto, above Thermia, 800 m (41°29'19"N 24°26'07"E), cemented detritus of granite, leg. F.G. Dunkel & G. Gottschlich, 15.07.2017, Go-68235;
NE – Nom. Drama, Paranesti, Forest of Frakto, above Thermia, 880 m (41°29'50"N 24°26'16"E), detritus of granite, leg. F.G. Dunkel & G. Gottschlich, 15.07.2017, Go-68238;
NE – Nom. Xanthi, above Kallithea, 1210 m (41°17'34"N 24°44'13"E), detritus of granite in *Fagus* forest, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68186;
NE – Nom. Rodopi, between Virsini and Kalivea, 550 m (41°16'54"N 25°49'54"E), detritus of granite, leg. F.G. Dunkel & G. Gottschlich, 16.07.2017, Go-68283, Du-34709.

Hieracium penzesii Kováts & Zahn ex Pénzes
≡ *H. jankae* subsp. *penzesii* (Kováts & Zahn ex Pénzes) Greuter

Hieracium penzesii can be regarded as a forgotten species. Described just before the World War II in a new but little-known journal (Pénzes 1939), it was never adopted in the Bulgarian floras (Stojanov & Stefanov 1948; Stojanov & al. 1967 and Assyov & Petrova 2006). Only Greuter listed it recently (Greuter & Raab-Straube 2007). According to the estimation of *H. jankae* as "sparsum > pannosum" by Zahn, Greuter transferred it to *H. jankae* in the rank of subspecies. However, *H. jankae* is densely villous in all parts and possesses subplumose hairs. Contrary to *H. jankae, H. penzesii* is only covered with (not subplumose, only distinctly dentate) hairs on both surfaces of the leaves. The upper part, including the synflorescence, is almost glabrous and resembles completely *H. sparsum* (isotype: B-101024849! represents a plant that is not completely developed; a better one is illustrated in Fig. XVII in Pénzes 1939). Therefore, the taxonomical circumscription of *H. jankae* does not correspond at all to the plants that were found. Summarily, *H. penzesii* is set apart from *H. jankae*, and its ranking with species seems to be more appropriate.

NC – Nom. Florina, Pisoderi, northern slope of Kalo-Nero: road between Pisoderi and Ag. Germanos, 1900–2100 m (40°49'30"N 21°14'00"E), stony places with little *Fagus* populations, silicates, leg. F.G. Dunkel, 19.07.2016, Du-33658-1.

Hieracium sparsum subsp. *werneri* (Szeląg) Greuter
(Fig. 3)

This taxon has been known so far only from Bulgaria, but it also grows in the Greek part of the Rhodope Mountains. It differs from subsp. *sparsiceps* (Zahn) Zahn by a greater number of cauline leaves (Szeląg 2006).

NC – Nom. Florina, Pisoderi, northern slope of Kalo-Nero: road between Pisoderi and Ag. Germanos, 1900–2100 m

(40°49'30"N 21°14'00"E), stony places with little *Fagus* populations, silicates, leg. F.G. Dunkel, 19.07.2016, Du-33659-1/2, Go-66728.

NC – Nom. Florina, Pisoderi, northern slope of Kalo-Nero: road between Pisoderi and Ag. Germanos, 1900–2100 m (40°49'30"N 21°14'00"E), stony places with little *Fagus* populations, silicates, leg. F.G. Dunkel, 19.07.2016, Du-33618-1;

NE – Nom. Xanthi, between Livaditis and Kallithea, 1160–1245 m (41°18'37"N 24°40'08"E), granite rocks, *Fagus* forest, leg. F.G. Dunkel, 13.08.2012, Du-29537+40-1+3, Go-59539a;

NE – Nom. Xanthi, Stavroupoli, 2,2 km NE Livaditis, road to Dasiko Chorio, 1177 m (41°18'48"N 24°41'35"E), margin of *Fagus* forest, leg. F.G. Dunkel., 28.07.2016, Du-33719-1, Go-66681;

NE – Nom. Xanthi, above Kallithea, 1350 m (41°18'19"N 24°43'31"E), tinned-out *Fagus* forest, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68197;

NE – Nom. Xanthi, above Kallithea, 1250 m (41°17'19"N 24°44'19"E), *Pinus* forest, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68184;

NE – Nom. Xanthi, above Kallithea, 1145 m (41°16'11"N 24°45'39"E), *Genista* shrubbery, granite, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Go-68168, Du-34632.

***Hieracium subnitens* Zahn** (Fig. 4)

This species has been treated as *H. sparsum* subsp. *subnitens* in the Euro+Med Plantbase. However, the shape either of basal or stem leaves differs strongly from all taxa of *H. sparsum* (see Fig. 21 in Szeląg 2015). The entire plant looks like a relative of the Central European *H. lachenalii*. Therefore, we contend for the original rank of species.

NE – Nom. Serres, road to Leilias, 3,2 km NNW Oreini, 1560 m (41°14'55"N 23°33'41"E), *Pinus-Fagus* forest, leg. F.G. Dunkel, 28.07.2016, Du-33744-1+33748-1/2, Go-66718;

NE – Nom. Serres, road to Leilias, 1500 m (41°14'55"N 23°34'41"E), slope along the road, *Fagus* forest, leg. F.G. Dunkel & G. Gottschlich, 17.07.2017, Go-68329, Du-34762, Hier. Eur. Sel.

Fig. 3: *Hieracium sparsum* subsp. *werneri* (Go-68197).

Fig. 4: *Hieracium subnitens* (Du-34762, Go-68329).

***Hieracium villosum* Jacq.** (Fig. 5)

H. villosum is well known in the Alps and also occurs on the Balkan Peninsula. From Albania, there have been several historically known but only one recent collection adjacent to the Greek border (Gottschlich & Barina 2017:129). Thus, the occurrence of *H. villosum* on Mt Gramos is not surprising.

NPI – Nom. Kastoria, Mt. Gramos, western slope above village Gramos, 1900 m (40°20'N 20°48'E), calcareous grassy slopes, leg. F.G. Dunkel & G. Gottschlich, 11.07.2017, Go-68091, Du-34503, Hier. Eur. Sel.

***Pilosella biglana* (Bornm. & Zahn) S. Bräut. & Greuter**

P. pavichii and *P. leucopsilon* (= *Hieracium hoppeanum* subsp. *testimoniale*) are common species in North Greece. *P. leucopsilon* seems to be always sexual; *P. pavichii* either sexual or apomictic (Krahulcova & al. 2016). Therefore, the hybrid, *P. biglana*, was expected in Greece, too, and could now be confirmed for the country.

Fig. 5: *Hieracium villosum* (Du-34503, Go-68091).

NC – Nom. Florina, Kalo Nero, northern slope → Pisoderi → Ag.Germanos, 4,35 km N Pisoderi, 1963 m (40°49'38"N 21°14'00"E), dry grassland, leg. F.G. Dunkel, 19.07.2016, Du-33626-1+3+4, Go-66650;

NC – Nom. Kozáni, Piéria, between Katafigi and summit, 1620 m (40°16'10"N 22°09'21"E), thinned-out *Pinus* forest with abundant *Vaccinium*, leg. F.G. Dunkel & G. Gottschlich, 13.07.2017, Go-68138;

NE – Nom. Xanthi, above Kallithea, 1250 m (41°17'19"N 24°44'19"E), *Pinus* forest, leg. F.G. Dunkel & G. Gottschlich, 14.07.2017, Du-34590.

***Pilosella cymosiformis* (Froel.) Gottschl.**

P. cymosiformis (= *H. fallax* auct. non Willd., Gottschlich 2013) is interpreted as an intermediate species "echioides – cymosa". Records from Hungary, Serbia and Romania are very scanty.

NE – Nom. Xanthi, Nestos E Polisiko, 170 m (41°18'43"N 24°28'38"E), rock face, leg. F.G. Dunkel & G. Gottschlich, 15.07.2017, Go-68218, Du-34650.

***Pilosella serbica* (F.W.Schultz & Sch.Bip.) Szeląg**
≡ *Pilosella alpicola* var. *serbica* F.W.Schultz & Sch.Bip.
= *Hieracium alpicola* subsp. *glandulifolium* Nägeli & Peter

The *Pilosella alpicola* group comprises four vicariant species of perennial herbs (Szeląg 2008, Šingliarová & Mráz 2009) characterized by their large capitula with a silky hairy involucrum. Recent studies have shown that the taxa of this group are very closely related and diverged relatively recently, but morphologically are well defined (Šingliarová & al. 2011). At the Greek site, *P. serbica* grows among large populations of *P. rhodopea* (Rchb.) Szeląg. The former differs from *P. rhodopea* by black, up to 0.5 mm long glandular and sparse to scattered 3–4 mm long, simple hairs instead of dark-grey, up to 3 mm long glandular hairs and sparse, 2–3 mm long simple hairs at the peduncles. Both taxa display contrasting cytogeographic patterns with different cytotypes. *P. serbica* is diploid and outcrossing. It has only been known from Montenegro and Serbia. The Balkan taxon *P. rhodopea*

(Griseb.) Szeląg represents a unique diploid-polyploid complex with up to five cytotypes (diploids to hexaploids) (Šingliarová & al. 2011).

NE – Nom. Pellis, Monte Vóras (Kajmakčalan) – on the way to the summit, 2155 m, (40°54'55"N 21°48'10"E), alpine stony grassland on silicate soil, leg. F.G. Dunkel, 21.07.2016, Du-33574.

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