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## Type material in the *Hieracium* collection of Hans Schack – 2. Names published by others than Schack

### Abstract

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Hans Schack (1878-1946) distributed his rich *Hieracium* collection between the Botanical Museum Berlin-Dahlem (B) and the Bavarian Botanical Society in Munich. The latter part is now incorporated in the Botanische Staatssammlung München (M). A list of *Hieracium* names published by various authors on the basis of plant material collected by Schack or deposited in Schack's herbarium is presented here, including information on the type localities given in the protologues. The type material available is listed with full label data and other particulars found on the specimens. The status of the type specimens is discussed, 54 names are lectotypified and three names are transferred to synonymy, viz. *Hieracium murorum* subsp. *heterocladophorum* (= *H. murorum* subsp. *oblongum*), *H. piloselloides* subsp. *judicarinum* (= *H. piloselloides* subsp. *obscurum*) and *H. wallrothianum* (= *H. bifidum* s. str.).

### Introduction

This second contribution dealing with the type material available in the *Hieracium* collections of Hans Schack (1878-1946) deposited in Berlin (B) and Munich (M) is confined to names published by other authors than Schack on the basis of plant material collected by Schack himself or deposited in his herbarium. Content and structure of this second contribution is as in our first contribution (Vogt & Schuhwerk 2000). As pointed out there, assignment of a particular taxonomic rank to a taxon is sometimes quite difficult, therefore the ranks assigned by us are put in square brackets. Names are lectotypified only in undoubtable cases where all material cited in the protologue is available in Schack's herbarium. Additional material from Joseph Bornmüller's collection in Berlin has been taken into consideration only if Bornmüller or Kükenthal were cited as collectors of original material.

### List of the *Hieracium* names

In the following enumeration of *Hieracium* names the full classification of the taxa is given. The names are arranged alphabetically. The following particulars are provided:

1. Name of the taxon with author[s] and place and date of publication.
2. Ind. loc.: Details concerning the type locality or localities cited in the protologue.
3. Type material: Locality data on the specimen label, with reference where deposited [B = Berlin, M = Munich] and status [holotype, isotype, lectotype, isolectotype, paralectotype].
4. Remarks: Additional information concerning status and condition of the material as well as the content of attached revision labels or commentaries. Particulars concerning the typification of names. Specification of the nomenclaturally correct name of the taxon.

***Hieracium amplexicaule* subsp. *amplexicaule* var. *amplexicaule* subvar. *glutinosum* f. *porphyrogeton*** Zahn in Mém. Soc. Sci. Nat. Maroc 26: 23. 1930.

Ind. loc.: “Hab. in rupestribus porphyricis nec non graniticis subalpinis Atlantis Majoris, julio et augusto florens. In ditone Reraya supra fanum Sidi-Chamarouch, ad alt. 2380 m, et in clivo occidentali montis Imserdin, ad alt. 2400 m (Litardiere, 1923); in rupibus madidis secus amnem Ouenkrim, ad alt. 2650 m (status elatus); in rupibus montis Adrar-n-Ouaraout nuncupati, ad alt. 2480-2500 m (Lit. et Maire, 1924).”

Type material: Grand Atlas: Reraya: Vallée de l’... Ouenkrim, rochers porphyriques humides au bord du torrent, 2650 m env., 22.7.1923, R. de Litardière [B].

***Hieracium bauhini* subsp. *radiocaula* [var.] *pilosius*** Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(1): 335. 1929.

Ind. loc.: “... Bayern: Oberfranken (z.B. bei Königsberg = b, ...)! ... Thüringen: ... Themar a. W.! ...”

Lectotype (designated here): Kalkschutt am Eingefallenen Berg bei Themar (Werra), Muschelkalk, ca. 350 m, 19.6.1927, Schack [B]. – Paralectotypes: Königsberg i. Franken, in dem von Unfinden zum Bettelmannssteig hinaufführenden Hohlweg, Keuperletten, ca. 350 m, 6.6.1927, Schack [B]; Königsberg i. Fr., trockene Bergwiese an der Unfinder Steig, Keuperletten, ca. 350 m, 6.6.1927, Schack [M].

Remarks: All specimens bear Zahn’s handwritten determination “*Hieracium bauhini* subsp. *radiocaula* f. *pilosius* Zahn” on the labels. On the first-stated paralectotype specimen, additionally Zahn’s handwritten Latin diagnosis of the variety is attached, which corresponds with the German description of the taxon in the protologue. The specimen from “Themar” is chosen as lectotype, because the characters of the variety and the subspecies are best marked in this specimen.

***Hieracium bifidum* subsp. *caesiiflorum* var. *pseudopraecox* f. *macrodontoides*** Zahn in Mitt. Thüring. Bot. Vereins 39: 39. 1930.

Ind. loc.: “Weismain (Frankenjura): Dolomitfelsen über Schammendorf (21.7.1925 Sch.).”

Lectotype (designated here): Ziegenfelder Tal, Felsen über Schammendorf, ca. 500 m, Jurakalk, 21.7.1925, Schack [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label.

***Hieracium bifidum* subsp. *caesiiflorum* var. *pseudopraecox* subvar. *macrodontoides* [f.] *parcipilum*** Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 617. 1934.

Ind. loc.: “Kärnten: Villach = 3!”

Lectotype (designated here): Kaernten, Villach, sonniger Abhang hinter dem Kapuzinerwäldchen, Schutt, ca. 500 m, 12.6.1928, Schack [B].

Remarks: The specimen bears Zahn’s handwritten determination (dated 1931) on a separate label.

*Hieracium bifidum* subsp. *caesiiflorum* var. *pseudopraecox* [subvar.] *subjurassicola* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 617. 1934.

Ind. loc.: “Alpen! Bosnien (mit b)! Franken, Weihermühle im Ziegenfelder Tal!”

Type material: Frankenjura, Dolomittfelsen am Bach bei der Weihermühle nächst Weismain, 29.6.1929, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on a separate slip of paper together with the Latin diagnosis “foliis partim supra parce pilosi”, which corresponds with the German description in the protologue.

*Hieracium bifidum* subsp. *canitosum* var. *canitosum* [subvar.] *dentatum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 612. 1934.

Ind. loc.: Without specification of a locality for the subvar. *dentatum*.

Lectotype (designated here): Themar, Kalkschutt am “Eingefallenen Berg”, Muschelkalk, 23.6.1929, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on a separate label together with the handwritten annotation in Latin “foliis partim dentatis”, which corresponds with the German diagnosis in the protologue.

*Hieracium bifidum* subsp. *canitosum* [var.] *furcatum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 613. 1934.

Ind. loc.: “... Arlberg: Rauz! ...”

Type material: Vorarlberg, Stuben am Arlberg, Straßenmauer unterhalb Rauz, Kalk, 20.7.1929, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on a separate label together with the reference to the place of publication “in AGS” (= in Ascherson & Graebner, Synopsis der Mitteleuropäischen Flora).

[*Hieracium bifidum* subsp. *canitosum* var. *furcatum* [subvar.] *verum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 613. 1934, nom. inval.].

[*Hieracium bifidum* subsp. *seniliforme* [var.] *atrobrunnescens* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 653. 1935, nom. inval.: sine descr./diagn. latina].

[*Hieracium bifidum* subsp. *ursinum* [var.] *glandulosius* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 667. 1935, nom. inval.: sine descr./diagn. latina].

[*Hieracium bocconeï* [subsp.] *raetotiroloense* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(3): 197. 1936, nom. inval.: sine descr./diagn. latina].

*Hieracium bocconeï* subsp. *semivulgatum* Kükenthal & Zahn in Sonderschr. Naturhist. Kommiss. Vorarlberg. Landes-Mus. 5: 47. 1928.

Ind. loc.: “Zeinisjoch und Gorfen (1650 m) bei Galtür i. T. (Kük.)”

Lectotype (designated here): Paznauntal, Galtür, Wiese am Ostabhang des Gorfen, ca. 1650 m, 13.8.1925, *Kükenthal* [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label.

*Hieracium brachiatum* subsp. *brachiiforme* var. *glandulosissimum* [subvar.] *dilutius* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(1): 378. 1929.

Ind. loc.: “... Kärnten häufig bis 1750 m (z.B. um Villach)! a2 gegen Judendorf 520 m (Schack)! ...”

Lectotype (designated here): Villach, sonniger Abhang rechts am Wege von Warmbad Villach nach Judendorf, ca. 500 m, Diluvialschutt, 15.6.1925, *Schack* [B].

Remarks: The specimen bears Zahn's handwritten determination on the label (dated 1927). On a separate slip of paper we find Zahn's handwritten annotation in Latin "A typo praesertim squamis late dilute (viridi-albo-) marginatis", which corresponds with the German diagnosis in the protologue.

***Hieracium brachiatum*** [subsp.] ***epitiltotropum*** Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(1): 367. 1929.

Ind. loc.: "Kärnten: In Kiesgruben zwischen Warmbad Villach und Federaun, 500 m (Kükenthal)!"

Lectotype (designated here): Villach, Kiesgrube bei Warmbad Villach rechts an der Tarviser Straße, ca. 500 m, Diluvialschutt, 15.6.1925, *Schack* [B; isolectotype in M].

Remarks: The two available specimens kept in Schack's herbarium are designated on the labels as collected by Schack himself and not by Kükenthal as indicated in the protologue, although the label of the lectotype specimen is written by Kükenthal. It is very likely that Schack and Kükenthal collected plant material of this taxon in 1925 during a joint excursion in the surroundings of Villach, and both sent it for determination to Zahn. The lectotype specimen bears Zahn's handwritten determination particulars on the label (dated 1927). Additionally, on a separate slip of paper the handwritten annotation of Zahn "Schaft ... , Bl. unterseits ± filzig, Blüten ungestreift, H. nur 10-15cm, daher eigene subsp. Z.", corresponds with the description of the subspecies in the protologue. If this taxon remains worth considering after a detailed study of the Carinthian *Hieracium* flora, it should be transferred to *H. pilosellinum* as Zahn remarked on all subspecies of *H. brachiatum* related to subsp. *epitiltotropum*.

***Hieracium brachiatum*** subsp. ***sarmentiferum*** f. ***striatum*** Zahn in Mitt. Thüring. Bot. Vereins 39: 68. 1930.

Ind. loc.: "Maroldsweisach Ufr.: Basaltschutt am Zeilberg (30.6.1928 Sch.)."

Lectotype (designated here): Maroldsweisach Ufr.: Basaltschutt am Zeilberg, ca. 450 m, 30.6.1928, *Schack* [B].

Remarks: On a separate slip of paper the specimen bears Zahn's handwritten determination together with the Latin annotation "ligulis substriatis", which corresponds with the diagnosis in the protologue.

***Hieracium brachiatum*** [subsp.] ***zittaviense*** Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(1): 379. 1929.

Ind. loc.: "Lausitzer Bergland: Schülerberg bei Zittau [Hofmann, Pl. crit. Sax. XVIII. Nr. 444 (ed. O. Weder)]."

Lectotype (designated here): Lausitzer Bergland, Zittau, Schülerberg, 25.6.1915, *Weder* (H. Hofmann, Plantae criticae Saxoniae. Fasc. XVIII. Ed. Dr. O. Weder. 1915. Nr. 444) [B].

***Hieracium dollineri*** subsp. ***hyoseriphyllum*** [var.] ***subcrinitulum*** Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 57. 1930.

Ind. loc.: "Alpen von Lecco: Lierna, zwischen Val Grande und V. Calolden und zwischen Ballabio und Porta an der südlichen Grigna (Rossi Nr. 258 u. 269)! Karawanken: Gračenizagraben bei Rosenbach (Schack)!"

Type material: Kalkschutt im Gratschenizagraben bei Rosenbach (Karawanken), ca. 850 m, Kalk, 3.7.1926, *Schack* [B].

Remarks: The specimen bears Zahn's handwritten determination on the label with the deviating epitheton "*subcrinitellum*".

*Hieracium fallacinum* subsp. *alsaticum* var. *alsaticum* [subvar.] *subfissicaule* Zahn in Mitt. Thüring. Bot. Vereins 39: 70. 1930.

Ind. loc.: “Königsberg i. Fr.: Obstgarten am Kuhsteig (5.6.1927).”

Lectotype (designated here): Königsberg i. Fr., Graspark am Kuhsteig, Keuperletten, ca. 350 m, 5.6.1927, *Schack* [B; isoelectotype in M].

Remarks: The lectotype bears Zahn’s handwritten determination on the label together with the Latin diagnosis, which corresponds with the description of the subvariety in the protologue. The isoelectotype specimen is slightly deviating and labelled “unter Obstbäumen” and designated as “f.” (= forma). Morphologically the taxon is closely connected with *Hieracium pilosellinum* and is probably an outcome of a backcrossing of *H. fallacinum* with *H. pilosella*.

*Hieracium lachenalii* subsp. *consociatum* [var.] *consociatiforme* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 546. 1934.

Ind. loc.: “Thüringen: Zella → Mehliß! Weida → Berga a.E.! Elgersburg! Leipzig! Mainland: Maroldsweisach, Zeil (Schack)! ...”

Type material: Leipzig, Harthwald, Kiesgrube nahe dem Harthschlösschen, ca. 125 m, 12.7.1932, *sine coll.* [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label, and on a separate slip of paper is Zahn’s handwritten Latin diagnosis which corresponds with the German description given in the protologue.

*Hieracium lachenalii* subsp. *diaphanoidiforme* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 41: 91. 1933.

Ind. loc.: “Jena: Jenzig (B); Themar: Gebüsch am Wasserbehälter nördl. v. Bahnhof (23.6.29 !!).”

Lectotype (designated here): Themar (Thür.), Gebüsch beim Wasserbehälter, Buntsandstein, 23.6.1929, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on a separate slip of paper. From the first-cited locality there is no material present in the herbaria of Schack or Bornmüller.

*Hieracium laurinum* subsp. *stenoprionatum* Zahn in Mitt. Thüring. Bot. Vereins 39: 52. 1930.

Ind. loc.: “Coburg: Böschungen an der Straße Leutendorf – Häusles (18.8.1927 Kükenthal); Ebing a. Main: unter Kiefern bei den Kellern an der Staatsstraße (4.9.1926 Sch.). Auch bei Suhl, Friedrichsholz bei Zerbst (Buek, Zobel).”

Type material: Sonniger Waldabhang (Eichenwald) bei den Kellern an der Staatsstraße nahe der Station Ebing am Main (Oberfranken), ca. 250 m, Sandkeuper, 4.9.1926, *Schack* [B].

Remarks: The specimen kept in Berlin bears Zahn’s handwritten determination on the label. A second specimen present in Munich (collection G. Weisenbeck ex herb. Schack) from the same locality near Ebing and also revised by Zahn was collected two years later (12.8.1928).

*Hieracium laevigatum* subsp. *acrifolium* var. *oligodontum* f. *minoriceps* Zahn in Mitt. Thüring. Bot. Vereins 39: 48. 1930.

Ind. loc.: “Naumburg: Bergwälder nordwestlich der Stadt, gegen Kösen (August 1927 B.).”

Lectotype (designated here): Bergrücken nördl. d. Linie Naumburg – Kösen, 8.1927, *Bornmüller* [B; isoelectotype in B]. – Paralectotype: Naumburg, Wälder nördl. d. Saale gegen Kösen zu, 8.1927, *Bornmüller* [M].

Remarks: The two specimens kept in Berlin originate from the “Herbarium Bornmüller” and bear Zahn’s handwritten determination on the labels. On the Munich sheet the determination by Zahn exceptionally is not noted on the label. On a determination label (dated 1979) Bräutigam revised this specimen to subsp. *perangustum*.

*Hieracium laevigatum* subsp. *asperatum* var. *sublevigans* Zahn in Behr, Herb. Hieraciorum Nr. 638. 1937 [Zahn in Hercynia 1: 153. 1937, nom. nudum].

Ind. loc.: “Thuringia: in regione Salae flum. superioris, ad declives vallis Loquitzensis infra oppidulum Probstzella, quo vehitur ad pagum Marktöglitz, solo argillaceo-schistazeo, ca. 350 m s.m., 23.7.1936, Schack, det. Zahn.”

Lectotype (designated here): Thüringen, Probstzella → Marktöglitz, Berghänge über der Straße, c. 350 m, 23.7.1936, *Schack* [M; isolectotype in B]; Thuringia, in regione Salae flum. superioris, ad declives vallis Loquitzensis infra oppidulum Probstzella, quo vehitur ad pagum Marktöglitz, solo argillaceo-schistazeo, ca. 350 m s. m., 23.7.1936, *Schack*, det. *Zahn* (Behr, Herb. Hieraciorum Nr. 638) [M, isolectotype].

Remarks: The label of the lectotype specimen is written by Zahn.

*Hieracium laevigatum* subsp. *knafii* var. *ozophyes* Bornm. & Zahn in Repert. Spec. Nov. Regni Veg. 33: 376. 1934.

Ind. loc.: “Silva Thuringiaca: Oberhof, ad marginem lacusculi in valle “Floßgraben” siti, in solo porphyreo (leg. Bornmüller 27.6.1930).”

Lectotype (designated here): Thür. Wald, bei Station Oberhof, am Teich des Floßgrabens (Weg nach Schmücke!), 27.6.1930, *Bornmüller* [B; isolectotype in M].

Remarks: The lectotype specimen originates from the “Herbarium Bornmüller” and bears Zahn’s handwritten determination on the label stating “Bornm., Schack & Zahn” as authors of the name. The label of the isolectotype specimen is written by Bornmüller and the determination of the taxon is noted in the handwriting of Schack. On a revision label (dated 1977) Bräutigam selected this specimen as lectotype of the variety *ozophyes* and revised it to *Hieracium lachenalii* confirming Schack’s former determination as *H. lachenalii* subsp. *valderamosum*. The variety belongs to a group of taxa mainly distributed in the montane zone of the eastern highlands, which obscure with their rather abundant hairy involucre the artificial borderline between *H. lachenalii* and *H. vulgatum*.

*Hieracium laevigatum* subsp. *lancidens* var. *rigidisimile* Zahn in Mitt. Thüring. Bot. Vereins 39: 50. 1930.

Ind. loc.: “Heldburg: Hochwald südlich Hellingen (10.7.1927 Sch.). – Auch im Kanton Freiburg: Garniswil (Jaquet).”

Type material: Heldburg, im Hochwald südl. von Hellingen, Keuper, ca. 300 m, 10.7.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label. The correct name of the subspecies is subsp. *grandidens* Zahn.

*Hieracium laevigatum* subsp. *levigans* var. *levigans* f. *angustifolium* Zahn in Mitt. Thüring. Bot. Vereins 39: 50. 1930.

Ind. loc.: “Coburg: Hochwald an der Straße Grub a. F. – Buch a. F. nahe dem “Käppele” (13.8.1927 Sch.).”

Lectotype (designated here): Coburg, Hochwald rechts an der Straße Grub a. Forst – Buch a. Forst nahe dem “Käppele”, Sandkeuper, ca. 300 m, 13.8.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label.

*Hieracium laevigatum* subsp. *levigans* var. *levigans* f. *heterothrix* Zahn in Repert. Spec. Nov. Regni Veg. 33: 378. 1934.

Ind. loc.: “Saxonia: Voigtland, in valle Göltzschtal pr. Oppidum Netzschkau, in solo argillaceo (Tonschiefer) (leg. Schack 5.8.1931).”

Lectotype (designated here): Voigtland, Gebüsch bei der Gölttschthalbrücke am Bahndamm bei Netschkau, ca. 400 m, 5.8.1931, *sine coll.* [B].

Remarks: The specimen bears Zahn's handwritten determination on a separate slip of paper (dated 1932) together with the Latin diagnosis, which corresponds with the German description in the protologue.

*Hieracium laevigatum* subsp. *levigans* var. *levigans* f. *maioriceps* Zahn in Mitt. Thüring. Bot. Vereins 39: 50. 1930.

Ind. loc.: "Coburg: Waldstraße im Bausenberg zwischen Kortendorf und Waldsachsen (21.7.1927 Sch.)."

Lectotype (designated here): Coburg, Waldstraße im Bausenberg zw. Cortendorf und Rögen, Keuper, ca. 350 m, 21.7.1927, *Schack* [B; isolectotype in M].

Remarks: The specimen selected as lectotype bears Zahn's handwritten determination on the label; on the sheet kept in Munich the determination by Zahn is noted by Schack.

[*Hieracium laevigatum* subsp. *levigans* var. *levigans* lus. *hypophyllopodum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(3): 468. 1937, nom. inval.: sine descr./diagn. latina].

*Hieracium laevigatum* subsp. *levigans* var. *levigans* f. *platyphyllum* Zahn in Mitt. Thüring. Bot. Vereins 39: 50. 1930.

Ind. loc.: "Coburg: Bausenberg, Kiefernwald bei den Schießständen (12.8.1927 Sch.)."

Lectotype (designated here): Coburg, Kiefernwald an der Straße nach Waldsachsen bei den Schießständen, Sandkeuper, ca. 325 m, 12.8.1927, *Schack* [B]. – Paralectotype: Kiefernwald im Bausenberg zw. Rögen und Waldsachsen. Sandkeuper, ca. 350 m, 12.8.1927, *Schack* [M].

Remarks: The lectotype specimen bears Zahn's handwritten determination on the label. On the paralectotype specimen Zahn's determination is annotated by Schack.

*Hieracium laevigatum* subsp. *levigans* var. *levigans* f. *subamaurolepis* Zahn in Repert. Spec. Nov. Regni Veg. 33: 378. 1934.

Ind. loc.: "Silva Thuringiaca: Sonneberg, in calluneto supra Neufang, in solo argillaceo (Tonschiefer) (leg. Kükenthal 29.7.1931)."

Lectotype (designated here): Thüringer Wald, Heide oberhalb Neufang, 29.7.1931, *Kükenthal* [B].

Remarks: The specimen bears Zahn's handwritten determination on the label.

*Hieracium laevigatum* subsp. *laevigatum* var. *tridentatiforme* Zahn in Mitt. Thüring. Bot. Vereins 39: 51. 1930.

Ind. loc.: "Coburg: Waldrand über Mönchröden (26.7.1927 Sch.) [auch Erzgebirge, Böhmen, Westfalen]."

Type material: Coburg, Waldrand über Mönchröden, Buntsandstein, ca. 350 m, 26.7.1927, *Schack* [B, 3 specimens].

Remarks: All three specimens bear Zahn's handwritten determination on the label. On two of the three labels Zahn indicates subsp. *levigans* Zahn instead of subsp. *eu-laevigatum* Zahn, which could be explained by Schack's note "*Hieracium levigatum* Willd./ 182." (= subsp. *levigans*).

[*Hieracium laevigatum* subsp. *ovalescens* var. *ovalescens* [subvar.] *thuringiae* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(3): 452. 1937, nom. inval.: sine descr./diagn. latina].

[*Hieracium laevigatum* subsp. *pictaviense* var. *pictaviense* [subvar.] *brevidentatum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(3): 465. 1937, nom. inval.: sine descr./diagn. latina].

*Hieracium laevigatum* subsp. *pseudo-charrieri* var. *pseudo-charrieri* f. *latidens* Zahn in Mitt. Thüring. Bot. Vereins 41: 97. 1933.

Ind. loc.: “Thür. Wald: Abhänge im Loquitzgrund b. Probstzella; Tonschiefer, ca. 300 m (11.7.30 B !!).”

Lectotype (designated here): Thüringen, Loquitzgrund unterhalb Probstzella, 11.7.1930, *sine coll.* [B; isolectotype in B].

Remarks: Two specimens with identical label particulars are kept in the Berlin part of Schack’s herbarium, one bearing a label copied by hand in the Berlin Botanical Museum. The specimen with the original label bears Zahn’s handwritten determination on it. In the protologue “B” (= Bornmüller) is indicated as collector of the gathering, while on the label written by Schack no collector is mentioned. Hence the plants have been collected by Bornmüller and later donated to Schack or – more likely – the material was collected during a joint excursion of Bornmüller and Schack.

[*Hieracium laevigatum* subsp. *pseudo-friesii* f. *glandulosum* Zahn in Hercynia 1: 153. 1937, nom. nudum].

Remarks: Validly published in Behr’s exsiccata “Herb. Hieraciorum Nr. 650. 1937”. For details see Vogt & Schuhwerk (2000: 179).

*Hieracium laevigatum* subsp. *pseudotridentatum* Zahn in Mitt. Thüring. Bot. Vereins 39: 46. 1930.

Ind. loc.: Without specification of a locality for subsp. *pseudotridentatum*.

Lectotype (Bräutigam 1973: 110): Coburg, im Bausenberg an der Waldstraße Cortendorf – Waldsachsen, Keupersand, ca. 350m, 21.7.1927, *Schack* [B].

[*Hieracium laevigatum* subsp. *sagotii* [var.] *sparsipilum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(3): 466. 1937, nom. inval.: *sine descr./diagn. latina*].

*Hieracium laevigatum* subsp. *stenocladotropum* Zahn in Mitt. Thüring. Bot. Vereins 39: 48. 1930.

Ind. loc.: “Römhild: Großer Gleichberg, schattiger Laubwald über dem Waldhaus (31.7.1927 Sch.). – Auch in Hannover: zwischen Debstedt und Sievern im Kreise Lehe (Zobel).”

Type material: Großer Gleichberg b. Römhild, schattiger Laubwald am Nordabhang, Keupersand mit Basalt, ca. 600 m, 31.7.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label together with the remark “Bis jetzt nur in Hannover gef.[unden].”

*Hieracium maculatum* subsp. *maculatum* var. *maculatum* subvar. *maculatum* [f.] *guestfalicum* Zahn in Mitt. Thüring. Bot. Vereins 39: 43. 1930.

Ind. loc.: “Zeil a. Main: schattiger Berghang am Schmachtenberg (17.7.1927 Sch.).”

Lectotype (designated here): Schattiger Berghang am Schmachtenberg bei Zeil a. Main, Bez. Hassfurt, Sandkeuper, ca. 350 m, 17.7.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination particulars on the label.

*Hieracium murorum* subsp. *basalticiforme* Korb & Zahn in Mitt. Thüring. Bot. Vereins 39: 11. 1930.

Ind. loc.: “Thüringer Wald: Mönchshof bei Ilmenau, am Weg zur Schmücke (31.7.1927 B.); Coburg: Kiefernwald am Sandberg bei Ahorn (12.6.1927 Sch.).”

Lectotype (designated here): Thür. Wald, Mönchshof, Route Ilmenau – Schmücke, 31.7.1927, *Bornmüller* [B]. – Paralectotype: Coburg: Kiefernwald, zw. Brombeeren am Sandberg b. Ahorn, Keupersand, ca. 400 m, 12.6.1927, *Schack* [B, M].

Remarks: The specimen chosen as lectotype bears Zahn’s handwritten determination on the label.



*Hieracium murorum* subsp. *calvifrons* var. *calvifrons* f. *tenellifolium* Zahn in Mitt. Thüring. Bot. Vereins 39: 10 1930.

Ind. loc.: “Coburg: Hochwald am Kulm bei Mönchröden (28.6.1927 Kükenthal).”

Lectotype (designated here): Mönchröden, Hochwald am Teutersberg, 28.6.1927, *Kükenthal* [B].

Remarks: The specimen bears the remark “det. Zahn” on the label.

*Hieracium murorum* subsp. *circumstellatum* var. b. *cordatifrons* f. *berkanum* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 24. 1930.

Ind. loc.: “Berka: an der Fahrstraße zwischen dem Buchholz und der Rauschenburg (17.6.1928 B.).”

Lectotype (designated here): Fl. v. Berka, zwischen d. Buchholz u. der Rauschenburg an der Fahrstraße, Hang rechts, Kalk, 17.6.1928, *Bornmüller* [B; isolectotype in M].

Remarks: The lectotype from Bornmüller’s herbarium in Berlin bears Zahn’s handwritten determination on the label, together with his handwritten Latin annotation “foliis latis denticulatis tantum vel inferne breviter dentatis. Z.”, which corresponds with the description in the protologue. The label of the isolectotype is written by Bornmüller, Schack added the determination given by Zahn.

*Hieracium murorum* subsp. *exotericum* var. *malacophyllum* Zahn in Mitt. Thüring. Bot. Vereins 39: 22. 1930.

Ind. loc.: “Jena: Tautenburger Forst (8.6.1924 B.); Coburg, schattiger Fichtenwald am Nordabhang des Kulm bei Mönchröden (28.6.1927 Sch.); Staffelberg (Frankenjura): Gebüsch am Aufstieg von Staffelstein (14.6.1927 Sch.); Weismain (Frankenjura): schattige Dolomitblöcke im Laubwald über Schammendorf (13.7.1927 Sch.); schattiger Laubwald über Keller gegenüber der Weihermühle (13.7.1927 Sch.).”

Lectotype (designated here): Coburg, schattiger Fichtenwald am Nordabhang des Kulm bei Mönchröden, Muschelkalk, ca. 400 m, 28.6.1927, *Schack* [B; isolectotype in M]. – Paralectotypes: Weismain (Ob. Franken), schattiger Laubwald beim Keller gegenüber der Weihermühle im Ziegenfelder Tal, Weißer Jura (Kalk), ca. 400 m, 13.7.1927, *Schack* [B]; Staffelstein, Oberfranken, schattiges Gebüsch am Aufstieg zum Staffelberg, Brauner Jura (Sandstein), ca. 350 m, 14.6.1927, *Schack* [B, M]; Weismain (Oberfranken), schattige Dolomitblöcke im Laubwald über Schammendorf, Weißer Jura (Kalk), ca. 450 m, 13.7.1927, *Schack* [B].

Remarks: Nearly all specimens bear Zahn’s handwritten determination on the labels.

*Hieracium murorum* subsp. *exotericum* var. *subserratifolioides* Briquet & Zahn in Mitt. Thüring. Bot. Vereins 39: 23. 1930.

Ind. loc.: “Coburg: schattiger Buchenwald am Westabhang des Festungsbergs (30.6.1927 Sch.).”

Lectotype (designated here): Coburg, schattiger Buchenwald am Westabhang des Festungsbergs, Keuper, ca. 375 m, 30.6.1927, *Schack* [B; isolectotype in M].

Remarks: The lectotype bears Zahn’s handwritten determination on the label.

*Hieracium murorum* subsp. *gypsophilum* var. *gypsophilum* [subvar.] *perovale* Zahn in Ascher-son & Graebner, Syn. Mitteleur. Fl. 12(2): 443. 1931.

Ind. loc.: “Reinsberge bei Plaue (Schack)!”

Lectotype (designated here): Plaue (Thür.), Reinsberge, Wald auf der Höhe, am Weg zur Sommerwirtschaft, Muschelkalk, 9.6.1929, *Schack* [B]. – Paralectotypes: Plaue (Thür.), Reinsberge, Wald auf der Höhe, Muschelkalk, 7.6.1930, *Schack* [B]; Flora Thuringiaca, Arnstadt, lichter Kiefernwald der Reinsberge, Kalk, 550 m, 9.6.1929, *Rothmaler* [B]; Plaue (Thüringen), Reinsberge, unter Kiefern am Aufstieg zur Kanzel, Muschelkalk, 9.6.1929, *Schack* [B]; Plaue

(Thüringen), Wald auf den Reinsbergen, Muschelkalk, ca. 500 m, 7.6.1930 *Schack*, det. *H. Zahn* 1933 [M].

Remarks: All available specimens have been seen by Zahn. The specimen selected as lectotype bears on a separate label Zahn's handwritten Latin and German descriptions, which correspond with the diagnosis in the protologue. On all labels Schack & Zahn are indicated as authors of the name.

*Hieracium murorum* subsp. *heterocladophorum* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 13. 1930.

Ind. loc.: "Weimar: Forst von Belvedere, trockene Nadelwälder, Waldecke am Wege nach Öttern (21.6.1926 B.)."

Lectotype (designated here): Weimar, Belvederer Forst, tr. Nadelwald, (selten!), 21.6.1927, *Bornmüller* [B; isolectotypes in B, M].

Remarks: A difference concerning the date of collection (1926 or 1927) is present in all nine specimens available. Four type specimens have been determined by Zahn, the other five sheets by Bornmüller. The lectotype bears Zahn's note: "Ein *muror* > *vulgatum* mit mikrocephaler Kopfbildung. Eine ähnliche Pflanze bei Salvan im Wallis" [*A murorum* > *vulgatum* with microcephalic capitula formation. A similar plant is known from Salvan in the Wallis]. To one of the isolectotype sheets designated by Bornmüller as "Orig.!" [= original specimen] but without Zahn's handwritten determination particulars Bornmüller added two notes dated from 27.5.1932: "Wäre die Pfl. nicht aus Thüringen sondern aus dem Riesengebirge, man hätte sie ohne Bedenken als species propria bona nova erklärt. Eine Verkümmerng der Köpfchen liegt gewiß nicht vor." [If this plant had not originated from Thuringia but from the Riesengebirge (= Krkonose mountains), without doubt it would have been considered a good species. An atrophy of the capitula is certainly not present]. "Noch ein Expl. dieser mir merkwürdigsten Unterart aller Thüring. *murorum*-Formen. Ich habe davon n. Z. sehr viel gesammelt alles in durchaus konformer Tracht. J. B." [Another specimen of this most particular subspecies of all Thuringian forms of *Hieracium murorum*. I collected abundant material in quite uniform appearance. J. Bornmüller]. On the label Bornmüller added "auf sehr kl. Platz beschränkt" [restricted to a very small site] which supports the presumption of monstrosity. The character typical for this subspecies, the variable long lateral branches (compare the name of the subspecies) is specially marked in microcephalic plants. The subspecies is synonym of *Hieracium murorum* subsp. *oblongum* (Jord.) Zahn.

*Hieracium murorum* subsp. *schackii* Zahn in Mitt. Thüring. Bot. Vereins 39: 16. 1930.

Ind. loc.: "Coburg: Fichtenwald im Bausenberg ob Cortendorf (8.6.1927 Sch.)."

Lectotype (designated here): Coburg, Fichtenwald im Bausenberg über Cortendorf, Keupersand, ca. 350 m, 8.6.1927, *Schack* [B; isolectotype in B].

Remarks: The specimen selected as lectotype was determined by Zahn and annotated with the remark "Dem *subirriguiforme* verwandt! Z". A photo of the lectotype has been published in Vogt (1999: 341). The isolectotype specimen kept in Berlin originates from Bornmüller's herbarium.

*Hieracium murorum* subsp. *semicalvifrons* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 17. 1930.

Ind. loc.: "Jena: Jenzig, bei der Bismarckhöhe (17.7.1923 B.); Kahla: am Fuße des Dohlensteins, nahe der Saale (24.6.1921 B.)."

Lectotype (designated here): Kahla, am Fuße des Dohlensteins, nahe der Saale, 24.6.1923, *Bornmüller* [B]. – Paralectotype: Jena, Jenzig, nahe der Bismarckhöhe, 24.7.1923, *Bornmüller* [B].

Remarks: Both specimens are annotated by Zahn "subsp. *pseudocalvifrons* Bornm. et Z.". Apparently this name has been rejected because of subsp. *pseudocalvifrons* Degen & Zahn. On the

lectotype sheet Zahn noted on a determination label “Hülle mit Haaren! *calvifrons* > *pseudojenzigense!*” details which entered the description in the protologue. The deviation in the collecting dates is not explainable.

***Hieracium murorum*** subsp. *silvularum* f. *longistipes* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 41: 109. 1933.

Ind. loc.: “Weimar, Ettersberg, Buchenwald b. Ettersburg, zw. Bismarckturm u. Ettersburg (18.6.32 B. !).”

Lectotype (designated here): Weimar, Ettersberg, Buchenwälder bei Ettersburg, 18.6.1932, *Bornmüller* [B; isolectotypes in B, M].

Remarks: The two specimens from Bornmüller’s herbarium in Berlin bear Zahn’s handwritten determination on the label, the lectotype specimen additionally bears Zahn’s handwritten Latin diagnosis on the label, which corresponds with the description in Schack’s publication. The label of the Munich specimen (Ex Museo Botanico Berolinensi) is written by Bornmüller, the collection date deviates from the protologue as “8.6.1932” undoubtedly by a transcription error.

***Hieracium murorum*** subsp. *silvularum* var. *pseudochloroprasinoides* Zahn in Mitt. Thüring. Bot. Vereins 39: 21. 1930.

Ind. loc.: “Naumburg: wie vor (B.) [= Wälder nördlich der Saale nach Kösen zu (8.1927 B.); Berka, oberhalb Buchfart am Weg nach Öttern (26.6.1927 B.).”

Lectotype (designated here): Weimar-Berka, oberhalb Buchfart, Wald, Kalk, 26.5.1927, *Bornmüller* [M; isolectotype in B]. – Paralectotype: Naumburg a./S., Wälder n.westl. d. Saale, gegen Kösen, 8.1927, *Bornmüller* [B].

Remarks: Both specimens kept in Berlin originate from Bornmüller’s herbarium and bear Zahn’s handwritten determination on the labels. The label of the Munich specimen is written by Bornmüller, Schack added “! Z.” for “det. Zahn”. The deviating collection date likely is caused by a transcription error.

***Hieracium murorum*** subsp. *subnemorensis* var. *nemorensiforme* Zahn in Mitt. Thüring. Bot. Vereins 39: 15. 1930.

Ind. loc.: “Weismain (Frankenjura): Gebüsch am Straßenrand unterhalb der Weihersmühle (13.7.1927 Sch.); Staffelberg (Frankenjura): Waldrand unter dem Wirtshaus (14.6.1927 Sch.); Bamberg: Waldtal hinter dem Kreuzberg bei Hallstadt oberhalb Johannesthal, (4.7.1927 Sch.), hier mit gefleckten und ungefleckten Blättern; Coburg: Bausenberg (23.7.1927 Sch.); Königsberg i. Fr.: lichter Eichenwald (“Löhlein”) über den Prappacher Weinbergen (28.5.1928 Sch.).”

Lectotype (designated here): Bamberg, Waldtal hinter dem Kreuzberg bei Hallstadt, oberhalb des Forsthauses Johanneshof, Keuper, ca. 300 m, 4.7.1927, *Schack* [B]. – Paralectotypes: Weismain (Oberfranken), im Gebüsch am felsigen Straßenrand unterhalb der Weihersmühle im Ziegenfelder Tal, Weißer Jura (Kalk), ca. 400 m, 13.7.1927, *Schack* [B, M]; Staffelberg (Oberfranken), Waldrand unterm Wirtshaus, zusammen mit *H. praecox* subsp. *gougetianum* Gren. & Godr. f. *simplex* und *H. murorum*, Weißer Jura (Dolomit), ca. 500 m, 14.6.1927, *Schack* [B].

Remarks: All available specimens bear Zahn’s handwritten determination on the labels.

***Hieracium murorum*** subsp. *subnemorensis* var. *subnemorensis* [f.] *glauciniceps* Zahn in Mitt. Thüring. Bot. Vereins 39: 14. 1930.

Ind. loc.: “Thüringer Wald: Inselsberg, Aufstieg von Cabarz aus (1926 B.); Schwarzatal: Waldschlag über den Schieferbrüchen nahe Böhlischeiben (23.6.1927 Sch.); Maroldsweisach (Unterfr.): Basaltbruch am Zeilberg (20.7.1927 Kükenthal).”

Lectotype (designated here): Schwarzatal, Waldschlag über den Schieferbrüchen nahe Böhl-scheiben, Schiefergebirge, ca. 500 m, 23.6.1927, *Schack* [B].

Remarks: The specimen selected as lectotype bears Zahn's handwritten determination on the label.

*Hieracium murorum* subsp. *torticeps* f. *brevidentatum* Zahn in Mitt. Thüring. Bot. Vereins 39: 17. 1930.

Ind. loc.: "Weimar: Forst von Belvedere, Waldecke gegen Öttern (1926 B.); Coburg: Kiefernwald am Sandberg bei Ahorn (12.6.1927 Sch.)."

Lectotype (designated here): Coburg, Kiefernwald zwischen Brombeeren am Sandberg b. Ahorn, Keupersand, ca. 400 m, 12.6.1927, *Schack* [B]. – Paralectotype: Weimar, Belvederer Forst (Waldecke gegen Öttern), 7.1926, *Bornmüller* [B].

Remarks: Both specimens bear Zahn's handwritten determination on the labels.

*Hieracium oxyodon* subsp. *inclinatum* [var.] *subdollineri* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(2): 46. 1930.

Ind. loc.: "Kärnten: Neuhaus 500 m im Gailtal (Schack)!"

Lectotype (designated here): Kiesboden in der Gailaue oberhalb Neuhaus an der Gail, ca. 500 m, All., 6.1926, *Schack* [B].

Remarks: The specimen bears Zahn's handwritten determination together with the remark "neue var! Z".

*Hieracium pallidum* subsp. *comatulum* var. *comatulum* [subvar.] *dentiferum* Zahn in Mitt. Thüring. Bot. Vereins 39: 3. 1930.

Ind. loc.: "Schwarzatal: Griesbachfelsen (23.6.1927 Sch.)."

Lectotype (designated here): Schwarzatal (Thüringen), Schieferschutt am Abstieg vom Griesbachsfelsen, 23.6.1927, *Schack* [B, the plants left above and right below on the sheet].

Remarks: On a separate label the specimen bears Zahn's handwritten determination "subsp. *comatulum* Jord. /  $\alpha$ . *genuinum* Celak. / 1. *commune* Z / et 2. *dentiferum* Z / 3. *maculatum* Tausch". The two plants in the middle of the sheet belong to f. *commune*, the rosette of leaves right above belongs to f. *maculatum*. The subspecies is now filed as *Hieracium schmidtii* subsp. *comatulum* (Jord. ex Boreau) Gottschlich.

*Hieracium pallidum* subsp. *comatulum* var. *comatulum* f. *malacochaetum* Zahn in Mitt. Thüring. Bot. Vereins 41: 99. 1933.

Ind. loc.: "Tabarz: Felsen a. Horizontalweg a. d. Schönen Leite oberh. des Felsentals (19.6.32 F. Koch-Weimar!)."

Lectotype (designated here): An dem Felsen am Horizontalweg an der Schönen Leite oberhalb des Felsentals bei Tabarz, 19.6.1932, *Fritz Koch*, Weimar [M].

Remarks: On a blank label from the "Herbarium Bornmüller" Zahn has written the determination of the plant and added the differential diagnosis "foliis breviter molliter setulosus". The subspecies is now filed as *Hieracium schmidtii* subsp. *comatulum* (Jord. ex Boreau) Gottschlich.

*Hieracium piloselloides* [subsp.] *judicarinum* Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(1): 306. 1929.

Ind. loc.: "Judikarien: Trockene Wiesen bei Cologna 500 m (Porta)! Kärnten: Zwischen Villach und Federaun (Schack)!"

Lectotype (designated here): Tirolia austral. Judicariis, in pratis siccis circa pagum Cologna, sol. calcar., 500m, 6.1886, *Porta* [B]. – Paralectotypes: Kiesige Oedstellen am Wege von Warmbad

Villach nach Ober-Federaun, ca. 500 m, Glazialschutt, 14.6.1926, *Schack* [M]; Napoleonswiese bei Warmbad Villach, ca. 500 m, Kalk, 13.6.1926, *Schack* [B].

Remarks: All three specimens bear Zahn's handwritten determination. The specimen selected as lectotype originates from Bornmüller's herbarium in Berlin. The taxon belongs to *H. piloselloides* subsp. *obscurum* (Reichenb.) Zahn.

***Hieracium praecox* subsp. *conjugatum* var. *pseudoconjugatum*** Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 41: 99. 1933.

Ind. loc.: "Südharz: Gipsbrüche am Totenweg bei Rotleberode (11.6.32 B. !)."

Lectotype (designated here): Gipshänge des "Alten Stolberges", am "toten Weg", 11.6.1932, *Bornmüller* [M].

Remarks: On the label written by Zahn and completed by Schack, Zahn added the name of the new variety. The correct name of the species is *Hieracium glaucinum* Jord.

***Hieracium prussicum* subsp. *kükenthalii*** Zahn in Ber. Bayer. Bot. Ges. 21: 58. 1934.

Ind. loc.: "Unterfranken: Kreuzwertheim, Kiefernwald auf dem Kafelstein, Buntsandstein, in Gesellschaft von *H. pratense* Tausch, A. *H. eu-pratense* Zahn subsp. *typicum* Zahn var. *genuinum* NP. 3. *calvifolium* NP. (leg. Dr. Kükenthal 22.6.1931)."

Lectotype (Schuhwerk 1996: 148): Nb, Kreuzwertheim, Kiefernwaldchen auf dem Kafelstein, mit den Eltern, 22.6.1931, *Kükenthal 16* [M; isolectotype in B].

Remarks: The specimen selected by Schuhwerk (1996: 148) as lectotype bears Zahn's handwritten diagnosis, which corresponds with the description of the subspecies in Schack's publication. The leading shoots of the plants on both sheets are dried up leading to the plentiful development of flagelli mentioned in the description. The taxon belongs to *Hieracium fallacinum* and the plants bear the delicate tubiflorous capitula typical of this species in lower Franconia.

***Hieracium sabaudum* subsp. *hypselpyhton*** Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 53. 1930.

Ind. loc.: "Wälder zwischen Oppurg und Knau (20.8.1923 B.); Grabfeld: lichte Eichenbestände im Irmelshäuser Holz, Bez. Königshofen Ufr. (16.9.1927 Sch.)."

Lectotype (designated here): Im westlichen Teile des Irmelshäuser Holzes (Eichenjungholz), Keuperletten, ca. 350 m, 16.9.1927, *Schack* [B; isolectotypes in B, M]. – Paralectotype: Wälder zwischen Oppurg und Knau, 20.8.1923, *Bornmüller* [B].

Remarks: All three specimens kept in Berlin bear Zahn's handwritten determination on the labels. On the Munich specimen the determination by Zahn is annotated by Schack. The paralectotype specimen originates from the "Herbarium Bornmüller" in Berlin.

***Hieracium sabaudum* subsp. *nemorivagum* var. *nemorivagum* [subvar.] *levigatiforme*** Zahn in Mitt. Thüring. Bot. Vereins 39: 54. 1930.

Ind. loc.: "Coburg, Waldlichtung im Bausenberg rechts an der Straße Cortendorf - Waldsachsen (28.9.1927 Sch.); Römhild: an der Straße Waldhaus - Roth (29.9.1927 Sch.)."

Lectotype (designated here): Kl. Gleichberg b. Römhild, Staßenränder an der Straße Waldhaus – Roth, Keuper, ca. 400 m, 29.9.1927, *Schack* [B]. – Paralectotype: Coburg, Waldlichtung im Bausenberg rechts an der Straße Cortendorf – Waldsachsen, Keupersand, ca. 350 m, 28.9.1927, *Schack* [M].

Remarks: Both specimens bear Zahn's handwritten determination on the labels. The part of the description "squamis ... pilis nonnullis obsitis" is only true for the outer involucre bracts.

*Hieracium sabaudum* subsp. *rigidiforme* var. *sublactucaceifrons* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 55. 1930.

Ind. loc.: “Nadelwälder im Mühlgrund bei Tabarz (Sept. 1926 B.). – Auch bei Trier (d’ Alleizette).”

Type material: Friedrichroda, Nadelwälder oberh. Tabarz, Mühlgrund, 9.1926, *Bornmüller* [B].

Remarks: The five specimens kept in Schack’s and Bornmüller’s collections bear original labels from the “Herbarium J. Bornmüller” and have been determined by Zahn in 1927.

*Hieracium schwarzii* Zahn in Repert. Spec. Nov. Regni Veg. 39: 330. 1936.

Ind. loc.: “Lydiae, in monte Sipylo supra Magnesiam, in pinetis apertis siccis lapidosis, solo calcareo, ca. 1200-1500 m. s. m. (O. Schwarz no. 989, 12.8.1933).”

Lectotype (designated here): M. Sipylos Magnesiae, in pinetis apertis siccis lapidosis, solo calcareo, 12-1500 m, 12.8.1933, *Schwarz* 989 [M; isolectotype in B].

Remarks: Zahn’s handwritten diagnosis (dated 25.10.1935) is mounted on the sheet selected as lectotype (Fig. 1). Additionally this sheet is annotated without date by Merxmüller as holotype. The specimen kept in Berlin (isolectotype) rests from the saved remnants of Zahn’s herbarium. Despite of the lacking stellate hairs on the leaves and the absent stolons the specimen resembles plants of *Hieracium tephrocephalum* Vukot. from Turkey. Clearing up the value of *H. schwarzii*, recollecting material is needed because the type material available is damaged by grazing of animals as already Schwarz remarked in the publication of the species. In a half-page commentary Schwarz added details on the locality and the accompanying *Hieracium* species. The taxon is omitted in the treatment of *Hieracium* subg. *Pilosella* by Sell & West (1975).

*Hieracium tauschii* subsp. *umbelliferum* var. *prappachense* [subvar.] *parciglandulum* Zahn in Mitt. Thüring. Bot. Vereins 39: 73. 1930.

Ind. loc.: “Königsberg i. Fr.: Bergabhang bei den Prappacher Weinbergen (7.6.1927 Sch.), Hügel zwischen der Hohen Warte und der Haßfurter Landstraße (7.6.1927 Sch.).”

Type material: Type material could neither be found in Berlin nor in Munich.

Remarks: The nomenclaturally correct name of the species is *Hieracium densiflorum* Tausch.

[*Hieracium umbrosum* [subsp.] *pseudocrepidineum* Käser & Zahn in Ascherson & Graebner, Syn. Mitteleur. Fl. 12(3): 342. 1937, nom. inval.: sine descr./diagn. latina].

*Hieracium vulgatum* subsp. *aspernatum* f. *pilosiceps* Zahn in Mitt. Thüring. Bot. Vereins 39: 35. 1930.

Ind. loc.: “Coburg, unter Eichen im Kehlgraben bei Mönchröden (26.7.1927 Sch.).”

Lectotype (designated here): Coburg, am Fuße einer Eiche im Kehrgraben oberh. Mönchröden, Buntsandstein, ca. 400 m, 26.7.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on the label. The correct name of the species is *Hieracium lachenalii* C. C. Gmel.

*Hieracium vulgatum* subsp. *aurulentum* var. *aurulentoides* Zahn in Mitt. Thüring. Bot. Vereins 39: 31. 1930.

Ind. loc.: “Coburg, Heideboden am Waldrand oberhalb Mönchröden (26.7.1927 Sch.).”

Lectotype (designated here): Coburg, Waldrand auf Heideboden über Mönchröden, Buntsandstein, ca. 330 m, 26.7.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination particulars on the label. The subspecies is now filed under *Hieracium lachenalii* C. C. Gmel.

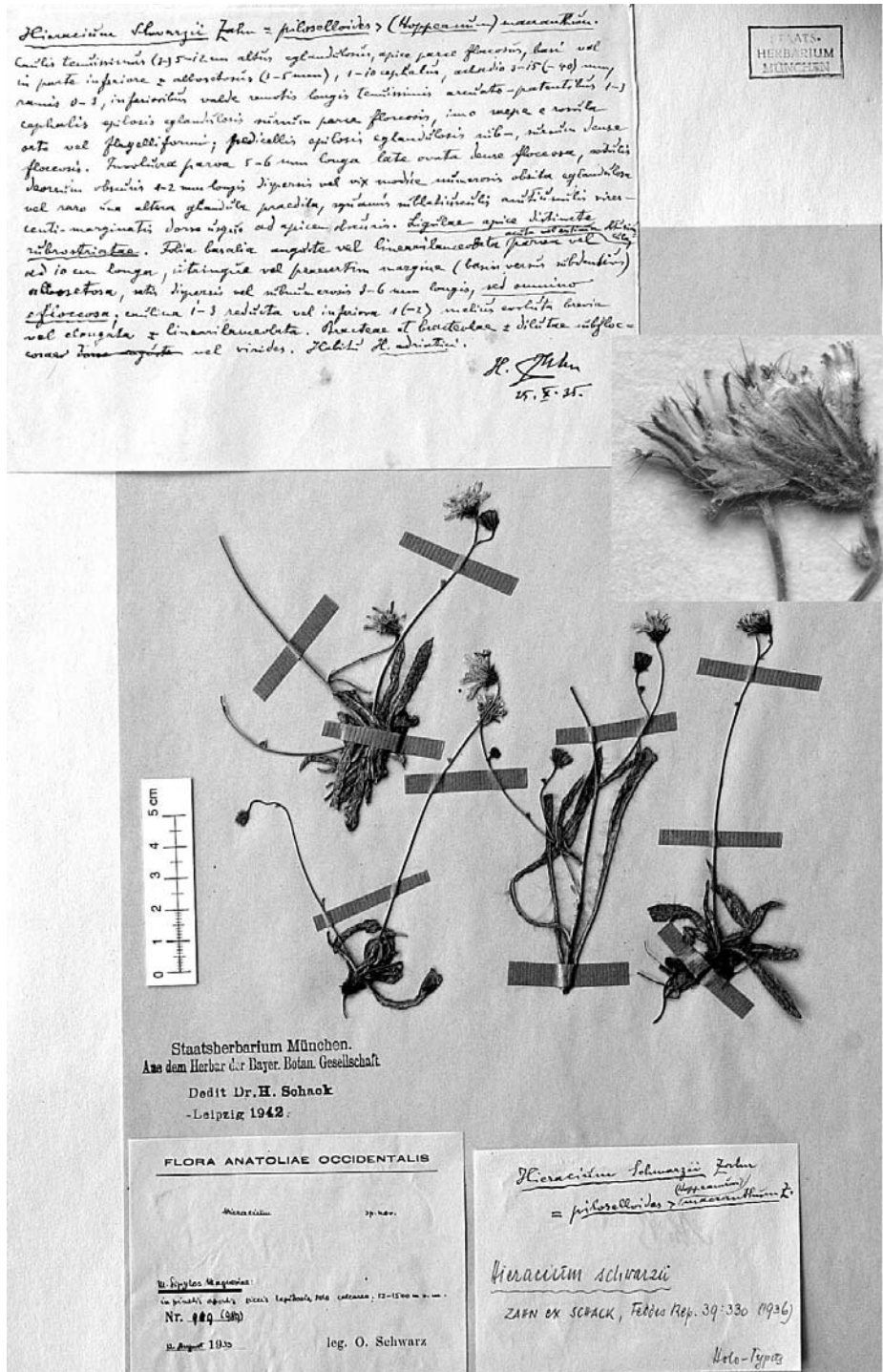


Fig. 1. Lectotype of *Hieracium schwarzii* Zahn with handwritten diagnosis by K. H. Zahn [M].

*Hieracium vulgatum* subsp. *aviicola* var. *calvipedunculatum* Zahn in Mitt. Thüring. Bot. Vereins 39: 36. 1930.

Ind. loc.: “Berka: Dambachgrund, ob. Teil (24.7.1927 B.)”

Lectotype (designated here): Fl. v. Berka, Dambachgrund, Sand, 24.7.1927, *Bornmüller* [M; isolectotypes in B, M].

Remarks: The labels of the lectotype and isolectotype kept in Berlin are written by Bornmüller. The determination is added by Zahn and signed with his grammalogue. The isolectotype kept in Munich bears a label typewritten in Munich, where unfortunately the name of the forma was omitted. The subspecies is now filed under *Hieracium lachenalii* C. C. Gmel.

*Hieracium vulgatum* subsp. *chlorodes* var. *trebeanum* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 33. 1930.

Ind. loc.: “Im Nadelwald auf der Trebe bei Berka mit subsp. *chlorophyllum* f. *silvarum* Zahn (Juli 1927 B.)”

Lectotype (designated here): Fl. v. Berka, Trebenwald (Sand), 7.1927, *Bornmüller* [B]. – Paralectotype: Fl. v. Berka, auf der Trebe, Nadelwälder (Sand), 24.7.1927, *Bornmüller* [M].

Remarks: The label of the paralectotype is written by Bornmüller, and Zahn’s determination is ensured by his grammalogue. On the lectotype sheet the determination particulars are written by Bornmüller. Nevertheless this specimen was chosen as lectotype because the plants are more homogeneous than in the paralectotype collection. The correct name of the species is *Hieracium lachenalii* C. C. Gmel.

*Hieracium vulgatum* subsp. *gypsogeton* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 29. 1930.

Ind. loc.: “Frankenhausen: Gipsabhänge im Kalktal, am Aufstieg zur Schönen Aussicht (9.6.1925 B.)”

Lectotype (designated here): Frankenhausen, buschige Gypshänge, Kalktal, (b. d. schönen Aussicht), 6.6.1925, *Bornmüller* [B; isolectotypes in B, M].

Remarks: The label of the lectotype is written by Bornmüller and supplemented by Zahn’s handwritten determination. The deviation in the collection date is probably due to a transcription error. The correct name of the species is *Hieracium lachenalii* C. C. Gmel.

*Hieracium vulgatum* subsp. *tridentatoides* var. *tridentatoides* [f.] *angustifolium* Zahn in Mitt. Thüring. Bot. Vereins 39: 37. 1930.

Ind. loc.: “Coburg: schattiger Parkwald der Rosenau (22.7.1927 Sch.)”

Type material: Type specimens could neither be found in Berlin nor in Munich.

Remarks: The subspecies has to be filed now under *Hieracium lachenalii* C. C. Gmel.

*Hieracium vulgatum* subsp. *tridentatoides* var. *tridentatoides* [f.] *latifolium* Zahn in Mitt. Thüring. Bot. Vereins 39: 37. 1930.

Ind. loc.: “Coburg: schattiger Parkwald der Rosenau (22.7.1927 Sch.)”

Lectotype (designated here): Coburg, schattiger Parkwald der Rosenau, Diluv., ca. 325 m, 22.7.1927, *Schack* [B].

Remarks: The specimen bears Zahn’s handwritten determination on a separate label. The subspecies has to be filed now under *Hieracium lachenalii* C. C. Gmel.

*Hieracium wallrothianum* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 42. 1930.

Ind. loc.: “Auf Gips im Kalktal bei Frankenhausen (6.6.1925 B.)”

Lectotype (designated here): Frankenhausen, im Kalktal, Gips, 6.6.1925, *Bornmüller* [M].



Remarks: The label is written by Schack who noted that he found at the original collection site only *Hieracium bifidum* subsp. *stenolepis* but not *H. caesium*, the presumptive parental species of *H. wallrothianum*. Zahn continued on this note in the origin of *H. wallrothianum* from *H. caesium* and *H. wiesbaurianum*. Some of the characters important for the interpretation of the origin of this species (which Zahn later modified into “*pallidum* (or *wiesbaurianum*) > *caesium*”) are not visible in the type specimen: the microglands on the leaves, the slightly (in the note “for part remarkable”) obtuse involucre bracts, and the somewhat hispid hairs on the margins of the leaves. The taxon therefore belongs to *H. bifidum* s. str.

***Hieracium wiesbaurianum* subsp. *apertorum* var. *ungulae-ferratae* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 41: 104. 1933.**

Ind. loc.: “Hufeisen (26.6.32 B. !).”

Lectotype (designated here): Jena, Hufeisen (Jenzig), große Wald ..., c. 350 m, 26.6.1932, *Bornmüller* [B].

Remarks: The specimen kept in Schack’s herbarium bears an original label from the “Herbarium J. Bornmüller” with Zahn’s handwritten determination.

***Hieracium wiesbaurianum* subsp. *nipanthodes* Bornm. & Zahn in Mitt. Thüring. Bot. Vereins 39: 7. 1930.**

Ind. loc.: “Jena: Abhänge des Alten Gleißbergs (22.6.1927 B.) und in der “Hölle” im Jenaer Forst (1.6.1925 B.); Weimar: waldige Abhänge zwischen Buchfahrt und Öttern (21.5.1925 B.); steiler Ilmhang bei Buchfahrt oberhalb der letzten Häuser am Weg nach Öttern (26.5.1927 B.), Forst von Belvedere, obere Waldecke am Weg nach Öttern (19.6.1928 B.); Berka: am Töpferweg zwischen Hetschburg und Berka und am Adelsberg (17.6.1928 B.); Plau: Kalkhänge an den Rheinsbergen unterhalb der Kanzel (6.6.1927 B.)”

Lectotype (designated here): Fl. v. Plau, Kalkhänge des Reinsberges (zw. Kiefern), 6.6.1927, *Bornmüller* [B]; isolectotypes in B, M]. – Paralectotypes: Fl. v. Jena, waldige Nordabhänge des “Alten Gleißberges” unterhalb des Gipfel, 22.6.1927, *Bornmüller* [B]; Fl. v. Berka, Adelsberg, oberhalb Hetschburg, am Töpferweg, Kalk, Buchenwald zs. m. Kiefern, 17.6.1928, *Bornmüller* [B]; Weimar, Belvederer Forst, Waldecke gegen Öttern zu, 19.6.1927, *Bornmüller* [B, M]; Weimar, Steilhänge der Ilm östl. Buchfahrt, unter Kiefern, Kalk, 17.6.1928, *Bornmüller* [B]; Fl. v. Berka, oberhalb Buchfahrt über d. Felsen, (s. selten) Kalk, unmittelbar hinter den letzten Häusern, 26.5.1927, *Bornmüller* [B]; Berka, Adelsberg, Nordfuß, tr. Kiefernbestand oberhalb Hetschburg, Kalk, 17.6.1928, *Bornmüller* [B].

Remarks: Nearly all labels are written by Bornmüller with determination particulars added by Zahn. Deviations in some collection dates are probably due to transcription errors. On a further specimen kept in Munich (31.5.1934, labelled as *Hieracium nipanthodes* Bornm. & Zahn) Bornmüller notes: “In Mitten der vielen Proleten nimmt sich diese *nipanthodes* doch wahrhaft vornehm aus! Bin immer wieder davon entzückt. Für Ihr Herbar! Bornm. 6.2.1935.” [Amid the many proles this *nipanthodes* appears really aristocratic! Again and again I am delighted about it. For your herbarium! Bornmüller 6.2.1935.]

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### References

Bräutigam, S. 1973: Typen einiger infraspezifischer Taxa von *Hieracium laevigatum* Willd. im Herbarium des Botanischen Museums Berlin-Dahlem. – *Willdenowia* 7: 105-111.

- Greuter, W., McNeill, J., Barrie, F. R., Burdet, H. M., Demoulin, V., Filgueiras, T. S., Nicolson, D. H., Silva, P. C., Skog, J. E., Trehane, P., Turland, N. J. & Hawksworth, D. L. 2000: International code of botanical nomenclature (Saint Louis code), adopted by the Sixteenth International Botanical Congress, Saint Louis, Missouri, July-August 1999. – *Regnum Veg.* **138**.
- Schuhwerk, F. 1996: Kommentierte Liste der bayerischen *Hieracium*-Arten, Teil I. Taxonomisches Konzept, Arten des Subgenus *Pilosella* a-f. – *Ber. Bayer. Bot. Ges.* **66/67**: 137-152.
- Sell, P. D. & West, C. 1975: *Pilosella* Hill. – Pp. 747-763 in: Davis, P. H. (ed.), *Flora of Turkey and the East Aegean Islands* **5**. – Edinburgh.
- Vogt, R. 1999: Hans Schack (1878-1946) und sein Berliner *Hieracium*-Herbar. – *Willdenowia* **29**: 337-348.
- & Schuhwerk, F. 2000: Typus-Material im *Hieracium*-Herbar von Hans Schack. – *Willdenowia* **30**: 161-199.
- Zahn, K. H. 1922-38: *Hieracium*. – In: Ascherson, P. F. A. & Graebner, K. O. P. P. (ed.), *Synopsis der mitteleuropäischen Flora* **12(1)**: 1-492 (1922-30), **12(2)**: 1-790 (1930-35), **12(3)**: 1-708 (1936-38). – Leipzig.

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