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E. Lateinische Diagnosen

I. Sect. *Dissecta* v. Soest, sect. nov.

Plantae humiliae, subcaespitosae; radix crassa, multiceps, collo foliorum veteriorum fragmentis persistentibus valde squamato. Achenia parva, straminea, breviter rostrata, pappus albus. Involucra laete viridia, saepe brunnescentia; squamae ciliolatae, callosae ad corniculatae; calathia parva, pallide lutea.

Typus: T. dissectum (LEDEBOUR) LEDEBOUR.

Drei Arten hat VON HANDEL-MAZZETTI in seiner Sektion *Taraxaca parvula* eingeschlossen. Eine von diesen: *T. brevirostre* H.M. aus Asien, gehört nach meiner Meinung zur Sektion *Oligantha* v.S.; *T. indicum* H.M. und *T. dissectum* LEDEBOUR im weitesten Sinne HANDEL-MAZZETTIS umfassen eine große Gruppe von Arten, meistens aus Asien, die sich auf 2 Sektionen verteilen: Sektion *Parvula* s. str. und Sektion *Kashmirana* v.S. Die wirkliche *T. dissectum* ist eine Art in Eurasien und umfaßt eine Serie von sehr nah verwandten Formen, die spezifisch kaum unterscheidbar sind. Ganz wenige andere Arten der *Dissecta* treten daneben in den Hochgebirgen Asiens auf.

III. Sect. *Erythrosperma* Dahlst. em. Lindb. f.

3. *T. badium* v. SOEST, spec. nov.; Abb. 1.

Planta (cult) mediocris, tenera, ca. 15 cm alta, glabra. *Folia* gramineo-viridia, petiolis longis, pallidis ad roseolis instructa; folia exteriora obovata ca. 1,5 cm lata, ad 2,5 cm longa, sinuoso-denticulata, interiora lobata; lobi laterales (utrinque ca. 3) triangulares, patentes, ad 1 cm longi, acuti vel subacuti, dorso denticulato vel anguste dentato, lobi inferiores lineares, dentiformes; interlobis angustis denticulatis, inter lobos superiores subnullis; lobus terminalis indistincte determinatus, subhastatus, saepe incisus vel incisedentatus, subobtus, ad 2 cm longus, ad 2 cm latus. *Involucrum* angustum, 10 mm latum, 12 mm longum, subobscure viride, basi subturbinatum. Squamae exteriores laxe adpressae vel subpatentes, lanceolatae, ad 6 mm longae, ad 1,5 mm latae, anguste albo-marginatae, apice purpurascens; squamae interiores subcallosae. *Calathium* paulo radians, ad 1,5 cm diametro, luteum. Ligulae marginales planae, extus stria cano-purpurea notatae, apice rubro-aurantiacae. Antherae vacuae. Stylus et stigmata livescentia. Floret tempore verno. *Achenium* (immaturum rubro-lateritium) maturum valde obscure rufum, 4,2 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum rugosum—basi laeve, in pyramidem cylindricam, 1–1,2 mm longam (spinulis saepe praeditam) subabrupte abiens. Rostrum 6 mm longum; pappus albus, brevis (4 mm longus).

E sectione *Erythrospermorum* Dahlst.

Holotypus: Wallis: Val Ferret, oberhalb La Fouly, 1750 m, 1961, v. Soest, c. Delft (162), 8.5.1963 (h v.S. 42119).

5. *T. gracillimum* v. SOEST, spec. nov.

Planta tenera, humilis, ad 10 cm alta, paulo araneosa, basi fragmentis foliorum veteriorum incrassata. *Folia* ad 8 cm longa, gramineo-viridia, petiolis angustis, laete purpureis instructa. Lobi laterales breviter falcati vel breviter lingulati, ad 10 mm longi, subretroversi, acuti vel subacuti, dorso interdum dentato vel denticulato, margine inferiore raro 1 dente munito; interlobia plerumque angusta et sublonga, saepe dentata; lobus terminalis parvus, subsagittatus, subobtusus, integer. *Scapi* folia subaequilongi, sub involucro araneosi. *Involucrum* ca. 12 mm longum, angustum. Squamae exteriores purpurascens, anguste ovatae vel lanceolatae, patentes, apice recurvatae, anguste marginatae, laeves, interiores callosae vel minute corniculatae. *Calathium* paulo radians, flavum. Ligulae marginales breves, planae, extus stria fusco-violacea notatae. Antherae vacuae. Stylus et stigmata fusco-virescentia. *Achenium* rubro-lateritium, denique sat obscurum, parvum, 3,2 mm longum (pyramide inclusa) superne dense spinulosum, ceterum rugosum—basi laeve, in pyramidem cylindricam, 0,7 mm longam subabrupte abiens. Rostrum 9 mm longum, pappus albus, 5 mm longus.

E sectione Erythrospermorum Dahlst.

Holotypus: Wallis: Lax, Lagerplatz an der Staatsstraße, 1025 m, 26.5.1951, H. Bühner (h ZT).

Diese Art ähnelt *T. rubicundum* DAHLST. im unteren Teil, *T. silesiacum* DAHLST. im oberen; Schattenformen ähneln öfters auch in der Blattform *T. silesiacum*, aber die Achänen sind immer bedeutend kleiner und auch meistens dunkler.

16. *T. brachycarpum* HAGLUND et v. SOEST, spec. nov.; Abb. 2.

Planta parva, 5–8 cm alta. *Folia* gramineo-viridia, parce, in nervo dorsali modice araneosa, petiolis roseolis vel pallidis, angustis instructa. Lobi laterales (utrinque ca. 4) angusti, lineares vel anguste triangulares, $\pm$ falcati, $\pm$ retroversi, acuti, $\pm$ fusco-marginati, dorso parce sublonge denticulati, margine inferiore integro; interlobis 1–1,5 mm latis, ad 5 mm longis, saepe denticulatis, fusco-marginatis, saepe plicatulis; lobus terminalis sagittatus ad 10 mm longus, vel deltoideus ad 4 mm longus, lobulis basalibus ad 6 mm longis, saepe retroversis, acutis, lobulo apicali interdum elongato, lineari vel lingulato, subobtusus. *Scapi* folia aequilongi, sub involucro araneosi. *Involucrum* 12 mm longum, ca. 10 mm latum, subobscure viride. Squamae exteriores lanceolatae, ad 7 mm longae, anguste marginatae, laxe patentes vel apice $\pm$ recurvatae, purpureae; squamae interiores pro parte callosae. *Calathium* planum, radians, ca. 2 cm diametro, flavum. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae polliniferae. Stylus et stigmata fusco-virescentia. Floret vere. *Achenium* brunneo-aurantiacum, parvum, 3 mm longum (pyramide inclusa),

superne spinulosum, ceterum laeve, in pyramidem cylindricam, 0,7 mm longam abrupte abiens. Rostrum 7 mm longum; pappus niveus, 5 mm longus.

E sectione Erythrospermorum Dahlst.

Holotypus: Basel: linkes Rheinufer bei der Johanniterbrücke, 19.4.1936, P. Aellen (h); *Isotypus* in h v. S.

Diese Art aus der «*Fulva*»-Gruppe ist von anderen Arten dieser Gruppe verschieden durch blaßrosa bis grüne Stiele bei gleichzeitigem Vorhandensein von Pollen.

21. *T. mailleferi* v. SOEST, spec. nov.; Abb. 5.

Planta mediocris, ca. 8 cm alta, subglabra, basi fragmentis foliorum veteriorum valde incrassata. *Folio* luteo-viridia, ca. 8 cm longa, lobata, petiolis pallidis instructa. Lobi laterales utrinque ca. 5, triangulares, subacuti ad obtusi, ad 12 mm longi, dorso $\pm$ convexo integro vel 1 dente parvo instructo, margine inferiore $\pm$ recto integro vel 1 dente parvo instructo; interlobiis latis, brevibus, interdum dentatis; lobus terminalis breviter hastatus vel vulgo deltoideus, 0,5–1 cm longus, obtusus, integer vel utrinque 1 dente munitus. *Involucrum* 10–11 mm longum, laete viride et purpurascens. Squamae exteriores lanceolatae, inconspicue marginatae, corniculatae, interiores corniculatae. *Calathium* parvum, laete luteum. Ligulae marginales planae, extus stria atro-violacea notatae. Antherae vacuae. Stylus et stigmata fusco-virescentia. Floret vere. *Achenium* pallide rubro-lateritium, ca. 3,5 mm longum (pyramide inclusa), usque ad basin dense breviter spinulosum, in pyramidem cylindricam, ca. 1 mm longam abrupte abiens. Rostrum 7 mm longum; pappus albus, 4,5 mm longus.

E sectione Erythrospermorum Dahlst.

Holotypus: Waadt: Lausanne, Vidy, 13.3.1901, Maillefer (h LAU).

Die Pflanzen wurden von VON HANDEL-MAZZETTI als «*T. obliquum* FRIES ad *T. laevigatum* vergens» bestimmt. Diese Art scheint am nächsten mit den südlichen Arten mit schwach rosafarbenen Achänen verwandt zu sein; wie bei *T. roseocarpum* v. S. fehlt Pollen, aber *T. mailleferi* hat z. B. blaßgrüne Blattstiele.

25. *T. magnolevigatum* WALO KOCH, spec. nov.; Abb. 4.

Planta 6–20 cm alta, gracilis, sat araneosa. *Folia* canescenti- ad subprasino-viridia, subaraneosa, angusta, lobata, petiolis angustis roseis instructa. Lobi laterales utrinque ca. 5, hamati vel falcati, 7–12 mm longi, acutissimi, dorso saepe grosse dentato vel denticulato, margine inferiore integro; interlobia angusta, sat longa, plerumque grosse dentata; lobus terminalis sagittatus ad subhastatus, interdum deltoideus, 4–12 mm longus, lobulis basalibus $\pm$ triangularibus, saepe retroversis, acutis, lobulo apicali interdum acuminato, subacuto. *Scapi* purpurei, valde araneosi, saepe folia superantes. *Involucrum* sub-turbinatum, 12–15 (in pl. cult.) mm longum, 10–11 mm latum, subobscure

viride, subpruinose. Squamae exteriores patentes, apice valde recurvatae, ovatae ad late lanceolatae, in costa pallide viridae, inconspicue viridimarginatae, apice purpurascens, inconspicue, callosae, interiores apice atropurpureae, pro parte callosae. *Calathium* 2,5–3(–4 in pl. cult.) cm diametro, obscure sulphureum. Ligulae marginales planae, extus roseolae et stria atropurpurea ornatae. Antherae polliniferae; stylus et stigmata obscure fuscescentia. *Achenium* aurantiacum, 4 mm longum (pyramide inclusa), superne dense spinulosum, ceterum tuberculatum–basi laeve, in pyramidem anguste cylindricam 1 mm longam, abrupte abiens. Rostrum 12 mm longum; pappus albus, 5 mm longus.

E sectione Erythrospermorum Dahlst.

Holotypus: Deutschland: Baden: Twiel (Hohentwiel) pr. Singen, 20.4.1928, Walo Koch, c. 3 in h ZT, 10.5.1931, 10.5.1932 (h ZT); *Isotypus* in h v.S.

WALO KOCH hat eine ausführliche Beschreibung in deutscher Sprache gegeben, welche ich für die lateinische Diagnose benützt habe. Das kultivierte Typus-Material ist etwas kräftiger als die wildwachsenden Pflanzen, aber die spezifischen Eigenschaften sind identisch.

26. *T. rufulum* v. SOEST, spec. nov.; Abb. 7.

Planta gracilis, 10–15 cm alta. *Folia* pallide viridia, lobata, parce, in nervo dorsali subaraneosa, petiolis angustis purpureis instructa. Lobi laterales utrinque 4–5, anguste triangulares vel falcati, patentes, superiores pro parte contracti, erecto-patentes, ca. 10 mm longi, acuti, dorso $\pm$ subulato-dentato, margine inferiore integro; interlobia ad 2 mm lata, saepe grosse dentata; lobus terminalis sagittatus vel trilobulatus, ad 18 mm longus, subobtusus, lobulis basalibus saepe lingulatis patentibus vel triangularibus $\pm$ retroversis, interdum indistincte evolutis, lobulo apicali saepe lingulato, raro inciso, vulgo 1 dente munito. *Scapi* sub involucri valde araneosi, floriferi foliis aequilongi. *Involucrum* mediocre, 12 mm longum, subturbinatum, obscure viride. Squamae exteriores ovato-lanceolatae, recurvatae, purpurascens, anguste marginatae, interiores apice inconspicue callosae. *Calathium* planum, radians, 3 cm diametro, luteum. Ligulae marginales planae extus stria atropurpurea ornatae. Antherae polliniferae. Stylus et stigmata fuscescentia, siccitate subnigra. *Achenium* rufum, 3,8 mm longum (pyramide inclusa), superne argute spinulosum, ceterum rugosum, in pyramidem cylindricam (spinulis interdum praeditam) ca. 0,9 mm longam subsensim abiens. Rostrum 6 mm longum; pappus albus, 5 mm longus.

Holotypus: Zürich: Bahnhof Bülach, c. 141, 3.5.1937 (h ZT); orig. 1935 Walo Koch (h ZT).

Diese Art gehört zur «*Brunnea*»-Gruppe und ist mit *T. proximum* DAHLST. einigermaßen verwandt, hat aber z. B. Pollen.

27. *T. ducommunii* v. SOEST, spec. nov.

Planta mediocris, ca. 1,5 dm alta, basi araneosa. *Folia* $\pm$ glabra, laete viridia, sublutescentia, lobata, petiolis dilute purpureis, angustis instructa. Folia exteriora anguste obovata, lobi laterales pauci, sublate triangulares, lobus terminalis obtusus. Lobi laterales in foliis interioribus numerosi, inferiores subulatifformes, ceterum anguste triangulares, patentes vel paulo retroversi, ca. 1 cm longi, acuti ad subacuti, superiores subobtusiusculi, omnes dorso $\pm$ argute vel subulato-dentato, margine inferiore integro; interlobia sat angusta, saepe dentata, $\pm$ piceo-marginata; lobus terminalis breviter deltoideus vel $\pm$ tripartitus, ca. 1 cm longus, lobulis basalibus ad 1 cm longis, lobulo apicali interdum inciso vel 1 dente munito, subobtusiusculus. *Scapi* graciles, sub involucro araneosi. *Involucrum* mediocre, subturbinatum, ca. 12 mm longum, sat obscure viride. Squamae exteriores ovatae, ad 5 mm longae, apice recurvae, angustissime marginatae, ciliolatae, pro parte conspicue corniculatae, interiores pro parte callosae ad corniculatae. *Calathium* planum, radians, ca. 3 cm diametro, dilute luteum. Ligulae marginales planae, extus stria atro-violacea notatae. Antherae vacuae. Stylus et stigmata (siccitate) subnigra. *Achenium* stramineum, 5 mm longum (pyramide inclusa), superne dense et grosse erecto-spinulosum, ceterum $\pm$ rugosum—basi laeve, in pyramidem cylindricam, 1,3 mm longam, spinulis saepe praeditam, subsensim abiens. Rostrum 7–8 mm longum; pappus albus, 5 mm longus.

Holotypus: Genf: Creux de Genthod, 3.6.1858, J.C. Ducommun (h LAU).

Diese Art aus der «*Dissimilia*»-Gruppe unterscheidet sich von den meisten anderen Arten dieser Gruppe z.B. durch nur schmal berandete Außenhüllblätter.

29. *T. magnobliquum* v. SOEST, spec. nov.; Abb. 3.

Planta ca. 10 cm alta. *Folia* subprasino-viridia, in nervo dorsali subaraneosa, lobata, ad 12 cm longa petiolo angusto pallido inclusa. Lobi laterales in folia exteriora utrinque ca. 3, anguste triangulares, acuti, lobus terminalis sagittatus, ad 13 mm longus, acutus; lobi laterales in folia interiora utrinque ad 6, anguste triangulares ad lingulati vel falcati, acutissimi, mucronulati, ad 15 mm longi, patentes vel subrecurvati vel in lobis superioribus interdum erecto-patentes, dorso parte inferiore saepe valde convexo, parte superiore recto integro vel inciso et 1 dente longo minuto, margine inferiore paulo concavo vel recto; interlobia pro parte ad 15 mm longa et angusta (ca. 2 mm lata), saepe fortiter subulato-dentata; lobus terminalis trilobulatus, ad 2 cm longus, lobulis basalibus triangularibus, vel lingulatus, ad 10 mm longus, saepe recurvatus, acutus, lobulo apicali saepe profunde inciso vel basi grosse dentato, apice lingulato, subobtusiusculus vel subacutus ad (pro parte) acutus, mucronatus. *Scapi* parce araneosi, floriferi foliis breviori. *Involucrum* crassum, laete glauco-viride, ca. 11 mm longum, 15–16 mm latum. Squamae exteriores ovato-lanceolatae, extremo pro

parte late lineares, inconspicue et anguste marginatae, apice obscure purpurascens, $\pm$ callosae; squamae interiores apice atro-violaceae, callosae. *Calathium* subclausum, flavum. Ligulae marginales tubulosae, breves, extus purpureae, denique subaurantiae. Antherae vacuae; stylus et stigmata laete lutea. *Achenium* stramineum, 4,5 mm longum (pyramide inclusa), superne argute spinulosum, ceterum rugosum—basi laeve, in pyramidem conico-cylindricam, 0,8 mm longam subabrupte abiens. Rostrum 6–7 mm longum; pappus albus, 5 mm longus.

Holotypus: Wallis: oberhalb Ayent bei Sion, Walo Koch, 22.5.1937, c. 128 in ZT (h ZT); *Isotypus* in h v.S.

In verschiedener Hinsicht gleicht diese Art, die WALO KOCH ohne Namen zur *Dissimilia* DAHLST. gestellt hat, Arten der Sektion *Obliqua* DAHLST.: Farbe der Blätter und der Hülle, tubulöse Blüten und deren Farbe. Die Pflanzen sind aber in allen Teilen etwa 2mal so groß wie *T. obliquum*, viel kräftiger, und die Blattform ist auch stark verschieden. Die Sektion *Obliqua* kommt nur im Gebiete der Ost- und Nordsee vor.

VI. Sect. *Ceratophora* Dahlst.

39. *T. gallicum* v. SOEST, Act.Bot.Neerl. 10 (1961) 280–281.

Bei der Beschreibung dieser Art aus Savoyen waren noch keine Achänen bekannt:

Achenium stramineum, 5 mm longum (pyramide inclusa), superne breviter squamuloso-spinulosum, ceterum sublaeve, in pyramidem conicam, 0,7 mm longam subsensim abiens. Rostrum 8–9 mm longum; pappus albus, 5–6 mm longus.

Cotypus fructifer: Graubünden: Piz Padella 2600 m, 1944, Walo Koch; c. in ZT, 9.5.1946 (h ZT).

41. *T. mazzettii* v. SOEST, Proc.Kon.Ned.Ak.Wet. C 69. 4 (1966) 451–462.

Bei der Beschreibung dieser Art aus Tirol waren noch keine Achänen bekannt:

Achenium pallidissime aurantiacum, 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum laeve, in pyramidem conicam, 0,3 mm longam abrupte abiens. Rostrum 5 mm longum; pappus albus, 5,5 mm longus.

Cotypus fructifer: Graubünden: Piz Murtèr, VII.1930, Walo Koch (h ZT), s. n. *T. reduplicati* W.K. inedit.

VII. Sect. *Alpina* Hagl.

43. *T. melanops* v. SOEST, spec. nov.; Abb. 9.

Planta 5–10 cm alta, sat robusta, inferne subaraneosa. *Folia* canescenti-viridia, lobata, ad 10 cm longa, petiolis pro parte alatis, pallidis instructa; lobi laterales utrinque ca. 5, approximati, patentes vel saepe recurvati, ad 1,5 cm

longi, acuti, dorso valde convexo, dense dentato et denticulate, saepe profunde inciso, margine inferiore integro; angulis loborum plicatulis, interlobia inconspicua, lata; lobus terminalis deltoideus, subacutus. *Scapi* araneosi, sub involucro sat dense araneosi. *Involucrum* crassum, 13 mm longum, 13 mm latum, atroviride. Squamae exteriores ovatae, breves, apice $\pm$ recurvatae, obtusae, immarginatae. *Calathium* planum, radians, 4 cm diametro, $\pm$ croceum. Ligulae marginales planae, extus stria purpurea ornatae. Antherae polliniferae. Stylus luteus, stigmata lutea (parcissime virescentia). *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne squamuloso-spinulosum, ceterum sublaeve, in pyramidem conicam, 0,4 mm longam, abrupte abiens; rostrum crassum, breve (4 mm); pappus albus, 4 mm longus.

E sectione Alpinorum Hagl.

Holotypus: Wallis: près du Col de la Furka 2450 m, 17.9.1964, B. de Retz 52466 (h); *Isotypus* in h v.S.

49. *T. silvrettense* v. SOEST, spec. nov.; Abb. 10.

Planta humilis, 3–6 cm alta, sat robusta, basi $\pm$ araneosa ceterum glabra. *Folia* ad terram $\pm$ adpressa, sublutescentia, lobata, petiolis pallidis instructa. Lobi laterales (utrinque ca. 3) lineares vel subfalcati vel anguste triangulares, integri, erecto-patentes vel paulo retroversi, ad 15 mm longi, plerumque breviores, subobtusiusculi vel subacuti; interlobia angustiuscula, ad 10 mm longa, raro subdenticulata; lobus terminalis sagittatus vel deltoideus, lobulis basalibus $\pm$ patentibus vel retroversis. *Scapi* saepe curvati, sub involucro plerumque glabri. *Involucrum* obscure viride, ca. 10 mm longum, crassiusculum. Squamae exteriores breviter (pro parte anguste) ovatae vel deltoides, late albo- vel purpureo-marginatae, apice roseolae, omnes laeves. *Calathium* luteum, paulo radians. Ligulae marginales planae, extus stria rufo-violacea notatae. Anthera vacuae. Stylus luteus, stigmata sordide lutea ad fusciscentia. Floret aestate. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne breviter erecto-spinulosum, ceterum glabrum, in pyramidem conicam, 0,3–0,4 mm longam subabrupte abiens. Rostrum 5 mm longum; pappus albus, 4,5 mm longus.

E sectione Alpinorum Hagl.

Holotypus: Silvretta: Vernelatal, 2100 m, 18.7.1954, v. Soest (h 33826); *Cotypus fructifer*: Silvretta: Sardasca, 1650 m, v. Soest (h 33825).

50. *T. sordidepapposum* v. SOEST, spec. nov.; Abb. 11.

Planta sat humilis, ca. 5–10 cm alta, subaraneosa. *Folia* laete subprasino-viridia, lobata, breviter pallide anguste petiolata. Lobi laterales (utrinque ca. 4–5) unguiculati, ad 10 mm longi, ad 5 mm lati, subobtusiusculi, dorso et margine inferiore saepe grosse dentato, interlobia 2–4 mm lata, ad 10 mm longa, grosse

triangulariter dentata vel sublobulata, in parte superiore inconspicua (lobi laterales superiores valde approximati); lobus terminalis subhastatus vel subsagittatus, 7–12 mm longus, interdum sublobulatus vel profunde incisus, obtusus. *Involucrum* ca. 10 mm longum, subobscurum viride; squamae exteriores adpressae, breves, parvae, $\pm$ lanceolatae, saepe obtusae, interiores subglaucescentes, apice atropurpureae. *Calathium* planum, 2,5 cm diametro, clare luteum. Ligulae marginales planae, extus stria atropurpurea notatae, apice $\pm$ nigrae. Antherae polliniferae. Stylus et stigmata virescentia. Floret aestate. *Achenium* olivaceo-stramineum, 3,5 mm longum (pyramide inclusa) superne argute spinulosum, ceterum laeve, in pyramidem conico-cylindricam, 0,4 mm longam (spinulis saepe praeditam) subabrupte abiens. Rostrum 4,5 mm longum. Pappus sordide albus, 5 mm longus.

Holotypus: Wallis: Val Ferret, Le Ban Darrey 2100 m, 11.8.1961, v. Soest (h 40354-5); desgleichen von 2050 bis 2300 m.

Ein schmutzigweißer Pappus ist selten bei *Taraxacum* außerhalb der Sektion *Rhodotricha* H.M., welche vom pannonischen Gebiet bis nach Asien reicht.

VIII. Sect. Fontana v. S.

59. *T. croceicarpum* v. SOEST, spec. nov.

Planta humilis, 3–5 (–20) cm alta, subglabra. *Folia* luteo-viridia, 3–4 cm longa petiolo angusto roseo-colorato inclusa; lobus laterales utrinque 2–3, hamati ad triangulares ad 1 cm longi, patentes vel subretroversi, dorso convexo parce dentato, margine inferiore integro, angulis loborum plicatis, interlobia 2–3 mm lata; lobus terminalis deltoideus ad subhastatus, 10 mm longus, 12 mm latus, subobtusus ad obtusus, integer. *Scapi* foliis subaequilongi. *Involucrum* parvum, 8 mm longum, obscure viride; squamae exteriores ovatae, ca. 4 mm longae, subadpressae, immarginatae, omnes laeves. *Calathium* ca. 2 cm diametro, (obscure?) luteum; ligulae marginales planae, extus stria canoviolaceae notatae. Antherae polliniferae. Stylus luteus, stigmata $\pm$ sordide lutea. *Achenium* ochro-aurantiacum, 4 mm longum (pyramide inclusa), superne breviter spinulosum ceterum laeve, in pyramidem conico-cylindricam 0,7–0,8 mm longam subabrupte abiens. Rostrum 6–8 mm longum; pappus albus, ca. 5 mm longus.

Holotypus: Graubünden: Oberengadin: Val Roseg, Moräne des Tschiervagletschers, gegen Piz Umur, ca. 2600 m, Schröter (h ZT).

Von anderen Arten der Sektion unterscheidet sich diese Art durch die Farbe der Achänen.

63. *T. magnopyramidophorum* v. SOEST, spec. nov.; Abb. 12.

Planta gracilis, 2–3 dm alta, subglabra. *Folia* lingulata, lobata, gramineo-viridia, subtus canescentia, in petiolo pallido longo angusto sensim decres-

centia. Lobi laterales utrinque 3–5, triangulares ad falcati, ad 2 cm longi, apice saepe recurvi, acuti-mucronulati (in folia exteriora obtusi), margine inferiore recto vel concavo, dorso magis dentato in interlobiis sat brevis abeuntibus. Lobus terminalis hastatus vel subdeltoideus, obtusus, 2–3 cm longus (interdum longiore), basi ad 3 cm latus, saepe 1 dente grosso munito, lobulis basalibus triangularibus subacutis vel subobtusis. *Scapi* glabri, folia breviter superantes. *Involucrum* obscure viride, 14–15 mm longum, basi rotundatum. Squamae exteriores anguste ovatae, ad 8 mm longae, laxe patentes vel apice recurvatae, in costa dilutiores, pro parte anguste marginatae, laeves. *Calathium* planum, radians, ad 4 cm diametro. Ligulae marginales luteae, extus stria fusco-purpurea notatae, apice subnigrae. Antherae $\pm$ vacuae. Stylus luteus, stigmata $\pm$ sordide lutea. Floret aestate. *Achenium* dilute stramineum, ca. 5 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum rugosum–basi laeve, in pyramidem magnum, conico-cylindricam, 0,9 mm longum sensim abiens. Rostrum ca. 10 mm longum. Pappus niveus, 5–6 mm longus.

Holotypus: Wallis: Saas Fee, unterhalb Mittaghorn, 1800 m, 14.7.1952, v. Soest (h 31151-2).

IX. Sect. *Alpestris* v. S.

71. *T. bracteolatum* v. SOEST, spec. nov.; Abb. 14.

Planta 5–20 cm alta, subglabra. *Folia* gramineo-viridia, petiolis subalbis instructa; lobi laterales utrinque ca. 5, patentes vel paulo retroversi, falcati vel anguste triangulares vel sublineares, ad 2,5 cm longi, acuti, dorso integro, denticulato vel saepe 1 dente subtiliformibus instructo, margine inferiore integro; interlobia saepe subulato-dentata et -denticulata; lobus terminalis sagittatus, ad 2 cm longus, subacutus ad subobtusus. *Scapi* floriferi folia aequilongi, subglabri. *Involucrum* basi rotundatum, ad 17 mm longum, olivaceo-viride; squamae exteriores $\pm$ adpressae, apice subrecurvae, lanceolatae, immarginatae, laeves, extremo patentes, lineares, bracteiformes. *Calathium* ad 3,5 cm diametro, luteum. Ligulae marginales planae, extus stria rufo-purpurea notatae. Antherae polliniferae. Stylus et stigmata fuscescentia, sat obscura. *Achenium* (maturum ignotum) dilute brunneum, superne spinulosum, ceterum rugosum–basi laeve, in pyramidem conicam, 0,7 mm longam abiens; rostrum ca. 6 mm longum; pappus albus, 5 mm longus.

Holotypus: Wallis: Zinal, Schneetälchen an der linken Seitenmoräne des Gletschers, 2100 m, 18.8.1965, v. Soest (h 44321).

72. *T. cordatifolium* v. SOEST, spec. nov.; Abb. 15.

Planta mediocriter alta (1–2 dm), subaraneosa, denique glabrescens. *Folia* gramineo-viridia, lobata, petiolis viridis, angustis ad subalatis instructa; folia

exteriora lingulata, lobi laterales utrinque 1–2, lanceolata, lobus terminalis elongato-sagittatus, ad (3–4) cm longus; folia interiora ad 2 dm longa, lobi laterales utrinque 3–4, falcati vel anguste triangulares, acuti vel subacuti, patentés vel subretroversi, saepe integri vel inferiores dorso argute dentati; interlobis 0,5–2 cm longis, 2–5 mm latis, integris vel denticulatis vel parce subulato-dentatis, angulis loborum plicatulis; lobus terminalis hastatus vel subdeltoideus, ad 3 cm longus, acutus vel subacutus, integer vel 1 dente grosso munito, lobulis basalibus triangularibus acutis, ad 2 cm longis. *Scapi* floriferi folia subaequilongi, denique subglabri. *Involucrum* 12–13 mm longum, subobscurè viride. Squamae exteriores late lanceolatae, recurvatae, immarginatae, in costa pallidiores. *Calathium* ad 3 cm diametro, saturate luteum. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae polliniferae. Stylus et stigmata fuscescentia. Floret aestate. *Achenium* griseo-stramineum, 3,5 mm longum (pyramide inclusa), superne ad 1,5 mm latum, spinulis vel squamulis brevibus obtectum, ceterum rugosum, in pyramidem conicam, 0,5–0,6 mm longam subsensim abiens. Rostrum sat breve, 5 mm longum; pappus albus, 4–5 mm longus.

Holotypus: Wallis: Zinal, La Bourica 2100–2120 m, 18.8.1965, v. Soest (h 44363); auch Nr. 44368.

75. *T. grandiflorum* v. SOEST, spec. nov.; Abb. 16.

Folia subprasino-viridia, lobata, parce, in nervo dorsali densiuscule araneosa, ad 10 cm longa petiolo alato pallido inclusa; lobi laterales (utrinque 4–7) anguste triangulares vel falcati, acuminatissimi, acuti, apice saepe retroversi, dorso convexo subulato-dentato, margine inferiore saepe concavo, fuscomarginati; angulis loborum plicatis et tortilis, interlobia sat lata, dentata et denticulata $\pm$ fusco-colorata, superiora breviora; lobus terminalis sagittatus, ad 2 cm longus, acuminatus, acutus, lobulis basalibus tortilis, ad 1 cm longis, acutissimis. *Scapi* sub involucri araneosi. *Involucrum* sat magnum, obscure viride. Squamae exteriores ovato-lanceolatae, valde recurvatae, inconspicue marginatae, ciliolatae, interiores ad 16 mm longae, omnes laeves. *Calathium* planum, radians, ad 5 cm diametro, sublaete luteum. Ligulae marginales longae (ca. 3 cm), planae, extus $\pm$ stria cana notatae, summis subnigrae. Antherae polliniferae. Stylus luteus, stigmata sordide lutea. *Achenium* (maturum ignotum) stramineum, parce spinulosum, in pyramidem sat longam abiens. Rostrum tenue; pappus niveus, 6 mm longus.

Holotypus: Graubünden: Lenzerheide, Alpenwiese bei Sanaspans, 2000 m, 18.6.1966, v. Soest (h 45372).

Zusammen mit *T. magnoligulatum* v.S. ist diese Art durch auffällig lange Scheibenblüten gekennzeichnet.

77. *T. magnoligulatum* v. SOEST, spec. nov.; Abb. 17.

Planta gracilis, ca. 2 dm alta. *Folia* glabra, gramineo-viridia, lobata, ad 12 cm longa petiolo angusto virido inclusa; lobi laterales utrinque 2–3, late triangulares, patentes, ad 1,5 cm longi, dorso recto vel convexo triangulariter dentato, margine inferiore recto integro; interlobia inter lobos inferiores angusta, sat longa, inter lobos superiores lata, paulo evoluta; lobus terminalis hastatus vel breviter deltoideus, $\pm$ breviter dentatus, subobtusus, lobulis basalibus patentibus vel paulo retroversis, ad 8 mm longis, subobtusis. *Scapi* sub involucro parce araneosi, denique glabri. *Involucrum* subturbinatum, ad 17 mm longum. Squamae exteriores dilute viridae, late albo- vel purpureo-marginatae, ad 7 mm longae, apice recurvatae, omnes laeves. *Calathium* planum, radians, 5 cm diametro, sublaete luteum. Ligulae marginales longae (ad 3 cm), extus cano-purpureae. Antherae minute polliniferae. Stylus et stigmata lutea. *Achenium* paulo aurantiacum, 5 mm longum (pyramide inclusa), superne spinulosum, in pyramidem ca. 0,7 mm longam subsensim abiens. Rostrum 10 mm longum; pappus niveus, 6 mm longus.

Holotypus: Graubünden: Lenzerheide, Alpenwiese bei Sanaspans 2000 m, 18.6.1966, v. Soest (h 45473).

79. *T. metriocallosum* v. SOEST, spec. nov.; Abb. 18.

Planta mediocriter alta (cultura ad 15 cm). *Folia* canescenti-viridia, glabra, petiolis subangustis viridis; lobi laterales (utrinque ca. 5) falcati, ad 2,5 cm longi, acuti, mucronulati, margine inferiore integro vel raro 1 dente munito, dorso valde et longe dentato et denticulato, interdum profunde inciso vel sublobulato, in interlobiis abeuntibus, interlobis ad 15 mm longis, 4–7 mm latis, valde et longe dentatis et denticulatis; lobus terminalis sagittatus, 2–3 cm longus, 3–4 cm latus, subobtusus ad acutus, mucronulatus, saepe incisus (lobulis mediis rotundis), lobulis basalibus patentibus, interdum dorso grosse dentatis. *Scapi* $\pm$ araneosi, floriferi foliis paulo breviori. *Involucrum* olivaceo-viride, mediocre, crassiusculum, ca. 2 cm latum. Squamae exteriores anguste ovatae, apice recurvatae, anguste viridi-marginatae, interiores sub apicem pro parte minute bicallosae. *Calathium* planum radians, ad 4,5 cm diametro, subcroceum. Ligulae marginales planae extus pro parte estriatae, pro parte stria purpurea vel atro-purpurea ornatae. Antherae polliniferae; stylus et stigmata sordide lutea. Floret vere. *Achenium* dilute brunneum, 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum rugosum–basi laeve, in pyramidem conicam, 0,6–0,7 mm longam (spinulis saepe praeditam) subsensim abiens. Rostrum 10 mm longum; pappus albus, 5 mm longus.

Holotypus: Wallis: Val Ferret nach Lacs Fenêtre, 2350 m, 30.7.1961, v. Soest (h) no 122 (c. in Delft Bot. Garden 179, coll. 22.5.1963). Die kultivierten Pflanzen sind als Holotypus (h v. S. 44363) zu betrachten.

80. *T. ochrospermum* v. SOEST, spec. nov.; Abb. 19.

Planta mediocris, 7–15 cm alta, basi subaraneosa. *Folia* subprasino-viridia, lobata, in nervo dorsali saepe rufescenti-colorato parce araneosa, petiolis pallidis subalatis instructa. Lobi laterales (utrinque 3–6) patentes vel apice recurvati, falcati vel anguste triangulares, ad 2 cm longi, dorso saepissime irregulariter grosse dentato, margine inferiore integro; interlobia sublata, grosse dentata, interdum sublobulata; lobus terminalis deltoideus ad hastatus, ad 2 cm longus, subacutus ad $\pm$ obtusus, lobulis basalibus triangularibus patentibus acutis. *Scapi* sub involucro parce araneosi, floriferi folia aequilongi. *Involucrum* mediocre, 15 mm longum, subobscure viride, purpurascens. Squamae exteriores ovatae, recurvae, inconspicue viridi- vel purpurascenti-marginatae, interiores apice atroviolaceae, omnes laeves. *Calathium* saturate luteum, planum, ad 3 cm diametro. Ligulae marginales planae, extus stria purpurea notatae. Antherae vacuae. Stylus et stigmata obscure fuscescentia, siccitate subnigra. *Achenium* (immaturum dilute brunneum) maturum ochraceum ad laete rufulum, 3,8 mm longum (pyramide inclusa), superne argute spinulosum, ceterum rugosum–basi laeve, in pyramidem subcylindricam, 0,5 mm longam abrupte abiens. Rostrum 8 mm longum; pappus niveus, 5 mm longus.

Holotypus: Wallis: Zinal: Montagne de la Lé, an Bachrändern, 2100–2150 m, 18.8.1965, v. Soest (h 44341).

86. *T. rufocarpoides* v. SOEST, spec. nov.; Abb. 21.

Planta sat alta, 22–25 cm, basi subaraneosa, ceterum glabra. *Folia* gramineo-viridia, ad 20 cm longa, petiolo subanguste alato virido inclusa, exteriori lingulata, grosse dentata, subacuta, interiora lobata; lobi laterales pauci, inferiores dentiformes, superiores a basi lato abrupte constricti, acuminati, ad 2,5 cm longi, peracuti, apice saepe retroversi vel recurvati, dorso integro vel (in lobis inferioribus) sublonge subulato-dentato, in interlobia abeuntes; interlobis inter lobos inferiores 0,5–0,8 mm latis, inter lobos superiores ad 2 cm latis. Lobus terminalis indistincte determinatus, ad 5 cm longus, lingulato-hastatus, saepe grosse recurvato-dentatus, subacutus. *Involucrum* mediocre, 16 mm longum, 16 mm latum, obscure viride, glaucescens. Squamae exteriores laxae patentes, denique apice recurvatae, lanceolatae ad ovatae, immarginatae, omnes laeves. *Calathium* saturate luteum ad $\pm$ aurantiacum. Ligulae marginales planae extus stria fusco-purpurea notatae. Antherae polliniferae. Stylus et stigmata fusco-virescentia. *Achenium* rufum, 4 mm longum (pyramide inclusa) superne breviter spinulosum, ceterum laeve, in pyramidem brevissimam (0,1–0,2 mm longam) abrupte abiens. Rostrum 9 mm longum; pappus albus, 5–6 mm longus.

Holotypus: Wallis: Arolla, unterhalb des Gletschers 2050–2100 m, 25.8.1965, v. Soest (h 44438); *Cotypus fructifer*: Arolla, La Tsa, 2000–2100 m, 24.8.1965, v. Soest (h 44427).

87. *T. rufonerve* v. SOEST, spec. nov.; Abb. 22.

Planta gracilis, 8–12 cm alta, inferne subaraneosa. *Folia* ad 20 cm longa, subprasino-viridia, in nervo dorsali rufo-colorata, et araneosa, petiolis anguste ad sublate alatis, roseo-purpureis. *Folia* exteriora lingulata, subintegra, dentata, interiora lobata; lobi laterales (utrinque 3–4) triangulares, $\pm$ retroversi, ad 2 cm longi, integri vel inferiores denticulati, acuti, margine inferiore $\pm$ recto vel paulo convexo vel concavo, dorso subconvexo in interlobiis latis abeuntibus, angulis loborum subplicatulis; lobus terminalis hastatus vel subdeltoideus, subacutus, submucronatus, interdum incisus vel dentatus, lobulis basalibus triangularibus acutis, patentibus vel retroversis. *Scapi* sub involucro araneosi. *Involucrum* obscure glaucescenti-viride, ca. 12 mm longum, crassiusculum. *Squamae* exteriores ovatae, immarginatae, omnes laeves. *Calathium* saturate luteum, planum, ad 4 cm diametro. *Ligulae* marginales planae, extus stria atrovioacea notatae. *Antherae* vacuae vel parce et minute polliniferae (pollen sterile?); stylus $\pm$ fuscus, stigmata siccitate subnigra. Floret aestate. *Achenium* dilute brunneum, 4 mm longum (pyramide inclusa), superne subdense breviter spinulosum, ceterum laeve, in pyramidem cylindricam, 0,3 mm longam abrupte abiens. Rostrum 10 mm longum; pappus albus, ca. 5 mm longus.

Holotypus: Wallis: Val Ferret, Combes des Fonds, 1660 m, 8.8.1961, v. Soest (h 40358); *Cotypus fructifer*: h 40367.

88. *T. samuelssonii* DAHLSTEDT, spec. nov.; Abb. 23.

Folia laete viridis, lineari-lanceolata ad elongate lanceolata, lobis latis, deltoideis, brevibus vel sat longis praedita, superioribus integris ad subintegris, inferioribus $\pm$ dentatis, in speciminibus validioribus omnibus $\pm$ et saepe longe dentatis, acutis, dorso subrectis vel convexis, superne in interlobia breviter saepe sensim abeuntibus, lobo terminali triangulari vel sagittato, $\pm$ mediocri-magno, acuto, subintegro vel ad basin dentibus paucis, acutis praedita, interiora latiora, subintegra, $\pm$ dentata vel lobis perbrevibus praedita, petiolis levissime violascentibus. *Scapi* plures, folia aequantes, pallidi vel superne leviter colorati, $\pm$ vel superne densius araneoso-pilosi. *Involucrum* 13–15 mm longum, ca. 9–10 mm latum, pallide ad sat obscure olivaceo-viride. *Squamae* exteriores ovato-lanceolatae ad lanceolatae, acutae, laxae adpressae vel erecto-patentes, haud marginatae, sub apice corniculis vel callis praeditae, interiores sub apice $\pm$ breviter corniculatae. *Calathium* densum, plenum, 30–40(–50) mm diametro. *Ligulae* laete luteae, subochraceae, breves, marginales subplanae, subtus cano-violaceae, reliquae canaliculatae ad involutae. Stylus luteus, stigmatibus leviter fusco-virescentibus. *Antherae* polliniferae. *Achenium* laete fulvum, 4 mm longum, ad 1,5 mm latum, pyramide brevi, 0,75 mm longa, subcylindrica, apice breviter et acute spinulosum, ceterum $\pm$ tuberculatum vel basi fere laeve.

Holotypus: Graubünden: Val Sesvenna, 1921, Samuelsson, c. in hort. ZT (h ZT); *Isotypus* im Bergianischen Garten und beim Reichsmuseum Stockholm gezüchtet (h S).

Die Beschreibung dieser Pflanze wurde von DAHLSTEDT gegeben und befindet sich beim Herbarium-Material in h S.

Die Art gehört zu den rotfrüchtigen Formen der Sektion *Alpestris*; mit Arten der Sektionen *Ceratophora* DAHLST. und *Erythrosperma* DAHLST. hat *T. samuelssonii* nichts zu tun. DAHLSTEDT weist auf die Verwandtschaft mit *T. tirolense* DAHLST. und *T. cucullatum* DAHLST. Ich möchte die Art eher zur Sektion *Alpestris* v.S. als zur Sektion *Cucullata* v.S. bringen; zweifellos weisen aber beide Sektionen verwandtschaftliche Beziehungen auf; damals war die Sektion *Alpestris* noch nicht publiziert.

89. *T. simpliciusculum* v. SOEST, spec. nov.; Abb. 24.

Planta subparva, 5–10 cm alta; subaraneosa. *Folia* numerosa, obscure viridia, lobata; petiolis viridis ad pallidis, alatis vel subalatis. Lobi laterales (utrinque ca. 4) breviter triangulares, patentes vel paulo retroversi, subacuti vel subobtusiusculi, integri vel dorso raro 1 dente munito; interlobis 3–5 mm latis, ad 5 mm longis, interdum dentatis vel denticulatis, plerumque integri; lobus terminalis breviter deltoideus vel subhastatus, subobtusiusculus ad obtusus, 5–12 mm longus, integer, lobulis basalibus patentibus subacutis. *Scapi* 1–3, floriferi foliis subaequilongi, sub involucrio subdense araneosi. *Involucrum* sat parvum, crassiusculum, 10–12 mm longum, 12–14 mm latum, obscure viride. Squamae exteriores subadpressae, apice saepe recurvatae, anguste ovatae ad plerumque late lanceolatae, ad 7 mm longae, immarginatae. *Calathium* paulo radians, 1,5–2 cm diametro, luteum. Ligulae marginales angustae, extus basi purpurascens et stria atropurpurea notatae. Antherae vacuae. Stylus (parte superiore) et stigmata livescentia ad fusco-virescentia. Floret aestate. *Achenium* (co-typi) luteo-stramineum, 3,5 mm longum (pyramide inclusa) superne breviter spinulosum, ceterum rugosum–basi laeve, in pyramidem conicam 0,5 mm longam (spinulis interdum praeditam) subsensim abiens. Rostrum 7 mm; pappus niveus, 4 mm longus.

Holotypus: Wallis: Mattmark 2100 m, 8.7.1942, v. Soest (h 31134); *Cotypus fructifer*: Graubünden: Bergün, Val Tschötschen 1800 m, 8.7.1948, v. Soest (h 19333).

90. *T. strictilobum* v. SOEST, spec. nov.; Abb. 25.

Planta gracilis, 1–2 dm alta. *Folia* cano-viridia, lobata, parce araneosa, petiolis subangustis, viridis instructa, exteriora utrinque ca. 2 loba, subobtusiuscula, interiora utrinque 4–6 loba; lobi laterales pro max. parte conspicue patentes, anguste triangulares, acuminati, acuti, margine inferiore $\pm$ recto, dorso integro (vel in lobis inferioribus interdum subulato-dentato vel denticulato) in interlobiis sensim abeuntibus; interlobia sat longa et lata (3–5 mm); lobus terminalis deltoideus vel interdum subsagittatus, 1–2 cm longus, subacutus, integer, lobulis basalibus triangularibus paulo retroversis, acutis. *Scapi* folia (interdum breviter)

superantes, sub involucro araneosi. *Involucrum* mediocre, crassiusculum, 12 mm longum, 12 mm latum, obscure viride. Squamae exteriores $\pm$ adpressae, ovatae ad 7 mm longae, angustissime albo-marginatae, obtusae, omnes laeves. *Calathium* planum, radians, ad 4 cm diametro, sublaete luteum. Ligulae marginales planae, extus stria rufo-purpurea notatae. Anthera vacuae. Stylus et stigmata clare lutea. *Achenium* ignotum.

Holotypus: Wallis: Saas Fee, Bideralp, 1850 m, 10.7.1952, v. Soest (h 31054).

91. *T. stylosum* v. SOEST, spec. nov.; Abb. 26.

Planta 8–20 cm alta. *Folia* gramineo-viridia vel paulo subprasino-viridia, subaraneosa, glabrescentia, lobata, petiolis viridis ad subalbis, subalatis vel angustis instructa; lobi laterales (utrinque 4–5) anguste triangulares, acuti, saepe acuminati, retroversi, dorso saepe dentato, in interlobiis abeuntibus; interlobia angusta vel sat lata, grosse dentata, superiora breviora, ut plurimo integra; lobus terminalis elongato-sagittatus, ad 4 cm longus, acutus, integer, lobulis basalibus triangularibus retroversis, acutis. *Scapi* subglabri. *Involucrum* mediocre, 10–12 mm longum, olivaceo-viride, subglaucum. Squamae exteriores late lanceolatae, in costa pallidiores, recurvatae. *Calathium* saturate luteum. Ligulae tota vel valde reducta, extus stria purpurea notatae. Antherae polliniferae. Stylus exsertus, sordide luteus; stigmata sordide lutea. Floret aestate. *Achenium* stramineum, 4,5 mm longum (pyramide inclusa), superne breviter et sublate spinulosum, ceterum rugosum–basi laeve, in pyramidem conicam, ca. 0,4 mm longam sensim abiens. Rostrum 6,5 mm longum; pappus albus, 4–4,5 mm longus.

Holotypus: Wallis: Zinal, Tracuit 2200 m, 18.8.1965, v. Soest (h 44357); *Cotypus fructifer*: Schneetälchen an der linken Seiten-Moräne des Zinal-Gletschers, 2100 m, 18.8.1965, v. Soest (h 44324/5).

X. Sect. *Cucullata* v. S.

94. *T. sulger-büelii* v. SOEST, spec. nov.; Abb. 27.

A *T. cucullato* DAHLSTEDT notis sequentibus divisum: folia sat crassiuscula, lingulata, multilobata; lobi laterales triangulares vel falcati, $\pm$ patentes vel paulo retroversi, ad 20 mm longi, acuti vel subacuti, dorso convexo, interdum 1 dente grosso munito, margine inferiore integro; interlobia saepe valde dentata vel sublobulata, angulis loborum $\pm$ plicatis; lobus terminalis breviter sagittatus ad hastatus, ad 15 mm longus, lobulis basalibus triangularibus 10–12 mm longis, saepe retroversis, acutis.

Holotypus: St. Gallen: Churfirsten, Brisi, E. Sulger Büel, c. 236 in ZT, 11, 20, 22.4.1949, Walo Koch, s. n. *T. cucullati* DAHLST. (h ZT).

97. *T. aureocucullatum* v. SOEST, spec. nov.; Abb. 28.

Planta ad 2 dm alta, tenera, subglabra. *Folia* $\pm$ canescenti-viridia, lobata, petiolis pallidis instructa; lobi laterales utrinque 2–4, triangulares, $\pm$ patentés vel paulo retroversi, ad 15 mm longi, acuti ad subacuti, dorso dentato, margine inferiore recto integro; interlobia subangusta ad lata, plerumque conspicua, saepe dentata; lobus terminalis hastatus ad subdeltoideus, saepe grosse et breviter dentatus vel subincisus, obtusus, lobulis basalibus triangularibus subacutis, ad 10 mm longis, retroversis. *Scapi* sub involucro araneosi. *Involucrum* laete viride, ca. 12 mm longum. Squamae exteriores lanceolatae ad late lineares, acutissimae, valde recurvatae, omnes laeves. *Calathium* paulo radians, ad 3 cm diametro, saturate luteum. Ligulae tubulosae, extus cano-purpureae. Antherae vacuae. Stylus et stigmata lutea. *Achenium* stramineum, 3,8 mm longum (pyramide inclusa), superne breviter spinulosum ceterum laeve, in pyramidem conicam, 0,4–0,5 mm longam abrupte abiens. Rostrum 6 mm longum. Pappus albus, 5 mm longus.

Holotypus: Graubünden: Klosters, Schlappintal, 1500 m, 25.7.1954, v. Soest (h 33746); *Cotypus fructifer*: Piz Lagalp, Südostseite, 2550 m, 3.8.1933, v. Soest (h 9497).

98. *T. inclusum* WALO KOCH, spec. nov.

Planta 4–10 cm alta, sat robusta, subdense araneosa. *Folia* numerosa, subobscura viridia, valde purpurascentia, lobata, ad 10 cm longa petiolo $\pm$ rufo-purpureo paulo alato inclusa. Lobi laterales in folia exteriora 2–3, anguste triangulares, acuti, retroversi; lobus terminalis elongato-hastatus, ad 3 cm longus, subobtusus. Lobi laterales in folia interiora ad 5, lingulati vel anguste triangulares, interdum falcati, ad 20 mm longi, acuti, retroversi, dorso subgrosse breviter dentato, margine inferiore integro; interlobia grosse dentata; lobus terminalis sagittatus, saepe incisus ad sublobulatus, ad 2 cm longus, lobulis basalibus $\pm$ triangularibus, ca. 10 mm longis, retroversis, acutis, lobulo apicali interdum lingulato, mucronato. *Scapi* $\pm$ rufopurpurei. *Involucrum* laete olivaceo-viride, subpruinatum, purpurascente, ca. 18 mm longum, 10 mm latum. Squamae exteriores recurvatae, 10–12 mm longae, lanceolatae, sublate marginatae, apice purpurascentes, laeves, interiores pro parte subcallosae. *Calathium* clausum. Ligulae involutae, laete luteae, marginales extus aurantiacae ad purpureae. Antherae polliniferae; stylus luteus, stigmata subnigra. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne erecte et argute spinulosum, ceterum laeve, in pyramidem conico-cylindricam, 0,4 mm longam subabrupte abiens. Rostrum 9 mm longum; pappus niveus, 6 mm longus.

Holtypus: Graubünden: westlich Surlej am Silvaplanersee; c. no 203, F₁ Stöcke, 20.5.1937, Walo Koch (h ZT).

Diese Art wurde von WALO KOCH ausführlich in deutschen Notizen beschrieben, woran sich die von mir aufgestellte Diagnose genau gehalten hat. *T. inclusum* gehört wohl zur Sektion *Alpestris* v.S., in der orangefarbene Blüten und bereifte Hüllen oft charakteristisch sind.

99. *T. luteocucullatum* WALO KOCH et v. SOEST, spec. nov.; Abb. 29.

Planta mediocris, 5–8 cm alta, subglabra. *Folia* glabra, laete viridia, nervo mediano pallide lucescente virido, lobata, ad 10 cm longa petiolo albido alato inclusa. Lobi laterales utrinque 3–4, approximati, breviter triangulares vel hamati, ad 10 mm longi, saepe retroversi, obtusi vel subobtusi, dorso valde convexo, saepe breviter dentato, margine inferiore integro; angulis loborum plicatulis; lobus terminalis breviter hastatus ad deltoideus, 6–12 mm longus, obtusus, saepe mucronatus. *Scapi* subaraneosi. Involucrum obscure olivaceo-viride, crassiusculum, ad 15 mm longum. Squamae exteriores adpressae vel erecto-patentes, ovatae, ad 6 mm longae, $\pm$ marginatae, omnes laeves, apice atro-purpureae. *Calathium* luteum, paulo radians, ad 2,5 cm diametro. Ligulae canaliculatae, extus purpureae et stria atro-violacea ornatae. Antherae $\pm$ poliniferae. Stylus excedens luteus, stigmata fuscescentia. *Achenium* stramineum, angustum, 5 mm longum (pyramide inclusa), superne parcissime, minute spinulosum, ceterum laeve, in pyramidem conico-cylindricam, 0,7–0,8 mm longam subabrupte abiens. Rostrum 8 mm longum; pappus albus, 5 mm longus.

Holotypus: Churfürsten: Käserruck ob Unterwasser, tiefe Schneemulde auf der Ostseite des Gipfelrückens; Kreidekalk, ca. 2030 m, 26.8.1938, Walo Koch 38/524; c. ZT no 180, 20, 22, 24, 28.4.1949 (h ZT).

WALO KOCH hat für die Pflanzen, welche er *T. luteocucullatum* genannt hat, nur wenige Eigenschaften notiert. Die Blütenfarbe paßt nicht in die Sektion *Cucullata*; für die *Alpina* ist das Rostrum zu lang, aber die Außenhüllblätter sind für diese Sektion charakteristisch.

XIV. Sect. *Vulgaria* Dahlst.

113. *T. aganophytum* v. SOEST, spec. nov.; Abb. 30.

Planta mediocriter alta, ca. 15–20 cm. *Folia* laete viridia (nervo mediano araneoso lucescente albo, interdum rufescente), lobata, petiolis subangustis lucescente viridis instructa. Lobi laterales utrinque 3–5, triangulares, saepe recurvae vel inferiores retroversae, ad 1 cm longae, acutae, dorso $\pm$ convexo vel recto integro vel saepe 1 dente munito, raro etiam $\pm$ denticulato, margine inferiore integro, recto vel concavo; interlobia 2–4 mm lata, integra vel paulo et saepe breviter dentata; lobus terminalis in foliis interioribus $\pm$ deltoideus, 1–1,5 cm longus, interdum grosse triangulariter dentatus vel incisus, subobtus. Folia exteriora minus lobata, interdum lingulata et retroverso-dentata; lobus terminalis sat magnus, hastatus vel valde incisus et elongatus, obtusus. *Scapi* araneosi, sub involucrio dense araneosi, floriferi folia aequilongi vel

superantes. *Involucrum* olivaceo-viride, sat crassiusculum, ad 15 mm longum. Squamae exteriores laxae patentibus vel oblique retroversae, ovato-lanceolatae, ad 4 mm latae, inconspicue marginatae, in costa rufo-purpurascens. *Calathium* planum, radians, 3–4 cm diametro, saturate luteum. Ligulae marginales planae, extus stria rufo-purpurea notatae. Antherae vacuae vel pollen sterile; stylus et stigmata lutea, interdum inconspicue virescentia. *Achenium* ignotum.

Holotypus: Unterwalden: Engelberg: Ristis–Turneck, Wegrand, 1600 m, 18.5.1966, P. Aellen (h).

114. *T. aposeris* v. SOEST, spec. nov.

Planta mediocriter alta. *Folia* subglabra, canescenti-viridia, ad 12 cm longa, petiolo pallido alato inclusa, nervo mediano rufescenti-roseo. Lobi laterales utrinque ad 6, hamati ad late triangulares, ad 2 cm longi, subobtusius, dorso convexo integro, vel inferiores minute denticulato, margine inferiore recto vel concavo integro; interlobia 1–5 mm longa, ca. 5 mm lata, angulis loborum plicatulis; lobus terminalis hastatus ad deltoideus, ca. 2 cm latus, ad 3 cm longus, interdum incisus, ceterum paulo sinuoso-dentatus, obtusus. *Scapi* araneosi, floriferi foliis aequilongi. *Involucrum* sat crassiusculum, obscure viride. Squamae exteriores anguste ovatae, laxae adpressae, denique apice recurvae. *Calathium* planum, radians, ca. 4,5 cm diametro, luteum. Ligulae marginales extus stria pallide canescentia notatae. Antherae vacuae. Stylus et stigmata clare lutea. *Achenium* ignotum.

Holotypus: Waadt: prairies à Aigle, avril 1912, Jaccard (h RUEB).

Die Blätter ähneln ein wenig jenen von *Aposeris foetida* (L.) LESS.

116. *T. diapyrum* v. SOEST, spec. nov.; Abb. 43.

Planta ca. 3 dm alta, basi $\pm$ glabra. *Folia* ca. 3 dm longa petiolo subalato pallido vel roseolo inclusa, paulo canescentia, in nervo dorsali parce araneosa. *Folia* exteriora lingulata ad 3,5 cm lata, sublobata vel retroverso-dentata, lobi laterales breves, dorso dentato et denticulato, (interlobia et) lobus terminalis indistincte determinatus, obtusus. *Folia* interiora conspicue lobata, lobi laterales (utrinque ca. 3) late unguiculati vel hamati, acuti, ad 3,5 cm longi, dorso grosse dentato, margine inferiore subintegro; interlobia 1–1,5 cm lata, plerumque longe dentata; lobus terminalis elongato-hastatus, saepe sublobulatus, valde grosse et retroverso-dentatus, subobtusus ad acutus, mucronulatus, ad 8 cm longus. *Scapi* glabri. *Involucrum* 17 mm longum, ca. 22 mm latum, olivaceo-viride. Squamae exteriores retroflexae, ca. 11 mm longae, ad 2,5 mm latae, conspicue albo- vel purpureo-marginatae, omnes laeves. *Calathium* luteum. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae vacuae. Stylus et stigmata lutea. Floret aestate. *Achenium* subaurantiacum, 4 mm

longum (pyramide inclusa), superne breviter spinuloso-squamatum ceterum $\pm$ laeve, in pyramidem conico-cylindricam, 0,7 mm longam (spinulis praeditam) subsensim abiens. Rostrum 14 mm longum, pappus albus, 5–6 mm longus.

Holotypus: Wallis: Saas Fee, ca. 2000 m, 21.7.1939, Lydia Aellen (h Ae.).

118. *T. integriloboides* v. SOEST, spec. nov.

Planta mediocriter alta, ca. 1 dm, tota glabra. *Folia* subprasino-viridia, lobata, petiolis vinoso-coloratis, angustis instructa; lobi laterales utrinque 2–4, deltoidei, patentes, basi ad 10 mm lati, ad 10 mm longi, patentes, obtusi, integri, dorso et margine inferiore recto, vel paulo convexo vel concavo; interlobia inter lobos inferiores conspicua, ca. 2 mm lata, interdum 1 dente grosso munita, inter lobos superiores paulo evoluta; lobus terminalis hastatus ad deltoideus, obtusus, saepe incisus, ad 20 mm longus. *Involucrum* laete viride, ca. 12 mm longum. Squamae exteriores lanceolatae, recurvae, laeves. *Calathium* planum radians, 2,5 cm diametro. Ligulae marginales planae, extus stria rufo-violacea notatae. Antherae vacuae; stylus et stigmata lutea. *Achenium* olivaceo-brunneum, 4 mm longum (pyramide inclusa) superne dense spinulosum, ceterum rugosum–basi laeve, in pyramidem conico-cylindricam, 0,5 mm longam abrupte abiens. Rostrum 8 mm longum; pappus albus, 4–5 mm longus.

Holotypus: Graubünden: Lenzerheide, Lai 1500 m, v. Soest (h 45310); *Isotypus*: h 45260.

Diese Art steht *T. duplidens* LINDB. f. nahe, ist aber unter anderem verschieden durch braune Achänen und ganzrandige Blattlappen.

119. *T. linguatiforme* v. SOEST, spec. nov.; Abb. 57.

A *T. linguato* DAHLST. notis sequentibus divisum: squamae exteriores latiores, ad 4,5 mm latae; antherae vacuae, stigmata clare lutea; ligulae marginales extus stria rufo-purpurea notatae. *Achenium* maturum ignotum.

Holotypus: Baselland: Wiese bei Grellingen gegen Seewen, 10.4.1966, P. Aellen (h); *Isotypus* in h v. S.

121. *T. belonodens* v. SOEST, spec. nov.; Abb. 34.

Planta sat alta. *Folia* laete viridia, ad 20 cm longa, subaraneosa, lobata, petiolis subangustis instructa. Lobi laterales (utrinque ca. 5) falcati, patentes vel retroversi, ad 3 cm longi, saepe basi sublatis, in apicem contractum et deinde dilatatum abeuntes, acuti, submucronati, dorso subulato-dentato et -denticulato, apicem versus integro, margine inferiore integro; interlobia ad 10 mm longa, ca. 5 mm lata, argute, saepe subulato-dentata; lobus terminalis sagittatus, ad 3 cm longus, subacutus, mucronulatus, lobulis basalibus triangularibus patentibus vel

retroversis, ad 2 cm longis, acutis, mucronulatis, lobulo apicali contracto et deinde dilatato, lingulato. *Scapi* floriferi folia aequilongi, subranaeosi, sub involucro dense araneosi. *Involucrum* ca. 16 mm longum, subturbinatum. Squamae exteriores retroflexae, ad 12 mm longae, anguste ovatae ad late lineares, in costa pallidi-virides, interdum purpurascens, inconspicue marginatae, omnes laeves. *Calathium* planum radians, ca. 4 cm diametro, luteum. Ligulae marginales planae, extus stria cano-violacea ornatae. Antherae vacuae. Stylus et stigmata fuscescentia. *Achenium* ignotum.

Holotypus: Berner Jura: Bois Repetez bei Prédame, 1000 m, 13.5.1940, P. Aellen (h); *Isotypus* in h v.S.; Abb. 34 zeigt Holotypus und Isotypus zusammen.

122. *T. calomorphum* HAGLUND et v. SOEST, spec. nov.

Planta sat humilis, subaraneosa. *Folia* lutescenti-viridia, lobata, petiolis viridis angustis instructa. Lobi laterales utrinque ca. 5, anguste triangulares vel sublineares vel anguste lingulati, ad 2 cm longi, apice saepe recurvati, acuti ad subobtusius, dorso integro vel 1(–2) dente sublongo instructo, margine inferiore integro. Interlobia ad 3 mm longa, ca. 2 mm lata, integra vel denticulata ad crispulo-dentata, angulis loborum plicatulis. Lobus terminalis sagittatus, ad 2 cm longus, subobtusius, lobulis basalibus linearibus vel triangularibus, patentibus vel retroversis, subacutis. *Scapi* floriferi saepe foliis breviori. *Involucrum* sat obscure viride, subturbinatum, ca. 15 mm longum. Squamae exteriores $\pm$ patentibus vel apice recurvatae, ovato-lanceolatae, $\pm$ immarginatae, in costa pallidiores. *Calathium* planum, radians, 2,5–3 cm diametro, luteum. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae vacuae vel pollen sterile; stylus et stigmata fuscescentia. *Achenium* luteo-stramineum, 4 mm longum (pyramide inclusa), superne breviter spinulosum vel tuberculatum, ceterum laeve, in pyramidem conico-cylindricam, sat grossam, 0,8–1 mm longam abrupte abiens. Rostrum 8 mm longum; pappus niveus, 5 mm longus.

Holotypus: Graubünden: Davos: Dürrboden im Dischmatal, 2010 m, 24.6. 1936, P. Aellen (h); *Isotypus* in h v.S.

In h Aellen hat HAGLUND ohne Beschreibung die Pflanzen mit *T. calomorphum* spec. nov. bezeichnet.

Kleine Formen dieser Art ähneln öfters *T. congestolobum* v.S., haben aber immer flache Scheibenblüten, welche auf der Unterseite auch nicht rot sind.

123. *T. cinereum* v. SOEST, spec. nov.; Abb. 38.

Planta mediocriter alta (1–2 dm). *Folia* canoviridia, utrinque $\pm$ araneosa vel glabrescentia, lobata, nervo mediano paulo rufescente, petiolis pallide viridis, anguste alatis instructa. Lobi laterales utrinque 4–5, triangulares, ad 1,5 cm longi, patentibus vel recurvi, subacuti ad subobtusius, dorso convexo, in lobis in-

ferioribus subuloso-dentato vel breviter denticulato, in lobis superioribus saepe inciso-dentato vel subintegro; interlobia ad 4 mm lata, integra vel dentata; lobus terminalis breviter hastatus vel saepe deltoideus, 1–2 cm longus, ad 2,5 cm latus, obtusus vel subacutus, saepe incisus ceterum integer, lobulis basalibus patentibus vel recurvis, acutis vel obtusis. *Scapi* araneosi, floriferi foliis subaequilongi vel superantes. *Involucrum* sat ovatum, ca. 1,5 cm longum, olivaceo-viride; squamae exteriores lanceolatae, 2–3 mm latae, apice recurvatae, in costa pallide virides interdum purpurascens. *Calathium* planum, radians, ad 4 cm diametro, luteum. Ligulae marginales planae, extus stria cano-violacea ad cano-purpurea notatae. Antherae vacuae. Stylus et stigmata sordide virescentia. *Achenium* dilute brunneum, 3,5 mm longum (pyramide inclusa) superne breviter spinulosum ceterum laeve, in pyramidem conico-cylindricam ca. 0,3 mm longam subsensim abiens. Rostrum 7–8 mm longum; pappus albus, 5 mm longus.

Holotypus: Waadt: Commune de Pully; rive droite de la Paudèze, au-dessus du hameau de la Rochettaz, broussailles, 460–490 m, 16.4.1952, Michel Gay (h LAU); *Cotypus fructifer*: Waadt: Pays d'Enhaut: Vallée de l'Etivaz, entre les Bornels et la route, 1150 m, 30.5.1942, Maillefer (h LAU 15420).

125. *T. sagittilobum* WALO KOCH et v. SOEST, spec. nov.; Abb. 77.

Planta sat alta. *Folia* suberecta, sat obscure viridia, valde araneoso-pilosa, lobata, petiolis valde alatis, viridis raro roseolis instructa. Folia exteriora breviter lobata, lobi laterales ca. 1,5 cm longi, lobus terminalis $\pm$ deltoideus, ad 2 cm longus. Folia interiora multilobata; lobi laterales utrinque ad 8, falcati ad triangulares, acuminati, acutissimi, ad 4 cm longi, paulo retroversi vel apice recurvi, margine inferiore integro raro 1 dente grosso munito, saepe concavo, dorso valde convexo, saepe integro vel denticulato vel interdum dentato, in interlobia lata, interdum rufescentia et purpureo-marginata abeuntes; lobi superiores approximati; lobus terminalis magnus, sagittatus, ad 6 cm longus, subobtus, lobulis basalibus acutis ad 3 cm longis. *Scapi* pallidi, sat crassi, sub involucro valde albo-araneosi. *Involucrum* ad 1,7 mm longum, ca. 15 mm latum. Squamae exteriores retroflexae, 3,5 mm latae, 14–15 mm longae, immarginatae, ecallosae. *Calathium* planum, radians, 5 cm diametro, saturate luteum. Ligulae marginales planae, extus stria fusco-purpurea notatae. Pollen sterile. Stylus luteus, stigmata virescentia. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne dense breviter spinulosum ceterum tuberculatum, in pyramidem conico-cylindricam, 0,5 mm longam (spinulis praeditam) subsensim abiens. Rostrum 11–12 mm longum; pappus albus, 5 mm longus.

Holotypus: Zürich: Kantonsapotheke, c. in ZT, Walo Koch (h ZT); *Cotypus fructifer*: Berner Jura, Delsberg 415 m, 11.5.1940, P. Aellen (h).

In h ZT machte WALO KOCH ausführliche Notizen nach offenbar sehr wenig Material ohne Achänen; ganz identische Pflanzen liegen in großer Zahl und Variabilität im h Aellen, teilweise mit Achänen; im h Aellen kommen auch Pflanzen vor mit schwach rosafarbenem Blattstiel und mit mehr gezähnten Seitenlappen als von WALO KOCH angegeben. Diese Eigenschaften mußte ich in der Beschreibung einschließen.

127. *T. circinatum* HAGLUND, spec. nov.; Abb. 39.

Planta magnitudine mediocris. *Folia* lanceolata ad obovato-lanceolata, laete viridia, petiolis anguste alatis, leviter violascentibus. Lobi laterales hamati, sat lati, acuti, integri, inferiores minute et parce subulato-denticulati, superiores approximati, inferiores interlobiis brevibus sejuncti. Lobus terminalis in foliis exterioribus et intermediis mediocris vel sat magno sagittatus acutiusculus, in foliis interioribus saepe magnus, ovatus, lobulis basalibus uno latere vel utrinque margine rotundatus, obtusiusculus vel mucrone munito praeditus. *Involucrum* mediocre obscure viride, basi paulo decurrens. Squamae exteriores erecto-patentes, ovato-lanceolatae, supra medium interiorum attingentes, acuminatae, obscure virides, $\pm$ brunneo-violascentes. *Calathium* laete luteum. Ligulae marginales longae, extus stria fusco-violacea ornatae. Antherae vacuae. Stigmata leviter livescentia. *Achenium* ignotum.

Holotypus: Basel: Güterbahnhof Wolf, 15.4.1936, P. Aellen (h); *Isotypus* in h v. S.

Die Pflanzen wurden von HAGLUND in h Aellen beschrieben.

128. *T. engadinense* v. SOEST, spec. nov.; Abb. 45.

Planta ca. 2 dm alta, subaraneosa. *Folia* gramineo-viridia, lobata, ad 1,5 dm longa, petiolis alatis instructa, nervo mediano rufo-purpureo. Lobi laterales triangulares, patentes, 1–2 cm longi, acuti, mucronulati, dorso recto vel paulo convexo subulato-dentato, vel superiores integro, interdum 1 dente grosso munito, margine inferiore subrecto integro; interlobia 3–6 mm lata; lobus terminalis hastatus, saepe utrinque incisus, ad 2,5 cm longus, subobtusus, pro parte mucronulatus. *Scapi* subglabri, sat curvati. *Involucrum* olivaceo-viride, ca. 15 mm longum; squamae exteriores retroflexae, late lineares ad lanceolatae, longae, in costa pallide purpurascentes. *Calathium* (laete?) luteum. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae vacuae. Stylus et stigmata sordide lutea. *Achenium* luteo-stramineum, 3,5 mm longum (pyramide inclusa), superne spinulosum, ceterum rugosum—basi laeve, in pyramidem cylindricam 0,7 mm longam sat crassum abrupte abiens; rostrum 9–10 mm longum; pappus albus, 5 mm longus.

Holotypus: Graubünden: Engadin: Celerina, Wiese 1810 m, 30.6.1939, Frau Caprez (h Aellen).

129. *T. laiense* v. SOEST, spec. nov.; Abb. 54.

Planta ca. 12 cm alta, $\pm$ glabra. *Folia* prasino-viridia, ad 14 cm longa, petiolo angusto ad paulo alato, rufescenti-purpureo inclusa. Lobi laterales utrinque ad 8, breviter triangulares, ad 10 mm longi, acuti, patentes, margine inferiore recto integro, dorso saepe convexo integro vel (inferiores) minute denticulato; interlobia $\pm$ rufescenti-colorata, sat angusta, saepe integra; lobus terminalis sat elongatus, 1–2 cm longus, deltoideus ad subsagittatus, subacutus, integer, lobulo apicali interdum lingulato. *Scapi* glabri, floriferi folia aequilongi vel paulo breviori. *Involucrum* mediocre, crassiusculum, 12 mm longum, ca. 12–14 mm latum, sat obscure viride. Squamae exteriores ovato-lanceolatae, apice recurvae, angustissime albo-marginatae, laeves, interiores raro et pro parte callosae. *Calathium* planum, radians, ad 4 cm diametro, luteum. Ligulae marginales planae, extus stria cano- ad rufo-violacea notatae. Antherae vacuae. Stylus luteus, stigmata fuscescentia. *Achenium* ignotum.

Holotypus: Graubünden: Lenzerheide, Lai 1480–1500 m, 15.6.1966, v. Soest (h 45455).

130. *T. morulum* HAGLUND, spec. nov.

Planta magnitudine mediocris ad alta. *Folia* lanceolata, longa, saturate viridia, parce et in nervo dorsali densiuscule araneosa, petiolis subangustis, sordide rubro-violascentibus. Lobi laterales deltoidei, sat lati, mediocriter ad sat longi, acuti, recurvae ad sat patentes, dorso subrecto vel convexulo, inferiores subulato-dentato, superiores integro. Lobus terminalis mediocris, sagittatus, integer, acutus. Interlobia sat longa, $\pm$ recta, integra vel parce subulato-dentata. *Involucrum* parvum, atroviride, saepe pruinatum, basi truncatum. Squamae exteriores arcuato-recurvae, lanceolatae vel ovato-lanceolatae, vulgo 2,5 ad 4 mm latae, breves, fusco-virides. *Calathium* subobscure luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae vacuae. Stylus et stigmata obscura. *Achenium* fusco-olivaceum, ca. 4 mm longum (pyramide inclusa), superne ca. 1 mm latum, dense spinulosum, ceterum tuberculatum ad spinulosum vel basi laeve, in pyramidem ca. 0,8 mm longam, conico-cylindricam abrupte abiens.

Holotypus: Frankreich: Haut-Rhin: Sumpf bei La Chaussée, 23.4.1936, P. Aellen (h); *Isotypus* in h v. S.

Die Diagnose dieser Art wurde von HAGLUND in h Aellen aufgestellt.

132. *T. novoburgense* v. SOEST, spec. nov.; Abb. 62.

Planta mediocris, ca. 1 dm alta, subglabra. *Folia* subprasino-viridia, ca. 1 dm longa, lobata, petiolis anguste alatis roseolis instructa, nervo mediano pallido; lobi laterales utrinque ca. 4, breviter triangulares, ad 8 mm longi, subacuti,

patentes vel paulo recurvi, dorso breviter dentato, margine inferiore subrecto integro; interlobia 2–3 mm lata, ad 5 mm longa; lobus terminalis breviter deltoideus, 10–12 mm longus, subobtusus, interdum incisus vel breviter deltoideus, 10–12 mm longus, subobtusus, interdum incisus vel breviter sinuoso-dentatus. *Involucrum* ca. 15 mm longum; squamae exteriores lanceolatae, sat longae, valde reflexae, in costa purpurascens, interiores apice atro-violaceae, interdum subcallosae. *Calathium* luteum; ligulae marginales planae, extus stria cano-purpurea notatae. Antherae vacuae; stylus et stigmata sordide lutea. *Achenium* (maturum ignotum) stramineum, superne spinulosum, rostrum ca. 12 mm longum; pappus albus, 5–6 mm longus.

Holotypus: Neuenburger Jura: feuchte Wiese bei La Chaux-de-Fonds 1000 m, 30.5.1964, P. Aellen (h); *Isotypus* in h v. S.

133. *T. pilatense* v. SOEST, spec. nov.; Abb. 69.

Planta 1–2 dm alta, basi glabra. *Folia* canoviridia, glabra, 1–2 dm longa, lingulata, lobata, petiolis (nervique mediano parte inferiore pallide roseo-colorato) angustis ad subalatis. Lobi laterales utrinque 5, falcati vel triangulares, acuminati et acuti vel subacuti, patentes vel paulo recurvi, dorso saepe convexo vel recto, in lobos superiores raro inciso-dentato, in lobos inferiores argute dentato vel denticulato, in interlobia abeuntes, margine inferiore integro subrecto vel subconcavo; interlobia sat lata (ad 7 mm), angulis loborum plicatulis; lobus terminalis parvus, hastatus vel deltoideus, saepe valde elongatus, interdum incisus ad sublobulatus, lobulis basalibus triangularibus, acutis vel subacutis, lobulo apicali saepe lingulato, obtuso vel subobtusum. *Scapi* sub involucri subaraneosi. *Involucrum* mediocre, ca. 12 mm longum, ca. 12 mm latum, obscure viride. Squamae exteriores patentes vel apice recurvae, anguste ovatae, immarginatae, in costa cano-virides, omnes apice sordide atro-violaceae, laeves. *Calathium* laete (?) luteum. Ligulae marginales extus stria fusco-violacea notatae. Antherae vacuae. Stylus et stigmata livescentia. Floret aestate. *Achenium* (maturum ignotum) stramineum, superne spinulosum, in pyramidem brevem, conicam abrupte abiens. Rostrum ca. 8 mm longum; pappus albus, 6 mm longus.

Holotypus: Luzern: Pilatus 2070 m, 18.8.1940, Y. Tellenbach et P. Aellen (h Ae.); *Isotypus* in h v. S.; die Figur stellt den Isotypus dar.

134. *T. piluliferum* HAGLUND, spec. nov.; Abb. 70.

Planta parva. *Folia* lanceolata, saepe longa, sat laete viridia, praesertim juniora dense pilosa, petiolis angustis, leviter rubro-violascentibus. Lobi laterales deltoidei, latiusculi ad subangusti, acuti, in foliis exterioribus sat breves, recurvi, in intermediis vulgo in apicem longum saepius patentem abeuntes, dorso subrecto- ad basin convexi, integri, interlobiis sat longis, integris ad

parce et anguste subulato-dentatis sejuncti. Lobus terminalis mediocris, sagittatus vel hastato-sagittatus, lobulis basalibus et lobulo apicali non raro angustis. *Involucrum* parvum, 12–ca. 15 mm longum, angustum, ca. 10 mm latum, obscure viride vel fusco-viride, basi truncatum. Squamae exteriores basi erecto-patentes, apice arcuato-recurvae, lanceolatae, 2–ca. 2,5 mm latae, 8–10 mm longae, obscure virides, haud conspicue vel angustissime marginatae, laeves. *Calathium* laete luteum. Ligulae marginales longae, extus stria obscure violacea ornatae. Antherae vacuae; stylus et stigmata virescentia. *Achenium* substramineum, 4,5 mm longum (pyramide inclusa), superne ca. 1 mm latum, anguste et sat parce spinulosum, ceterum tuberculatum–basi laeve, in pyramidem subconicam, ca. 0,7 mm longam abiens. Rostrum 8–9 mm longum; pappus albus, 7 mm longus.

Holotypus: Graubünden: Strelapaßhöhe 2353 m, 15.7.1936, P. Aellen (h); *Isotypus* in h v. S.; die Figur zeigt den Isotypus.

Die Diagnose wurde von HAGLUND in h Aellen aufgestellt. Die Art ist verwandt mit *T. rhaeticum* v. S., hat aber grünliche (nicht reingelbe) Narben.

135. *T. rigidum* v. SOEST, spec. nov.; Abb. 75.

Planta 12–20 cm alta, basi sublonga araneosa. *Folia* ad 18 cm longa (petiolo alato pallido ad dilute purpureo inclusa), gramineo-viridia, sublutescentia, firma, in nervo dorsali sublonge araneosa, lobata. Lobi laterales utrinque 3–5, $\pm$ approximati, hamati vel late falcati, interdum triangulares, acutissimi, mucronati, apice pro max. parte recurvi vel retroversi, pro parte erecto-patentes vel patentes, margine inferiore integro, dorso plerumque longe dentato vel denticulato in interlobiis abeuntibus, angulis loborum plicatulis; lobus terminalis saepe hastatus, raro deltoideus, saepe inciso-dentatus vel sublobulatus, subobtusus, mucronatus, lobulis basalibus triangularibus retroversis. *Scapi* sub involucri araneosi. *Involucrum* ca. 15 mm longum, 15 mm latum, olivaceo-viride. Squamae exteriores retroflexae vel reflexo-patentes, late lanceolatae, ad 12 mm longae, $\pm$ obtusae, inconspicue marginatae, rufo-purpurascens, laeves. *Calathium* planum (?), luteum. Ligulae marginales planae, extus stria fusco-vel atro-violacea notatae. Antherae vacuae. Stylus et stigmata sublutea. *Achenium* luteo-stramineum, 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum $\pm$ rugosum–basi laeve, in pyramidem subconicam 0,3 mm longam abrupte abiens. Rostrum ca. 10 mm longum; pappus albus, 7 mm longus.

Holotypus: Graubünden: Davos: Dürrboden im Dischmatal 2010 m, 24.6.1936, P. Aellen (h); *Isotypus* in h v. S.; die Figur stellt Holotypus und Isotypus zusammen dar.

136. *T. sparsidens* HAGLUND, spec. nov.

Planta sat alta. *Folia* lanceolata, laete viridia, subglaucescentia, 4–5 loba, petiolis angustissime alatis, sat pallidis ad dilutissime violaceis. Lobi laterales

vulgo $\pm$ unguiformes, latiusculae, sat acuti, dorso dente magno instructi. Lobus terminalis mediocris vel sat magnus, sagittatus, vulgo uno vel utroque latere incisus vel dente munitus, acutus. Interlobia subangusta, sat integra. *Involucrum* magnitudine mediocre, atro-viride, basi ovato-truncatum. Squamae exteriores sat patentes, inferiores subrecurvae, lanceolatae, 2–3,5 mm latae, 12–15 mm longae, fusco-virides, $\pm$ purpurascentes. *Calathium* sat obscure luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae vacuae; stylus et stigmata livescentia. *Achenium* maturum ignotum.

Holotypus: Frankreich: Haut-Rhin: am Weg Rosenau–Fischzuchtanstalt unterhalb Basel, 26.4.1936, P. Aellen (h); *Isotypus* in h v. S.

Vielleicht ist *T. sparsidens* nicht von *T. circinatum* HAGL. verschieden. Die lateinische Diagnose wurde von HAGLUND in h Aellen gegeben.

138. *T. jurassicum* v. SOEST, spec. nov.; Abb. 53.

Planta humilis, 6–8 cm alta. *Folia* sat obscure cano-viridia, subaraneosa, lingulata, ad 1 cm lata, lobata, petiolis alatis roseolis instructa, nervo mediano $\pm$ rufescentibus. Lobi laterales utrinque ca. 4, approximati, unguiculati vel hamati vel late triangulares, apice recurvati, subobtusius, dorso convexo integro vel (saepius inferiores) denticulato, margine inferiore integro; lobus terminalis hastatus vel late deltoideus, obtusus, integer vel interdum incisus. *Scapi* floriferi foliis subaequilongi vel paulo superantes, subaraneosi. *Involucrum* sat obscure viride, subturbinatum. Squamae exteriores recurvae, lanceolatae, longe acuminatae, $\pm$ purpurascentes, immarginatae, ecallosae. *Calathium* planum, radians, 4 cm diametro, laete luteum; ligulae marginales planae, extus stria canoviolacea notatae. Antherae polliniferae. Stylus et stigmata clare lutea. *Achenium* ignotum.

Holotypus: Berner Jura: Chaltet bei Court 730 m, 1.5.1940, Y. Tellenbach et P. Aellen (h Ae.); *Isotypus* in h v. S.

139. *T. latebracteatum* WALO KOCH, spec. nov.; Abb. 55.

Folia sat obscure viridia, paulo araneosa ad subglabra, lobata, petiolis (nervique mediano purpureo-colorato) superne subalatis; lobi laterales utrinque 3–6, patentes, sub- vel valde approximati, triangulares, interdum acuminati, subobtusius, dorso subundulato, paulo convexo, denticulato vel inferiores parce dentato, margine inferiore $\pm$ recto integro; lobus terminalis semi-ellipticus, sat magnus, obtusus, sat latus, integer vel $\pm$ incisus. *Scapi* purpurei, sub involucre dense araneosi. *Involucrum* ovatum, obscure viride, pruinatum, ad 13 mm latum, ad 17 mm longum. Squamae exteriores ovatae, patentes, apice recurvae, purpurascentes. *Calathium* planum, radians, ad 4,5 cm diametro, aureum. Ligulae marginales planae, extus stria atro-violacea notatae. Antherae polliniferae;

stylus et stigmata lutea. *Achenium* dilute stramineum, 4,3 mm longum (pyramide inclusa), superne breviter spinulosum, in pyramidem conicam, 0,3–0,4 mm longam subabrupte abiens. Rostrum 13 mm longum; pappus albus, 5 mm longus.

Holotypus: St.Gallen: Alluvionen der Spettlinth: unteres Benkener Ried, 15.4.1928, Walo Koch (h ZT), auch c. in ZT.

WALO KOCH hat von dieser Art ausführliche Notizen gemacht, wovon ich, zusammen mit dem von ihm angedeuteten Typus-Material, die obige Diagnose zusammengestellt habe. Es muß aber gesagt werden, daß ich auch KOCHS *T. brevilaciniatum* zu dieser Art gestellt habe; die Unterschiede, zwar vorhanden, sind nach meiner Meinung aber nicht von spezifischer Bedeutung. Am Standort von *T. brevilaciniatum* wurde weiter noch eine von WALO KOCH nicht bestimmte Pflanze gesammelt, die beide Formen ineinander überführt.

140. *T. melinostylum* HAGLUND et v. SOEST, spec. nov.

Planta 1–1,5 dm alta. *Folia* canoviridia, subaraneosa, lobata, petiolis anguste alatis (nervique mediano praesertim parte inferiore rufescenti-roseo-colorato). Lobi laterales utrinque 4–7, ad 1,5 cm longi, triangulares vel unguiculati vel falcati, saepe abrupte acuminati, acuti vel subacuti, dorso minute dentato vel denticulato, margine inferiore integro vel 1 dente munito; interlobia 2–4 mm lata, ad 5 mm longa, crispulo-dentata et denticulata; lobus terminalis sagittatus ad hastatus, saepe incisus vel sublobulatus, ad 2 cm longus, subobtusus ad obtusus, raro mucronulatus. *Scapi* floriferi folia aequilongi, (sub involucro dense) araneosi. *Involucrum* obscure viride, ad 17 mm longum. Squamae exteriores lanceolatae, immarginatae, recurvae, in costa pallidiores. *Calathium* planum, radians, ca. 4 cm diametro, luteum. Ligulae marginales extus stria cano-violacea notatae. Antherae polliniferae. Stylus et stigmata laete lutea. *Achenium* stramineum, 3,7 mm longum (pyramide inclusa), superne breviter spinulosum ceterum rugosum, in pyramidem conico-cylindricam, 0,3 mm longam subabrupte abiens. Rostrum 9 mm longum; pappus albus, 5,5 mm longus.

Holotypus: Basel: Linkes Rheinufer bei der Johanniterbrücke, 19.4.1939, P. Aellen (h); *Cotypus fructifer*: Frankreich: Haut-Rhin, Rosenau, 26.4.1936, P. Aellen (h).

141. *T. pedemontanum* v. SOEST, spec. nov.; Abb. 66.

Planta robusta, 1–1,5 dm alta. *Folia* subobscura cano-viridia, subtus pallidiviridia, araneosa, lobata, petiolis subangustis rufescentibus instructa; lobi laterales $\pm$ patentes vel recurvi, utrinque 4–6, triangulares vel hamati, acuti, mucronati, saepe fortiter dentati vel fissi, ad 3 cm longi, dorso saepe grosse dentato, multidenticulato, margine inferiore saepe valde denticulato, raro dentato; interlobia saepe valde dentata et denticulata, vel interdum sublobata, plerumque fusco-purpureo-colorata; lobus terminalis magnus, saepe indistincte determinatus, hastatus vel late sagittatus, subobtusus, saepe incisus vel sublobatus vel

fortiter longe-dentatus et triangulariter dentatus, minute denticulatus. *Scapi* araneosi. *Involucrum* subobscure viride, ca. 15 mm longum. Squamae exteriores lanceolatae, $\pm$ retroflexae, ad 12 mm longae, immaculatae, ecallosae. *Calathium* planum, radians, ad 4 cm diametro, luteum. Ligulae marginales extus stria rufo-violacea notatae, saepe $\pm$ canaliculatae. Antherae polliniferae; stylus et stigmata lutea. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne dense breviter spinulosum, ceterum rugosum, in pyramidem brevem, ca. 0,2 mm longam abrupte abiens. Rostrum ca. 11 mm longum; pappus albus, 5 mm longus.

Holotypus: Piemont: Südrampe des Großen St. Bernard 2100 m, 29.6.1963, P. Aellen (h); *Isotypus* in h v. S.

142. *T. scalaeforme* WALO KOCH, spec. nov.; Abb. 78.

Planta ca. 2,5 dm alta. *Folia* obscure viridia, parce araneosa, lobata, petiolis brevibus alatis (nervique mediano praesertim parte inferiore purpureo-colorato). Lobi laterales triangulares, abrupte acuminati, patentes, ad 3 cm longi, subacuti vel subobtusius, dorso grosse dentato, margine inferiore recto integro; interlobia sat lata (0,7–1,2 cm), ad 1 cm longa, saepe grosse dentata; lobus terminalis mediocris ad magnus, deltoideus, acutus ad obtusus, pro parte dentatus; lobulis basalibus patentibus triangularibus, 1,5–2,5 mm longis, acutis ad subacutis. *Scapi* basi purpurei, ceterum rufescentes, subglabri. *Involucrum* obscure viride, mediocre, 9–11 mm latum, ad 19 mm longum, basi subturbatum. Squamae exteriores laxe adpressae ad patentes, ovatae ad lanceolatae, immarginatae, in costa rufo-olivaceo-virides. *Calathium* planum, radians, 4–4,5 cm diametro, saturate luteum. Ligulae marginales planae, extus stria cano-purpurea notatae. Antherae polliniferae; stylus et stigmata lutea. *Achenium* ignotum.

Holotypus: Zürich: Süd-Terrasse der ETH, 24.4.1928, Walo Koch (h ZT).

Die lateinische Diagnose ist von mir aus den Notizen KOCHS in deutscher Sprache entnommen.

146. *T. argoviense* v. SOEST, spec. nov.; Abb. 33.

Planta ca. 2–3 dm alta. *Folia* laete gramineo-viridia, paulo araneosa, lobata, petiolo lucide-pallido subalato inclusa, ad 20 cm longa, nervo mediano pallido. Lobi laterales (utrinque ad 8) falcati vel anguste triangulares ad sublineares, patentes vel saepe retroversae vel recurvae, plerumque in parte medio subcontractae, dorso convexo integro ad subgrosse dentato, margine inferiore valde concavo, integro; interlobia integra vel denticulata vel dentata, saepe plicatula; lobus terminalis sagittatus, lobulis basalibus ad 15 mm longis, lobulo apicali ad 15 mm longo, plerumque brevior, subacuto ad acuto, interdum mucronu-

lato. *Scapi* sub involucro araneosi. *Involucrum* sat obscure viride, ca. 14 mm longum, sat angustum, basi $\pm$ turbinatum. Squamae exteriores $\pm$ retroflexae, ca. 10 mm longae, in costa rufo-purpurascens, acutae, apice subaraneosae, omnes laeves. *Calathium* luteum. Ligulae marginale planae, extus stria fusco-violacea notatae. Antherae polliniferae. Stylus et stigmata virescentia. *Achenium* stramineum, 3,8 mm longum (pyramide inclusa), superne spinulosum, ceterum rugosum—basi laeve, in pyramidem subcylindricam, 0,7 mm longam abrupte abiens. Rostrum 12–14 mm longum; pappus albus, 6 mm longus.

Holotypus: Aargau: Möhlin, Wiese bei der Schuhfabrik 330 m, 30.4.1939, P. Aellen (h); *Isotypus* in h v. S.; *Cotypus fructifer*: Baselland: Reinach-Dornachbrugg, 18.5.1940, P. Aellen (h).

Von den verwandten Arten *T. pallescentiforme* v. S. und *T. subcanescens* MARKL., beide mit braunen Blattmittelnerven, weicht *T. argoviense* z. B. ab durch leuchtend weiße Stiele und Mittelnerven.

147. *T. croceifloroides* v. SOEST, spec. nov.; Abb. 40.

Planta ca. 2 dm alta. *Folia* subprasino-viridia, subaraneosa, lobata, ad 3 dm longa (petiolo lucide-pallido alato inclusa), nervo mediano lucide albescente. Lobi laterales utrinque, 6–8, approximati, triangulares vel hamati, patentes, acuminati, subacuti ad subobtusiusculi, ad 2,5 cm longi, dorso integro vel minute dentato vel denticulato, margine inferiore $\pm$ recto, integro; interlobia latiuscula, $\pm$ integra, angulis loborum subplicatulis; lobus terminalis breviter deltoideus, interdum indistincte determinatus nam profunde incisus, vulgo 1–2 cm longus, lobulis basalibus triangularibus, 1–1,5 cm longis, subacutis, lobulo apicali acuminato subacuto. *Scapi* sub involucro dense araneosi. *Involucrum* ca. 18 mm longum, ad 20 mm latum, subobscure viride. Squamae exteriores valde recurvatae, ovato-lanceolatae, in costa pallidae, immarginatae. *Calathium* planum, radians, ad 6 cm diametro, saturate luteum. Ligulae marginales extus valde purpurascens, stria cano-purpurea ornatae. Antherae polliniferae. Stylus et stigmata fuscescentia. *Achenium* ignotum.

Holotypus: Zürich 7: Schmelzbergstraße 18, 11.4.1948, Walo Koch 48/22 (h ZT), sub nomine *T. vulgatissimi* (pro min. parte); *Isotypus* in h v. S.; die Figur zeigt den Isotypus.

149. *T. erntrum* v. SOEST, spec. nov.; Abb. 46.

Planta ca. 20 cm alta. *Folia* paulo canescentia, subdense araneosa, lobata, petiolo pallido ad roseolo inclusa 15 cm longa. Lobi laterales (utrinque ca. 8) anguste triangulares ad subfalcati, patentes vel paulo recurvi, margine inferiore integro vel minute denticulato vel 1 dente parvo munito, dorso dense subulato-dentato, plerumque in interlobiis abeuntibus; interlobia ad 7 mm longa, 2,5–

5 mm lata, denticulata, paulo fusco-piceo-maculata; lobus terminalis indistincte determinatus, utrinque 1–3 lobuli saepe producto, vel profunde incisus, $\pm$ hastatus vel sagittatus, obtusus ad subobtusum, mucronulatus, lobulo apicali 7–12 mm lato, 1–1,5 cm longo. *Scapi* paulo araneosi. *Involucrum* olivaceo-viride, ca. 14 mm longum. Squamae exteriores $\pm$ anguste ovatae, ad 5 mm latae, ad 10 mm longae, in costa pallidi-viridae, omnes laeves. *Calathium* planum, radians, ca. 4 cm diametro, luteum. Ligulae marginales planae, extus stria fusco-purpurea notatae, ceterum roseo-purpureae. Antherae polliniferae; stylus et stigmata paulo virescentia. *Achenium* ignotum.

Holotypus: Aargau: Möhlin, Wiese bei der Schuhfabrik, 330 m, 30.4.1939, P. Aellen (h).

Diese Art ist mit *T. pallescentiforme* v.S. verwandt, hat aber regelmäßiger und schärfer gezähnte Seitenlappen, einen deutlich stumpfen Endlappen, breitere Außenhüllblätter und ist stärker spinnwebig behaart.

151. *T. leucopodioides* HAGLUND et v. SOEST, spec. nov.; Abb. 56.

Planta magnitudine mediocris ad sat alta. *Folia* laete viridia, subcanescentia, oblongo-lanceolata ad lanceolata, petiolis subangustis, pallidis. Lobi laterales perhamati vel interdum sat deltoidei, sat breves, acuti, deorsum sensim decrescentes, regulariter oppositi, vulgo minute et sat crebre denticulati vel subulato-dentati. Interlobia sat brevia vel mediocriter longa, subangusta ad laticula, parce denticulata ad subulato-denticulata. Lobus terminalis mediocris vel sat magnus, ovato-sagittatus ad hastato-sagittatus, acutiusculus ad subobtusum. *Involucrum* mediocre, subobscurum ad obscure olivaceo-viride, basi truncatum. Squamae exteriores recurvae, lanceolatae, sat latae, sat breves, subobscurum virides, $\pm$ purpurascentes. *Calathium* laete luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stigmata livescentia. *Achenium* ignotum.

Holotypus: Basel: Linkes Rheinufer bei der Johanniterbrücke, 19.4.1936, P. Aellen (h); *Isotypus* in h v.S.; die Figur gibt Holotypus und Istotypus zusammen.

Diese Art wurde von HAGLUND in h Aellen, mit lateinischer Diagnose (s. oben) als *T. leucopodum* beschrieben. Aber HAGLUND hatte schon in Bot. Not. 1943, 238, ein *T. leucopodum* publiziert, welches damit nicht identisch ist; also muß der Name geändert werden. Daß beide Formen nicht identisch sind, folgt nicht nur aus der verschiedenen Diagnose, sondern auch aus der durch HAGLUND in Bot. Not. gegebenen Abbildung; ebenso hat er in meinem Herbar *T. leucopodum* aus Holland bestimmt, das von *T. leucopodioides* deutlich verschieden ist.

154. *T. neuolobum* v. SOEST, spec. nov.; Abb. 61.

Planta 1–2 dm alta, parce araneosa. *Folia* subprasino-viridia, lobata, petiolis subangustis ad subalatis, pallidis instructa. *Folia* interiora utrinque 5–8 loba, lobi laterales lingulati, obtusi, pro parte saepe abrupte recurvi, pro max. parte

patentes, margine inferiore integro vel obsolete denticulato, dorso saepe valde convexo, 1 dente munito, raro ad valde dentato vel saepe integro; interlobia 2–10 mm longa, ca. 5 mm lata, saepe undulato-denticulata, interdum grosse dentata. Lobus terminalis hastatus vel deltoideus, obtusus, ad 2,5 cm longus. lobulis basalibus triangularibus ad 1,5 cm longis, interdum sat parvis. *Scapi* araneosi, floriferi foliis subaequilongi. *Involucrum* 12–13 mm longum, olivaceo-viride. Squamae exteriores recurvae, anguste ovatae apice $\pm$ elongatae. *Calathium* ad 3,5 cm diametro, luteum. Ligulae marginales planae, extus stria fusco-violacea notatae. Antherae polliniferae. Stylus et stigmata sordide lutea. *Achenium* stramineum, 3,3 mm longum (pyramide exclusa) superne breviter spinulosum ceterum rugosum basi laeve, in pyramidem conico-cylindricam, 0,7 mm longam abrupte abiens. Rostrum 10–11 mm longum; pappus albus, 7 mm longus.

Holotypus: Berner Jura: Wiese bei Les Breuleux, 1040 m, 12.5.1940, P. Aellen (h); *Isotypus* in h v. S.

155. *T. olivaceoides* v. SOEST, spec. nov.

Planta mediocriter alta, sat gracilis. Folia griseo-viridia, exteriora sat dense, interiora dense araneosa, petiolis anguste alatis, pallidis instructa. Lobi laterales deltoidei ad subtriangulares vel subunguiformes, lati vel latiusculi, mediocriter longi, patentes ad subrecurvae, acuti ad acutiusculi, inferiores dorso subulato-denticulato, superiores integro vel aequae ad interdum margine inferiore dentibus paucis praedito. Lobus terminalis parvus ad vulgo sat magnus, late triangularis ad late triangulari-sagittatus, saepius integer vel uno utroque latere dente munitus, acutiusculus. Interlobia brevia vel sat brevia, subintegra vel dente sat magno instructa. *Involucrum* magnitudine mediocriter vel sat parvum, obscure olivaceo-viride, basi truncatum. Squamae exteriores patentes vel subrecurvae, 2 ad ca. 4 mm latae, breves, sat obscure griseo-virides. *Calathium* subobscure luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata livescentia. *Achenium* (vix maturum) fusco-stramineum, ca. 3,5 mm longum, anguste et dense costulatum, superne breviter spinulosum, ceterum humile tuberculatum vel inferiore parte laeve, pyramide conico-cylindrica, ca. 0,5 mm longa. Rostrum 9–10 mm longum; pappus albus, 5–6 mm longus.

Holotypus: Basel, Rasen zwischen Militär- und Bundesstraße, 19.4.1936, P. Aellen (h); *Isotypus* in h v. S.

Die Diagnose ist von HAGLUND in h Aellen für *T. olivaceum* inedit. aufgestellt, welchen Namen ich 1965 für eine Art der *Palustria* benützte.

156. *T. paradoxachrum* v. SOEST, spec. nov.; Abb. 65.

Planta ca. 20 cm alta, subaraneosa. Folia lutescenti-viridia, ad 20 cm longa, lobata, petiolis subalatis pallidis instructa. Folia exteriora obovata, utrinque

ca. 3 loba, lobi laterales unguiculati, dorso dentato, margine inferiore subdentato, interlobis subnullis; lobus terminalis ad 4 cm longus, profunde incisus, ceterum recurvo-dentatus, apice abrupte acuminatus summo obtuso. Folia interiora late lingulata, lobi laterales (utrinque ca. 5) late triangulares, apice $\pm$ retroversi, subacuti ad acuti, dorso concavo valde, saepe grosse dentato, margine inferiore plerumque 1 dente munito; interlobia inter lobos inferiores ca. 5 mm lata, 10 mm longa, dentata, inter lobos superiores subnullis, angulis loborum $\pm$ plicatulis; lobus terminalis brevis, $\pm$ tripartitus, lobulis basalibus deltoideis, subacutis, lobulo apicali, $\pm$ lingulato, 1,5–2,5 mm lato, 8–9 mm longo, subacuto. *Scapi* araneosi, floriferi folia $\pm$ aequilongi. *Involucrum* 15 mm longum, 16–17 mm latum. Squamae exteriores lanceolatae, ca. 10 mm longae, patentes ad recurvatae, in costa albo-virides, interiores pro parte inconspicue microcallosae. *Calathium* ca. 2,5 cm diametro, luteum. Ligulae marginales angustae, $\pm$ canaliculatae, extus stria fusco-purpurea notatae. Antherae polliniferae. Stylus et stigmata sordide lutea. *Achenium* ignotum.

Holotypus: Basel: Bruderholzallee, 10.5.1941, P. Aellen (h); *Isotypus* in h v. S.

157. *T. pyrochromum* v. SOEST, spec. nov.; Abb. 74.

Planta robusta, 2–3 dm alta. *Folia* lutescenti-viridia, lobata, petiolis angustis, pallide viridis instructa, nervo mediano albo-virido araneoso. Lobi laterales utrinque ca. 4–6, falcati ad unguiculati, ad 3 cm longi, acuti, dorso convexo subdense denticulato, pro parte etiam subulato-dentato vel interdum triangulariter dentato, margine inferiore concavo minute denticulato vel integro; interlobia conspicue evoluta, 5–8 mm lata, inter lobos superiores interdum latiore, vulgo longe subulato-dentata et denticulata; lobus terminalis hastatus, ad 3,5(–5) cm longus (interdum latissime hastatus, vel indistincte determinatus et incisus), subacutus, minute dentatus et denticulatus, lobulis basalibus ad 2,5 cm longis, $\pm$ retroversis vel recurvis, acutis. *Scapi* sub involucri araneosi, folia aequilongi. *Involucrum* ca. 18 mm longum, sat crassiusculum, obscure olivaceo-viride. Squamae exteriores valde recurvae, late lanceolatae, 10–12 mm longae, in costa pallide virides et purpurascens. *Calathium* planum, radians, 4 cm diametro, $\pm$ croceum. Ligulae marginales planae, extus stria rufo-purpurea ornatae. Antherae polliniferae (pollen parvum). Stylus et stigmata obscure fuscescentia. Floret tempore verno. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum $\pm$ rugosum-basi laeve, in pyramidem brevem conicam (0,5 mm longam) subabrupte abiens. Rostrum 12 mm longum; pappus albus, 6 mm longus.

Holotypus: Berner Oberland: Niederried am Brienzersee, 25.4.1966, P. Aellen (h); *Isotypus* in h v. S.

158. *T. subjurassicum* v. SOEST, spec. nov.

Differt a *T. jurassico* v. S., cui valde similis est, his notis: stylus sordide luteus, stigmata sat obscure fusco-viridia; petiolis foliorum minus alatis; squamae exteriores saepe conspicue purpureae, lineares.

Holotypus: Berner Jura: Chaluët bei Court 730 m, 1.5.1940, Y. Tellenbach et P. Aellen (h Ae.); *Isotypus* in h v. S.

Vielleicht handelt es sich um eine Form oder Unterart von *T. jurassicum* v. S.; *T. jurassicum* wurde an der gleichen Stelle gesammelt. Die Farbe der Narben ist bei *Taraxacum* fast immer von spezifischer Bedeutung; von beiden Arten steht nur wenig Material zur Verfügung.

159. *T. subpallidissimum* v. SOEST, spec. nov.; Abb. 79.

Planta ca. 10 cm alta. *Folia* pallidissime viridia, lobata, ad 14 cm longa petiolo albido subalato inclusa, nervo mediano subaraneoso. Lobi laterales $\pm$ triangulares vel lingulati, obtusi ad subobtusos, ad 1,5 cm longi, $\pm$ patentes vel vulgo subretroversi, dorso subconvexo vel recto integro vel in lobis inferioribus denticulato vel minute dentato, margine inferiore integro, interlobis inter lobos inferiores bene evolutis, dentatis, inter lobos superiores inconspicuis, latis, interdum 1 dento grosso munitis; lobus terminalis hastatus, 1–3 cm longus, obtusus, integer vel utrinque 1 dente munitus, lobulis basalibus $\pm$ triangularibus subobtusis ad obtusos. *Scapi* araneosi. *Involucrum* turbinatum, olivaceo-viride. Squamae exteriores interdum purpurascens, retroflexae, anguste lanceolatae, 7 mm longae, ad 2,5 mm latae, immarginatae; interiores ad 12 mm longae, apice obscurae. *Calathium* planum, radians, 4 cm diametro, luteum. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae polliniferae; stylus et stigmata virescentia. *Achenium* stramineum, 3,2 mm longum (pyramide inclusa), superne spinulosum ceterum laeve, in pyramidem cylindricam, 0,3 mm longam abrupte abiens; rostrum 8 mm longum; pappus albus, 5 mm longus.

Holotypus: Zürich 7: Schmelzbergstraße 16, unter Pflaumenbaum im Rasen, 26.4.1939, Walo Koch (h ZT), auch c.; *Isotypus* in h v. S.

161. *T. walo-kochii* v. SOEST, spec. nov.; Abb. 82.

Planta mediocris (5–)12 cm alta, basi subaraneosa. *Folia* numerosa, laete gramineo-viridia, linearia ad lingulata, (4–)10 cm longa, lobata, parce araneosa; petiolis (nervique mediano) lucide alboviridi-colorato. Lobi laterales (utrinque ad 8) lineares vel angustissime lingulati, patentes, ad 10 mm longi vel saepe breviores, acuti; interlobia conspicua, ad 3 mm lata, rarissime denticulata vel dentata; lobus terminalis trifidus, lobulis basalibus linearibus, acutis, lobulo apicali subobtusos, 4–8 mm longo. *Scapi* folia aequilongi, sub involucri subaraneosi. *Involucrum* mediocre, crassiusculum, 10–12 mm longum, ad 12 mm

latum, subobscure viride. Squamae exteriores ovatae, subadpressae vel laxe patentes, margine angusto instructa, apice purpureae. *Calathium* planum, radians, ad 3 cm diametro, saturate luteum. Ligulae marginales planae, extus $\pm$ roseolae et stria fusco-violacea notatae. Antherae parce (?) polliniferae; stylus luteus, stigmata sordide lutea. *Achenium* luteo-stramineum, 3,5 mm longum (pyramide inclusa), superne subrufo-spinulosum, ceterum laeve, in pyramidem conico-cylindricam, 0,3 mm longam abrupte abiens. Rostrum 6 mm longum; pappus albus, 5 mm longus.

Holotypus: Schwyz: Rigi, unterhalb Staffel, 16.5.1933, Walo Koch 63 (h ZT).

162. *T. anemomum* v. SOEST, spec. nov.; Abb. 31.

Planta ca. 2 dm alta, basi araneosa. *Folia* gramineo-viridia, in nervo dorsali araneosa, lobata, petiolis pallidis subalatis instructa; lobi laterales (utrinque ca. 4–6) anguste triangulares vel falcati, retroversi vel patentes, raro pro parte suberecti, dorso leviter dentato, margine inferiore integro; interlobia inter lobos inferiores ca. 1 cm longa, 6–10 mm lata, dentata, inter lobos superiores lata et inconspicua, angulis loborum plicatulis, fuscomarginatis; lobus terminalis saepe indistincte determinatus, subhastatus, basi sublobulatus, ceterum grosse et longe dentatus, subobtusus ad subacutus, mucronatus, ad 3,5 cm latus. *Scapi* sub involucrio densissime lanato-araneosi. *Involucrum* ca. 15 mm longum, ca. 20 mm latum, obscure viride. Squamae exteriores anguste ovatae, subadpressae, florendi tempore patentes vel apice recurvae, omnes laeves. *Calathium* planum, ad 4 cm diametro, luteum. Ligulae marginales planae, extus stria cano- vel atro-violacea notatae. Antherae polliniferae. Stylus et stigmata obscure fusco-virescentia. Floret aestate. *Achenium* dilute brunneum, 3,5 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum rugosum—basi laeve, in pyramidem conicam, ca. 0,3 mm longam subabrupte abiens. Rostrum 9 mm longum; pappus albus, ca. 5 mm longus.

Holotypus: Graubünden: Davos, oberhalb der Bütschalp, ca. 2200 m, 15.7.1936, P. Aellen (h); *Cotypus fructifer*: Wallis: Zinal, unterhalb Tracuit, 1900 m, 19.8.1965, v. Soest (h).

163. *T. heterophylloides* HAGLUND et v. SOEST, spec. nov.; Abb. 50; *T. heterophyllum* HAGL. in sched., non HAGL. 1941.

Planta sat alta. *Folia* plurima, subcanescenti-viridia, exteriora lanceolata, interiora obovato-lanceolata, parce araneosa, petiolis anguste alatis, pallidis. Lobi laterales in foliis exterioribus et intermediis deltoidei vel interdum subunguiformes, sat recurvi, acutiusculi, aut lati, dorso $\pm$ et interdum ad basin magis convexi, inferiores parce subulato-denticulati, superiores integri aut angustiores et non raro longiores, dorso suberecti, grosse subulato-dentati;

lobus terminalis mediocris ad magnus, sagittatus, acutiusculus, lobulo apicali non raro $\pm$ contracto, lingulato; interlobia latiuscula, subintegra vel $\pm$ et sat grosse subulato-dentata vel etiam lobulata; lobi laterales in foliis interioribus saepe approximati, longiores, lobus terminalis magnus, subsagittatus, acutiusculus ad subobtusus. *Involucrum* mediocre, obscure viride, basi truncatum. Squamae exteriores sat recurvae, lanceolatae, (2–)2,5–4,5 mm latae, mediocriter longae, obscure virides. *Calathium* sat obscure luteum, convexum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata subobscure viridia. *Achenium* fusco-stramineum, ca. 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum tuberculatum vel basi laeve, in pyramidem anguste conicam, ca. 0,5 mm longam subsensim abiens.

Holotypus: Graubünden: Davos, Ausgang des Flüelatales, 1570 m, 26.5.1936, P. Aellen (h); *Isotypus* in h v. S.

HAGLUND hat diese Art in h Aellen mit obiger Diagnose als *T. heterophyllum* sp. nov. beschrieben. Er hatte aber schon 1941 eine *T. heterophyllum* beschrieben, welche später als identisch mit *T. canorubens* HAGL. erkannt wurde.

164. *T. pallidissimum* v. SOEST, spec. nov.; Abb. 64.

Planta gracilis, ca. 15 cm alta, parcissime araneosa. *Folia* lobata, pallidissime cano-viridia, nervo mediano pallido, petiolis pallidis subalatis instructa. Lobi laterales (utrinque 3–4) breviter deltoidei vel e basi lato in summo abrupte valde elongati, acuti vel subacuti, summo patento interdum recurvo, dorso saepe valde dentato, margine inferiore integro; interlobia indistincte determinata, 10–15 mm lata; lobus terminalis $\pm$ hastatus interdum paulo breviter dentatus, obtusus vel subobtusus, lobulis basalibus patentibus breviter triangularibus. *Scapi* sub involucri paulo araneosi, floriferi folia aequilongi. *Involucrum* mediocre ad parvum, 11 mm longum, subturbinatum. Squamae exteriores late lanceolatae, patentes, apice recurvae, angustissime marginatae, interiores inconspicue subcallosae. *Calathium* parvum, luteum. Ligulae marginales planae, extus stria atro-purpurea notatae. Antherae parce polliniferae. Stylus et stigmata fuscescentia. Floret vere. *Achenium* luteo-brunneum, 3,7 mm longum (pyramide inclusa), superne spinulosum, ceterum rugosum–basi laeve, in pyramidem conico-cylindricam, 0,2–0,3 mm longam subabrupte abiens. Rostrum 9 mm longum; pappus albus, 5,5 mm longus.

Holotypus: Schwyz: Rigi-Kulm, Staffel, 16.5.1933, Walo Koch (h ZT); *Isotypus* in h v. S.

165. *T. pseudelongatum* v. SOEST, spec. nov.; Abb. 71.

Planta mediocriter alta, 6–15 cm alta. *Folia* subprasino-viridia, juveniles araneosa, lobata, ad 15 cm longa, petiolo angusto pallido inclusa. Lobi laterales (utrinque ca. 4) lineares vel lingulati vel anguste triangulares, retroversi,

ad 2 cm longi, acuti ad acutissimi, margine inferiore integro, dorso saepe magis dentato, in interlobiis sublobulatis vel magis dentatis abeuntibus; lobus terminalis sagittatus vel deltoideus, 12–25 mm longus, saepe valde incisus vel magis dentatus, subobtus, lobulis basalibus triangularibus acutis retroversis, ad 10 mm longis, interdum reductis semi-ovatis, lobulo apicali triangulari ad lingulato. Folia exteriora anguste obovata, paulo lobata, lobi laterales retroversi, dentati, lobus terminalis indeterminatus nam profunde incisus, ad 3 cm longus, obtusus. *Scapi* araneosi, floriferi folia saepe aequilongi. *Involucrum* 13 mm longum, ca. 13 mm latum, fusco-viride. Squamae exteriores valde recurvatae, lanceolatae ad lineares, purpurascens, interiores interdum inconspicue bicallosae. *Calathium* planum radians, ca. 3 cm diametro, luteum. Ligulae marginales planae, extus stria fusco-violacea notatae. Antherae polliniferae. Stylus et stigmata virescentia. *Achenium* stramineum, 3,5 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum rugosum-basi laeve, in pyramidem cylindricam 0,3 mm longam abrupte abiens. Rostrum 8–9 mm longum; pappus albus, 5 mm longus.

Holotypus: Graubünden: Klosters, Schlappintal, 1500 m, 25.7.1954, v. Soest (h 33757); auch h 33758.

166. *T. pseudorecurvum* v. SOEST, spec. nov.; Abb. 73; *T. canescens* HAGL. in sched., non BOISSIER, nec HAUSSKNECHT, nec DAHLST.

Planta magnitudine mediocris ad sat alta. *Folia* lanceolata, longa, canescenti-viridia, densiuscule araneosa, multilobata, petiolis anguste alatis, pallidis. Lobi laterales in foliis exterioribus et intermediis deltoidei ad subunguiformes, mediocriter longi vel longi, lati ad subangusti, saepius valde reflexi, apice acutissimo angustati, inferiores argute subulato-dentati, superiores integri vel parce subulato-dentati vel parce dentati, approximati vel interlobiis brevibus ad mediocriter longis, parce subulato-dentatis vel sat integris sejuncti, lobus terminalis magnitudine mediocris, sagittatus, acutus, lobulo apicali saepe $\pm$ contracto; in foliis interioribus basi lati, subito in apicem subuliformem, patentem angustati, longius subulato-dentati, lobus terminalis magnus. *Involucrum* mediocre ad sat magnum, obscure viride, basi truncatum. Squamae exteriores recurvae, vulgo angustae vel latiusculae, 1,5–ca. 3,5 mm latae, sat longae, obscure virides, $\pm$ purpurascens. *Calathium* subobscurum luteum. Ligulae marginales sat angustae, extus stria fusco-violacea ornatae. Antherae polline abundantes. Stylus et stigmata paulo virescentia. *Achenium* fusco-stramineum, 4,2–4,5 mm longum (pyramide inclusa), angustum, medio vel supra medium paulo latius (ca. 1 mm latum), superne breviter spinulosum, ceterum tuberculatum basi laeve; pyramide brevi, ca. 0,5 mm longa, anguste conica instructum.

Holotypus: Graubünden: Davos, Wegrund im Schiabachtobel, 1700 m, 27.5.1936, P. Aellen (h); *Isotypus* in h v. S.; die Figur stellt den Isotypus dar.

Die Beschreibung ist die gleiche, welche HAGLUND in h Aellen für *T. canescens* gegeben hat.

167. *T. viridescens* HAGLUND, spec. nov.; Abb. 81.

Planta mediocriter alta. *Folia* lineari-lanceolata, sat longa, multilobata, gramineo-viridia, parce araneosa, petiolis subangustis vel anguste alatis vel in foliis exterioribus non raro sat late dilatatis, pallidis. Lobi laterales in foliis exterioribus deltoidei ad subhamati, lati, breves, parce dentati, in intermediis deltoidei, sat breves, acuti, patentes ad subrecurvi, dorso subrecti–ad basin convexuli, dente magno instructi ad $\pm$ subulato-dentati, interlobis latiusculis ad subangustis, subulato-dentatis, non longis sejuncti, in interioribus longiores et latiores, sat approximati, $\pm$ longe et grosse subulato-dentati, acutissimi; lobus terminalis in foliis intermediis mediocris vel sat magnis, sagittatus vel hastato-sagittatus, non latus, acutiusculus, lobulo apicali interdum $\pm$ contracto, in foliis exterioribus et interioribus interdum brevis, ovato-sagittatus, sat obtusus. *Involucrum* mediocre vel sat parvum, obscure viride, basi truncatum. Squamae exteriores recurvae, 2–ca. 3,5 mm latae, sat longae, obscure virides. *Calathium* obscure luteum. Ligulae marginales extus stria sat obscure violacea ornatae. Antherae polliniferae. Stylus et stigmata lutea ad sordide lutea. *Achenium* fusco-stramineum, ca. 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum humile tuberculatum–basi laeve, pyramide ca. 0,5 mm longa, subconica.

Holotypus: Graubünden: Davos-Dorf, Wiese hinter dem Schulhause, 12.5. 1936, P. Aellen (h); *Isotypus* in h v.S.

Die Diagnose wurde von HAGLUND in h Aellen aufgestellt.

168. *T. angusticeps* HAGLUND, spec. nov.

Planta sat humilis. *Folia* sub lanceolata, prasino-viridia, parce et in nervo mediano densiuscule araneosa, petiolis sat angustis, pallidis vel parum coloratis. Lobi laterales pauci, deorsum subito decrescentes, lati ad angusti, deltoidei, subreflexi, acuti vel acutissimi, $\pm$ subulato-dentati, interlobiis sat angustis sejuncti. Lobus terminalis magnus vel saepe maximus, longus, sagittatus vel sat hastatus, sat acutus, integer vel basi utrinque breviter incisus. *Involucrum* sat parvum, ca. 14 mm longum, angustum (ca. 11 mm latum), laete ad sub-obscure viride, basi truncatum. Squamae exteriores recurvae, lanceolatae, 2–3 mm latae, sat breves, sat laete virides. *Calathium* subobscure luteum. Ligulae marginales sat latae, extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata virescentia. *Achenium* ignotum.

Holotypus: Basel: Güterbahnhof, P. Aellen (h); *Isotypus* in h v.S.

Diese Art wurde von HAGLUND in h Aellen beschrieben. Obwohl DAHLSTEDT den Namen für eine Pflanze aus Schweden (h S) benutzte, hat er die zugehörige Art nicht beschrieben und nicht publiziert, also ist der Name *angusticeps* für die Schweizer Pflanze gültig.

173. *T. multijugum* WALO KOCH et v. SOEST, spec. nov.

Planta mediocriter alta, sat robusta. *Folia* obscure viridia, petiolis pallidis, alatis, nervo mediano rufo-purpureo. Lobi laterales utrinque ca. 8, anguste triangulares vel falcati, subacuti ad subobtusius, ad 2 cm longi, patentes vel paulo recurvi, dorso integro vel (inferiores) 1 dente parvo munito et denticulato, margine inferiore integro; interlobia paulo evoluta vel lata; lobus terminalis indistincte determinatus, 2–3 cm longus, sagittatus vel hastatus, subobtusus. *Scapi* ad basin ad terram adpressi, parte superiore erecti, subaraneosi, ca. 10 cm longi. *Involucrum* crassiusculum, 1,5 cm longum, ca. 1,5 cm latum, obscure nitidiviride. Squamae exteriores adpressae, anguste ovatae, ca. 3 mm latae, ad 10 mm longae, apice inconspicue et paulo callosae. *Calathium* ad 4,5 cm diametro. Ligulae marginales laete luteae, extus stria cano-purpurea notatae. Antherae polliniferae. Stylus et stigmata obscure fusco-viridia. *Achenium* ignotum.

Holotypus: St. Gallen: Kiesloch an der Spettlinth im unteren Benkenerried, 15.4.1928, Walo Koch (h ZT).

Obwohl nur wenig Material zur Verfügung steht, ist es deutlich, daß hier eine sehr markante Art vorliegt, die von WALO KOCH in Kultur genommen und von ihm studiert wurde; ziemlich ausführliche Notizen standen zur Verfügung; leider fehlt eine Beschreibung der Achänen. KOCH hat die Pflanze *T. multijugum* genannt. Er teilte einzelne Arten in eine Gruppe «*Palustriformia*» ined. ein; tatsächlich zeigen die Hüllen Ähnlichkeit mit *Palustria*-Hüllen, nur fehlen die breiten weißen Ränder der Außenhüllblätter; die Achänen hätten zeigen können, ob *T. multijugum* mit den *Palustria* verwandt ist; in diesem Falle sollten die Fruchtspitzen lang und mehr oder weniger zylindrisch sein.

174. *T. pallescentiforme* v. SOEST, spec. nov.; Abb. 63.

Planta mediocriter alta (1–2 dm). *Folia* subprasino-viridia, glabra ad subaraneosa, lobata, petiolis (nervique mediano plerumque partim inferiore rufescente ad rufo-roseolo) alatis instructa. Lobi laterales utrinque 3–6, triangulares, acuti ad subacuti, $\pm$ retroversi vel apice recurvi, dorso recto vel convexo, grosse, saepe dense subulato- vel triangulariter-dentato, margine inferiore recto vel concavo integro. Interlobia sat angusta, 2–3 mm lata, plerumque grosse dentata et denticulata. Lobus terminalis sagittatus, ad 2,5 cm longus, saepe incisus et grosse, saepe dense dentatus, subobtusus, lobulis basalibus acutis, paulo recurvis. *Scapi* florendi tempore saepissime glabri, folia subaequilongi. *Involucrum* subturbinatum, ca. 15 mm longum, sat obscure viride. Squamae exteriores late lineares ad anguste lanceolatae, 1,5–2(–2,5) mm latae, ad 10 mm longae, retroflexae vel valde recurvae, in costa pallidiores et purpurascens. *Calathium* planum, radians, ca. 3 cm diametro, luteum. Ligulae marginales planae, extus stria rufo-violacea ad rufo-purpurea notatae. Antherae polliniferae; stylus et stigmata fuscescentia. *Achenium* (maturum ignotum) stramineum, 3,5 mm longum (?), superne minute spinulosum, ceterum rugosum–basi laeve, in pyramidem brevam abiens; pappus albus.

Holotypus: Neuenburg: Jura, feuchte Wiese bei La Chaux-de-Fonds, 1000 m, 30.5.1964, P. Aellen (h); *Isotypus* in h v. S.; die Figur stellt den Isotypus dar.

179. *T. subgentiliforme* HAGLUND et v. SOEST, spec. nov.; *T. subgentile* HAGL et v. S. in sched., non RAILONSALA 1964; *T. gentile* HAGL. in sched., c. descr., non HAGL. et RAILONSALA 1960.

Planta mediocriter alta. *Folia* subcanescenti-viridia, $\pm$ late lanceolata, sat araneosa, petiolis alatis, fere pallidis ad rubro-violaceis. Lobi laterales deltoidei, lati ad subangusti, arcuato-reflexi ad subpatentes, acuti, dorso plerumque ad basin convexi integri vel dente lobulo muniti, in apicem saepius subito contractum, deinde $\pm$ dilatatum valde recurvum vel subpatentem abeuntes. Lobus terminalis $\pm$ hastatus, sat acutus, lobulo apicali, $\pm$ et saepe valde contracto praeditus. Interlobia angusta, brevia vel mediocriter longa. *Involucrum* mediocre, breve, sat crassum, laete vel subobscurum viride, basi subtruncatam. Squamae exteriores patentes vel subrecurvae, lanceolatae ad late lanceolatae, 2,5–4 cm latae, breves, subobscurum virides, sat purpurascens. *Calathium* saturate luteum. Ligulae marginales sat latae, extus stria subobscura violacea ornatae. Antherae polliniferae. Stylus et stigmata livescentia ad subobscura. *Achenium* ignotum.

Holotypus: Frankreich: Haut-Rhin: sumpfiges Gelände auf dem Fußballplatz Haberhäuser-Blotzheim, 21.4.1936, P. Aellen (h); *Isotypus* in h v. S.

Die obenstehende Beschreibung ist nach HAGLUNDS Diagnose erfolgt; er hat das Fehlen von Pollen beschrieben; tatsächlich besitzt das Typus-Material aber Pollen!

183. *T. lasiodasum* v. SOEST, spec. nov.

Planta humilis, ca. 0,5–1 dm alta. *Folia* ad terram adpressas, robusta, late lingulata, 2,5–4 cm lata, 5–12 cm longa petiolo (nervique mediano praesertim parte inferiore rufescente ad rufo-purpureo) late alato inclusa, cano-viridia, utrinque valde araneosa, lobata; lobi laterales (utrinque 4–6) valde approximati, triangulares vel late falcati ad lingulati, subacuti ad obtusi, patentes vel subretroversi, interdum apice recurvati, dorso argute et dense dentato, angulis loborum plicatulis, interlobiis subnullis; lobus terminalis saepe indistincte determinatus, $\pm$ hastatus vel deltoideus, 1,5–4 cm longus, plerumque sublobulatus vel grosse inciso-dentatus, obtusus vel subobtusus. *Scapi* subcrassi, subaraneosi, floriferi foliis saepe breviori. *Involucrum* mediocre, ca. 14 mm longum, ca. 15 mm latum. Squamae exteriores recurvae, lanceolatae, saepe ciliatae, in costa purpurascens, interiores apice atro-violaceae. *Calathium* 2,5–3,5 cm diametro, luteum. Ligulae marginales planae, extus stria rufo-violacea notatae. Antherae polliniferae. Stylus et stigmata sordide lutea. *Achenium* stramineum ad dilute brunneum, 4 mm longum (pyramide inclusa) superne spinulosum

ceterum laeve, in pyramidem cylindricam subcrassam, 0,5 mm longam abrupte abiens. Rostrum 9 mm longum; pappus niveus, ca. 6 mm longus.

Holotypus: Graubünden: Engadin, Celerina, 1810 m, 30.6.1939, Frau Caprez (h Aellen); *Cotypus fructifer*: Wallis: zwischen Val Ferret und Lacs Fenêtre, 2200–2300 m, 30.7.1961, v. Soest (h 40445).

184. *T. magnodilatatum* v. SOEST, spec. nov.; Abb. 59.

Planta elata, 2–4 dm alta. *Folia* gramineo-viridia, subaraneosa, lobata, petiolis roseolis, pro parte alatis instructa, nervo mediano rufescentibus. Lobi laterales utrinque ca. 5–6, subtriangulares, acutissimi, ad 4 cm longi, dorso (in lobis superioribus) convexo, omnes longe subulato-dentato vel -denticulato; interlobia longa (ca. 2 cm), sat lata (ad 1,5 cm), saepe valde longe dentata et denticulata; lobus terminalis subbrevis deltoideus, ad 3 cm longus, acutus, mucronulatus, lobulis basalibus triangularibus, ad 2,5 cm longis, acutis. *Scapi* sub involucri araneosi. *Involucrum* obscure viride, subrotundatum, ad 20 mm latum, ad 18 mm longum. Squamae exteriores subadpressae apice recurvae, ovato-lanceolatae, ad 12 mm longae, ad 4 mm latae. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum sublaeve, in pyramidem subcylindricam, 0,3 mm longam abrupte abiens; rostrum ca. 8 mm longum; pappus albus, ca. 5 mm longus.

Holotypus: Wallis: Val Ferret, oberhalb La Fouly, La Lechère 1750 m, 25.7.1961; c. Hort. Delft 164, 16.5.1963, v. Soest (h 42248).

185. *T. megalocarpum* v. SOEST, spec. nov.

Planta ad 5 dm alta, robusta. *Folia* erecta, gramineo- ad subprasino-viridia, parce, in nervo mediano dense araneosa, petiolis (nervique mediano praesertim parte inferiore rufescenti-colorato) alatis. Lobi laterales utrinque ca. 7, triangulares, ad 5 cm longi, acuti, patentes, interdum falcati, dorso integro vel saepe subulato-dentato vel grosse triangulariter-dentato, margine inferiore subrecto integro; interlobia 0,5–1,5 mm lata, sat breves, dentata, interdum piceo-maculata, angulis loborum saepe valde plicatis; lobus terminalis magnus, sagittatus ad hastatus, saepe valde incisus et sublobulatus, lobuli interdum rotundato obtusi; lobulo apicali interdum longe lingulato, obtuso ad subacuto, plerumque mucronato vel mucronulato. *Scapi* subcrassi, subaraneosi, floriferi foliis paulo longiori. *Involucrum* crassum, ad 2,5 cm latum, ca. 2 cm longum, obscure viride. Squamae exteriores lanceolatae ad ovatae, ad 5 mm latae, immarginatae, patentes vel apice recurvae, in costa pallide virides, interiores interdum pro parte bicallosae. *Calathium* subradians, ad 6 cm diametro, subsaturate luteum. Ligulae marginales planae, extus stria rufo-purpurea vel -violacea notatae. Antherae polliniferae. Stylus luteus, stigmata virescentia. *Achenium* luteo-strami-

neum, 4,5 mm longum (pyramide inclusa), superne grosse spinulosum, ceterum rugosum—basi laeve, in pyramidem subcylindricam, spinulis praeditam, 0,8 mm longam, abrupte abiens. Rostrum 13–14 mm longum; pappus albus, 6 mm longus.

Holotypus: Graubünden: Lenzerheide, Val Sporz 1500–1550 m, 15.6.1966, v. Soest (h 45317).

186. *T. valesiacum* v. SOEST, spec. nov.

Planta 7–12 cm alta, modice ad subdense araneosa. *Folia* gramineo-viridia, interdum sublutescentia, lobata, longissime in petiolum attenuata, lobulus numerosus, retroversis in petiolum descendentibus; lobi laterales superiores (utrinque ca. 3) retroversi, triangulares, acuti ad subobtusum, dorso convexo $\pm$ dentato et denticulato, interlobis brevis, latis, valde grosse retroverso-dentatis, angulis loborum saepe plicatulis; lobus terminalis hastatus, interdum sagittatus vel deltoideus, plerumque 1–3 cm longus, 1–2,5 cm latus, subobtusus, interdum acutus vel obtusus, plerumque inciso-dentatus, raro minute denticulatus, ceterum integer, lobulis basalibus triangularibus retroversis acutis; petiolis (nervique mediano parte inferiore pallido-rufescenti-colorato) alatis. *Scapi* floriferi foliis breviori vel aequilongi. *Involucrum* ca. 1,5 cm latum, 1,5 cm longum, subobscure viride. Squamae exteriores recurvae, purpurascentes, inconspicue marginatae, omnes laeves. *Calathium* planum, radians, ad 3,5 cm diametro, luteum. Ligulae marginales extus stria cano-purpurea notatae vel $\pm$ estriatae, summis subnigris. Antherae polliniferae. Stylus et stigmata fusco-virescentia, siccitate subnigra. Floret aestate. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne spinulosum, ceterum rugosum—basi laeve, in pyramidem conicam, 0,5 mm longam subsensim abiens. Rostrum ca. 8 mm longum; pappus niveus, 5 mm longus.

Holotypus: Wallis: Val Ferret, nach Lacs Fenêtre, 2350 m, 30.7.1961, v. Soest (h 40420); *Cotypus fructifer*: Graubünden: Albulaweg oberhalb Weißenstein, 2050 m, 13.7.1948, v. Soest (h 19349).

187. *T. brevisectoides* v. SOEST, spec. nov.; Abb. 37.

Planta 25–30 cm alta, subglabra. *Folia* canescenti-viridia, lingulata, petiolis alatis ad subalatis, pallide roseis vel $\pm$ viridis instructa. Folia exteriora retroverso-dentata et -denticulata, obtusa, interiores breviter lobata, lobi laterales (utrinque 7–9) hamati vel triangulares, acuti, retroversi vel apice recurvati, ad 2 cm longi, margine inferiore integro, dorso magis et subdense dentato, in interlobia late abeuntes, vel interlobiis subnullis, 7–12 mm latis; lobus terminalis hastatus, 1,5–3,5 cm longus, 2,5–3,5 cm latus, subobtusus ad subacutus, saepe inciso-dentatus. *Scapi* parce, sub involucrio subdense araneosi, floriferi folia

aequilongi. *Involucrum* obscure viride, 15 mm longum, ad 18 mm latum. Squamae exteriores subadpressae, apice recurvatae, anguste ovatae, omnes laeves. *Calathium* planum, radians, ad 4 cm diametro, saturate luteum. Ligulae marginales planae, extus stria cano-purpurea notatae. Antherae polliniferae; stylus et stigmata sordide lutea. *Achenium* dilute brunneum, 3–3,5 mm longum (pyramide inclusa), superne spinuloso-squamatum, ceterum rugosum-basi laeve, in pyramidem brevissimam (0,1 mm longam) abrupte abiens. Rostrum 9–10 mm longum; pappus albus, 5 mm longus.

Holotypus: Waadt: Jura: Col de Marchairuz–Monts de Bière, 1450–1528 m, VIII.1961, v. Soest (c. Bot. Garten Delft, 211, 22.5.1963), h v.S. 42177.

190. *T. elongatihastatum* WALO KOCH et v. SOEST, spec. nov.; Abb. 44; *T. longehastatum* WALO KOCH in sched., non *T. longihastatum* CHRISTIANSEN 1942.

Planta 2–4 dm alta, subaraneosa. *Folia* laete viridia, petiolis (nervique mediano praesertim parte inferiore roseolo) alatis instructa. Lobi laterales utrinque 5–7, approximati, late unguiculati, ad 2,5 cm longi, subacuti ad acuti, paulo retroversi, superiores integri, ceterum dorso breviter dentati, margine inferiore integro; interlobia 1–1,5 cm lata; lobus terminalis ad 6 cm longus, sagittatus, obtusus, mucronulatus. *Scapi* laete virides, sub involucro dense araneosi. *Involucrum* crassiusculum, ca. 18 mm latum, 17 mm longum, obscure olivaceo-viride. Squamae exteriores laxae adpressae ad erecto-patentes, lanceolatae, 2,5–5 mm latae, 14 mm longae, anguste marginatae, in costa pallidiores, apice obscure virides. Squamae interiores paulo glaucescentes. *Calathium* planum, radians, 4 cm diametro, saturate luteum. Ligulae marginales planae, extus stria cano-purpurea notatae. Antherae minute polliniferae. Stylus luteus, stigmata sordide lutea. *Achenium* ignotum.

Holotypus: Zürich: Wiese vor der Kantonsapotheke, *Arrhenatheretum*, 9.4. 1928, Walo Koch (h ZT); c. in Bot. Garten ZT (coll. 2.5.1929).

WALO KOCH hat sehr ausführliche Notizen in deutscher Sprache gemacht; die obenstehende lateinische Beschreibung ist fast ganz genau von mir daraus entnommen.

196. *T. aperavtum* v. SOEST, spec. nov.; Abb. 32.

Planta 25–30 cm alta, basi subaraneosa. *Folia* subglabra, erecta, ca. 25 cm longa, lingulata, lobata, petiolis subalatis roseis instructa. *Folia* interiora multilobata, lobi laterales (utrinque ad 7) ad 25 mm longi, falcati vel (superiores) interdum unguiculati, peracuti, patentes vel paulo retroversi vel pro parte apice erecti, plerumque integri, raro dorso denticulato vel dentato, in interlobiis abeuntibus, margine inferiore integro. Interlobia sat longa (ad 25 mm), angusta (2–3 mm), saepe dentata et denticulata. Lobus terminalis sagittatus, ad 2,5 cm longus, lobulis basalibus ad 15 mm longis retroversis, patentibus vel suberectis,

lobulo apicali longe acuminato peracuto, saepe mucronato. *Scapi* parce, sub involucrio subdense araneosi, floriferi foliis aequilongi. *Involucrum* ad 18 mm longum, ad 20 mm latum. Squamae exteriores valde recurvae ad $\pm$ retroflexae, longe lineares, in costa pallide viridae, immarginatae, omnes laeves. *Calathium* planum, radians, 4 cm diametro, luteum. Ligulae marginales extus stria cano-violacea notatae. Antherae polliniferae. Stylus et stigmata virescentia. *Achenium* (maturum ignotum) superne dense spinulosum, rostratum, pappus niveus, 6 mm longus.

Holotypus: Wallis: Val Ferret, Les Combes des Fonds, 1750 m, 9.8.1961, v. Soest (h 40350).

198. *T. brevifloroides* v. SOEST, spec. nov.; Abb. 36.

Planta ad 2,5 dm alta. *Folia* gramineo- ad canescenti-viridia, parce, in nervo dorsali subdense araneosi, petiolis subalatis roseolis ad pallidis instructa. Folia exteriora anguste obovata, ad 2 dm longa (petiolo inclusa), dense triangulariter $\pm$ retroverso-dentata et denticulata ad sublobata, obtusa, in petiolum longe decurrentia. Folia interiora lingulata, breviter lobata, lobi laterales late hamati ad deltoidei, 1–1,5 cm longi, 1–1,5 cm lati, interdum breviter acuminati, subacuti, dorso integro vel minute denticulato; interlobia ad 7 mm longa, 4–7 mm lata, subplicatula, raro rufescenti-marginata; lobus terminalis subhastatus, interdum indistincte determinatus, subacutus ad subobtusius, plerumque integer. *Scapi* subaraneosi ad glabrescentes, floriferi foliis superantes vel aequilongi. *Involucrum* 1,5 cm longum, ad 1,5 mm latum, obscure viride. Squamae exteriores recurvae, anguste ovatae ad late lanceolatae, sat longae, purpurascens, omnes laeves. *Calathium* planum, radians, ad 4,5 cm diametro. Ligulae marginales planae, extus stria rufo-violacea notatae. Antherae polliniferae. Stylus et stigmata sordide lutea. Floret vere ad aestate. *Achenium* dilute brunneum, 4 mm longum (pyramide inclusa), superne spinulosum ceterum rugosum, in pyramidem cylindricam, 0,7 mm longam (spinulis interdum praeditam) subsensim abiens. Rostrum 12 mm longum; pappus albus, 5 mm longus.

Holotypus: Wallis: Val Ferret, Les Combes des Fonds, 1700–1800 m, 8–9.8. 1961, v. Soest (h 40403); *Isotypus* h 40352; *Cotypus fructifer*: St. Gallen: Mols, Bergwiese Oberholz 800 m, 24.5.1966, Seitter (h, h v. S.).

199. *T. davosense* v. SOEST, spec. nov.; Abb. 42; *T. affine* HAGL. in sched., non JORDAN Pug. Pl. Nov. (1852) 113, nec HAGL., Ber. Schweiz. Bot. Ges. 60 (1950) 233 (= *T. lacistophylloides* DAHLST. pro min. parte = *T. pseudolacistophyllum* v. S.).

HAGLUND hat in h Aellen die nachfolgende Beschreibung gegeben (von mir nur schwach modifiziert):

Planta mediocriter alta. *Folia* lanceolata ad oblongo-lanceolata, canescenti-viridia, juniora sat araneosa, exteriora lobis lateralibus deltoideus ad hamatis, brevibus, latis, $\pm$ approximatis, subintegris vel sparse denticulatis, lobo terminali sat brevi, ovato-sagittato; intermedia lobis lateralibus deltoideis, latis vel latiusculis, recurvis ad patentibus, brevibus, dorso subrectis vel ad basin convexulis, densiuscule denticulatis, acutis, interlobiis brevibus sejunctis, lobo terminali mediocri vel parvo, triangulariter-sagittato, integro, vulgo obtusiusculo; interiora lobis lateralibus basi latis, in apicem contractum abeuntibus, lobo terminali sat magno. Petioli anguste alati, pallidi ad roseoli. *Involucrum* mediocre, breve, obscure viride, basi truncatum. Squamae exteriores recurvae, lanceolatae, vulgo ca. 2,5 mm latae, mediocriter longae, obscure virides. *Calathium* obscure luteum, convexum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata paulo livescentia. *Achenium* fusco-stramineum, ca. 3,5 mm longum, acute et sat dense spinulosum—ad basi laeve, pyramide brevi, subconica.

Holotypus: Graubünden: Davos, Wiese hinter der Villa Vecchia, 1560 m, 14.5.1936, P. Aellen in h v.S.; *Isotypus* in h Ae.

200. *T. euryanthes* HAGLUND, spec. nov.; Abb. 47.

Planta magnitudine mediocris ad subalta, robusta. *Folia* griseo-viridia, lutescentia, oblongo-lanceolata, sat araneosa, petiolis anguste alatis, pallidis vel levissime rubescentibus. Lobi laterales in foliis exterioribus $\pm$ et interdum valde approximati, lati, breves, deltoidei ad subhamati, sat dense et regulariter dentati, in foliis intermediis latissimi, non longi, dorso subrecti vel convexi, dentati ad grosse subulato-dentati, acuti, sat approximati; interlobiis sat brevibus et latis sejuncta. Lobus terminalis mediocris, sagittatus, latus et non raro sat brevis, integer vel basi dentibus paucis praeditus, acutiusculus. *Involucrum* sat magnum, obscure viride, sat plumbeum, basi truncatum. Squamae exteriores sat recurvae, lanceolatae, ad ca. 6 mm latae, obscure griseo-virides, $\pm$ violascentes, apice $\pm$ longe attenuatae. *Calathium* subobscurum luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata leviter livescentia. *Achenium* ignotum.

Holotypus: Graubünden: Davos, an der Straße nach Wolfgang, 1580 m, 19.5.1936, P. Aellen (h); *Isotypus* in h v.S.

Diese Art ist von HAGLUND in h Aellen mit obiger Diagnose beschrieben.

201. *T. luteolum* HAGLUND, spec. nov.; Abb. 58.

Planta altitudine mediocris. *Folia* lineari-lanceolata, sat longa, lutescenti-viridia, interiora sat araneosa, petiolis subangustis—anguste alatis, pallidis vel paulo roseis; lobi laterales deltoidei, basi lati—latissimi, in apicem acutum,

reflexum angustati, dorso saepis subrecti–ad basin interdum convexi, sine limine in interlobium abeuntes, inferiores parce subulato-denticulati, superiores integri; lobus terminalis mediocris–parvus, sagittatus, lobulo apicali non raro sat lingulato et lobulis basalibus parvis; interlobia $\pm$ piceo-maculata, plerumque latiuscula. *Involucrum* mediocre–sat parvum, breve, brunneo-olivaceum, basi truncatam. Squamae exteriores subrecurvae, ca. 2,5 mm latae, sat longae. *Calathium* subobscure luteum. Ligulae marginales extus stria cano-violacea ornatae. Antherae polliniferae. Stylus et stigmata paulo livescentia. *Achenium* fusco-stramineum, ca. 4 mm longum, superne ca. 1 mm latum, breviter spinulosum, ceterum humile tuberculatum–basi laeve, in pyramidem anguste conicam brevam (ca. 0,5 mm longam) sat abrupte abiens.

Holotypus: Graubünden: Ausgang des Flüelatales, 1570 m, 26.5.1936, P. Aellen in h v.S. (43600); *Isotypus* in h Ae.

HAGLUND hat in h Aellen die Art mit obiger Diagnose beschrieben.

207. *T. brachypodon* HAGLUND, spec. nov.; Abb. 35.

Planta sat humilis, robusta. *Folia* $\pm$ late lanceolata ad anguste obovato-lanceolata, subprasino-viridia, subglabra, in nervo dorsali araneosa, 4–6 loba, petiolis brevibus, alatis $\pm$ roseo-violaceis. Lobi laterales deltoidei ad unguiformes, lati vel subangusti, acuti, integri vel inferiores parce subulato-dentati, reflexi, interlobis brevibus, integris vel rare subulato-dentatis sat parvis sejuncti ad valde approximati; lobus terminalis mediocris vel sat parvus, triangulari-sagittatus vel hastato-sagittatus vel in folii interioribus breviter sagittatus, vulgo integer, saepe breviter mucronatus. *Involucrum* mediocre ad sat magnum, crasum, sat laete ad subobscure viride, basi subtruncatum. Squamae exteriores lanceolatae, patentes vel recurvato-patentes, 2,5–4 mm latae, 10–14 mm longae, subobscure virides, sat violascentes. *Calathium* subobscure luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata sat obscure fuscescentia. *Achenium* fusco-stramineum, breve, 3–3,5 mm longum (pyramide inclusa), ca. 1 mm latum, superne breviter squamulosum ad spinulosum, ceterum humile tuberculatum–basi laeve; pyramide brevi, ca. 0,5 mm longa, conica. Rostrum 10–11 mm longum; pappus albus, 6–7 mm longus.

Holotypus: Frankreich: Haut-Rhin: Sumpf bei La Chaussée, 23.4.1936, P. Aellen in h v.S. (45584); *Isotypus* in h Ae.

214. *T. inclinans* HAGLUND et v. SOEST, spec. nov.; Abb. 51.

Planta mediocris, subaraneosa. *Folia* sublutescentia, lingulata, lobata, in nervo dorsali araneosa, petiolis valde alatis (nervique mediano praesertim parte inferiore purpureo-colorato). Lobi laterales (utrinque ca. 4) brevissime ungui-

culati, ad 10 mm longi, basi ad 8 mm lati, subobtusiusculati, dorso minutissime denticulato vel integro, margine inferiore integro, interlobis 0–4 mm longis, ca. 2–3 mm latis, angulis loborum plicatulis. Lobus terminalis subhastatus vel semi-ovalis, ad 14 mm longus, ad 14 mm latus, integer vel microdenticulatus, valde obtusus, lobulis basalibus late triangularibus, paulo retroversis. *Scapi* floriferi foliis breviori vel paulo superantes. *Involucrum* 14 mm longus, ca. 14 mm latus, subobscurus olivaceo-viridis. Squamae exteriores patentes vel recurvatae, lanceolatae, in costa subpallidae. *Calathium* ca. 3 cm diametro, luteum. Ligulae marginales planae, extus stria fusco-violacea notatae. Antherae polliniferae. Stylus et stigmata sordide lutea. Floret vere. *Achenium* ignotum.

Holotypus: Frankreich: Haut-Rhin: sumpfiges Gelände auf dem Fußballplatz Haberhäuser-Blotzheim, 21.4.1936, P. Aellen (h); *Isotypus* in h v. S.

In h Aellen hat HAGLUND nur den Namen angegeben, welchen ich für diese Art gebrauche.

218. *T. meiseliae* v. SOEST, spec. nov.; Abb. 60.

Planta sat alta, basi glabra. *Folia* subprasino-viridia, dorso araneosa, in petiolo basi anguste alato purpureo longe contracta. Lobi laterales utrinque ca. 3, late triangulares, patentes interdum recurvati, ad 2,3 cm longi, pro parte obtusi, pro parte acuti, dorso triangulariter dentato, in interlobiis saepe subnullis abeuntibus, margine inferiore recto vel pro parte convexo, integro. Lobus terminalis brevis, late deltoideus vel late hamatus, interdum grosse sinuoso-dentatus vel triangulariter dentatus, valde obtusus. *Scapi* glabri, floriferi foliis longiori. *Involucrum* subturbinatum, sat latus. Squamae exteriores valde recurvae, lanceolatae, ca. 2 mm latae, in costa pallide purpurascentes. Squamae interiores ca. 18 mm longae. *Calathium* planum, 4 cm diametro, paulo (?) radians, luteum. Ligulae marginales extus stria fusco-purpurea notatae. Antherae (parce?) polliniferae. Stylus et stigmata fuscescentia. *Achenium* stramineum, 4,5 mm longum (pyramide inclusa), superne spinulosum ceterum rugosum—basi laeve, in pyramidem conico-cylindricam, ca. 0,3 mm longam subsensim abiens. Rostrum 8–9 mm longum; pappus albus, 6 mm longus.

Holotypus: Berner Oberland: Wegrund bei Saanen, «Pfyffenegg» 1100 m, 7.9.1965, Susanne Meisel (h Aellen); *Isotypus* in h v. S.

222. *T. peregrinum* HAGLUND et v. SOEST, spec. nov.; Abb. 67.

Planta mediocris, 8–20 cm alta, basi araneosa. *Folia* utrinque araneosa, subprasino-viridia, saepe purpurascentia, lobata, nervo mediano $\pm$ purpureo-colorato, petiolis subalatis purpureis instructa; lobi laterales (utrinque 4–6) triangulares, $\pm$ retroversi vel falcati, acuti, dorso saepe convexo argute dentato vel denticulato, margine inferiore saepe concavo integro; interlobia 2–3 mm lata, ad 5 mm longa, dentata, plicata, saepe violacea vel fusco-marginata,

angulis loborum plicatulus; lobus terminalis sagittatus, saepe ad 2 cm longus, subacutus ad subobtusius, saepe incisus, lobulis basalibus patentibus vel retro-versis, subacutis. *Scapi* sub involucro araneosi, floriferi folia subaequilongi. *Involucrum* 13–15 mm longum, subobscure viride. Squamae exteriores retro-flexae, ca. 10 mm longae, in costa pallide virides et purpurascentes. *Calathium* planum, radians, ad 3,5 cm diametro. Ligulae marginales planae, extus stria atro-violacea notatae. Antherae polliniferae. Stylus et stigmata fusco-virescentia. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne spinulosum, ceterum laeve, in pyramidem subcylindricam, 0,6–0,7 mm longam abrupte abiens. Rostrum 9 mm longum; pappus albus, 6 mm longus.

Holotypus: Frankreich: Haut-Rhin: sumpfiges Gelände auf dem Fußballplatz Haberhäuser-Blotzheim, 21.4.1936, P. Aellen (h); *Isotypus* in h v. S.

HAGLUND hat eine Anzahl Pflanzen aus h Aellen mit *T. peregrinum* m., n.sp., angedeutet, ohne aber eine Beschreibung dazu zu geben. Diese Art ist *T. semiglobosum* LINDB. f. etwas ähnlich.

223. *T. piceatiforme* v. SOEST, spec. nov.; Abb. 68.

Planta paulo araneosa. *Folia* subprasino-viridia, lobata, petiolis dilute purpureis angustis instructa. Lobi laterales utrinque 4–5(–6) triangulares, retro-versi ad subpatentes, ca. 2–3 cm longi, pro max. parte acuti, pro min. parte perobtusius et rotundati, dorso valde convexo integro ad argute dentato, margine inferiore $\pm$ recto, interlobia angusta, saepe paulo dentata vel denticulata, saepe $\pm$ rufo-violacea vel fusco-marginata; lobus terminalis sagittatus, subobtusius vel obtusius, 1–3 cm longus, integer vel interdum $\pm$ incisus, raro 1 dente munito, lobulis basalibus triangularibus acutis vel pro parte perobtusius, lobulo apicali interdum lingulato. *Scapi* folia $\pm$ aequilongi, (sub involucro dense) araneosi. *Involucrum* olivaceo-viride, mediocre, ca. 13 mm longum, basi subturbinatum. Squamae exteriores recurvae, lanceolatae, purpurascentes, in costa pallidiores. *Calathium* luteum, radians, ad 4 cm diametro. Ligulae marginales planae, extus stria cano-violacea notatae. Antherae polliniferae. Stylus et stigmata virescentia. *Achenium* stramineum, 4 mm longum (pyramide inclusa), superne breviter et dense spinulosum, ceterum rugosum–basi laeve, in pyramidem subcylindricam, 1 mm longam abrupte abiens. Rostrum 10 mm longum; pappus albus, 5 mm longus.

Holotypus: Zürich 6, spontan hinter dem Versuchshaus der ETH, Schmelzbergstraße, 25.4.1939, Walo Koch (h ZT) 965; auch 973; *Isotypus* in h v. S.

T. piceatiforme ist *T. piceatum* DAHLST. etwas ähnlich, aber die Blätter sowie die Seitenlappen sind schmaler, die Blattstiele stärker purpurfarben; die Achänen weisen eine eigentümlich lange Spitze auf.

224. *T. pseudodilatatum* v. SOEST, spec. nov.; Abb. 72.

Planta 1–2 dm alta, subaraneosa. *Folia* subprasino-viridia, lobata, petiolis (nervique mediano parte inferiore intense rubro-violaceo-colorata) anguste

alatis. Lobi laterales utrinque ca. 5 (superiores approximati) triangulares, acuti, mucronulati, $\pm$ retroversi, dorso basin versus plerumque convexi, subulato-dentati, margine inferiore recto; interlobia inter lobos inferiores sat angusta, subulato-dentata, saepe piceo-maculata vel fusco-marginata; lobus terminalis brevis, 1–3 cm longus, integer, deltoideus vel late sagittatus, saepe lobulo apicali abrupte acuminato, subacuto, in foliis interioribus sat magnus, ad 6 cm longus, ad 3,5 cm latus, subobtusus, subgrosse triangulariter dentatus. *Involucrum* sat crassum, ca. 15 mm latum, 15–17 mm longum, subobscurum viride. Squamae exteriores lanceolatae, ad 3 mm latae, conspicue albo- vel viridimarginatae, in costa canovirides, valde recurvatae. *Calathium* planum, radians, ad 5 cm diametro. Ligulae marginales planae, extus stria atro-violacea notatae. Antherae polliniferae. Stylus et stigmata subnigra. *Achenium* stramineum, 3,5 mm longum (pyramide inclusa) superne dense breviter spinulosum, ceterum rugosum–basi laeve, in pyramidem conico-cylindricam, 0,5 mm longam abrupte abiens. Rostrum 10 mm longum; pappus albus, 5 mm longus.

Holotypus: Zürich 6: Haldenbachstraße, 10.5.1948, c. 22.4.1949, Walo Koch (h ZT); *Isotypus* in h v.S.; die Figur stellt den Isotypus dar.

227. *T. subargutum* v. SOEST, spec. nov.; *T. argutum* HAGL. in sched. non DAHLST. 1929.

Planta mediocris. *Folia* canescenti-viridia, in nervo dorsali sat dense araneoso-pilosa, petiolis subangustis ad anguste alatis, rubro-violascentibus. Lobi laterales $\pm$ approximati, deltoidei, lati, deorsum decrescentes, apice subuliformi diminuati, dorso subrecti, argute subulato-dentati; lobus terminalis in foliis exterioribus et intermediis mediocris ad magnus, sagittatus, integer, acutiusculus, in foliis interioribus permagnus, latus, ovato-sagittatus, basi incisus et dentatus, subobtusus. *Involucrum* sat parvum ad parvum, subangustum, fusco-viride, basi truncatum. Squamae exteriores lanceolatae, mediocriter latae vel subangustae, sat longe reflexae, laete ad obscure virides, $\pm$ violascentes. *Calathium* sat laete luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stigmata sat obscura. *Achenium* maturum ignotum.

Holotypus: Frankreich: Haut-Rhin: Neudorf, Heide, Sumpf bei der Eisenbahnbrücke, 20.4.1936, P. Aellen (h); *Isotypus* in h v.S.

HAGLUND hat in h Aellen die Art mit obiger Diagnose beschrieben.

228. *T. subelatum* HAGLUND et v. SOEST, spec. nov.; *T. elatum* HAGL. in sched., non KITAMURA 1933.

Planta magnitudine mediocris ad alta, *Folia* laete viridia, longa, lanceolata, petiolis subangustis ad anguste alatis, rubro-violaceis. Lobi laterales deltoidei, basi latissimi, in apicem sat longum ad longum, reflexum ad subpatentem

angustati; dorso sine limine in interlobium abeunto, inferiores subulato-dentati, superiores ut plurimum integri vel et praesertim in foliis interioribus parce subulato-dentati. Lobus terminalis parvus, mediocris, sagittatus ad hastato-sagittatus, mucronatus. *Involucrum* mediocre vel sat magnum, subobscure viride, pruinulosum, basi ovato-truncatum. Squamae exteriores sat patentes, lanceolatae, 2,5–3,5 mm latae, non longae, obscure virides, $\pm$ violascentes. *Calathium* subobscure luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata subobscura. *Achenium* paulo brunnescent, ca. 4,3 mm longum (pyramide inclusa), ca. 1 mm latum, sat dense spinulosum, ceterum tuberculatum vel basi laeve, in pyramidem conico-cylindricam, ca. 0,8 mm longam sat abrupte abiens.

Holotypus: Frankreich: Haut-Rhin: Sumpf bei La Chaussée, 23.4.1936, P. Aellen (h); *Isotypus* in h v. S.

HAGLUND hat in h Aellen die Art mit obiger Diagnose beschrieben.

230. *T. cultratum* HAGLUND, spec. nov.; Abb. 41.

Planta sat alta. *Folia* oblongo-lanceolata, canescenti-viridia, petiolis sat angustis, rubescentibus. Lobi laterales deltoidei, deorsum decrescentes, lati ad latissimi, sat breves, acuti ad acutissimi, reflexi, $\pm$ et sat valde convexi, inferiores parce subulato-denticulati, superiores integri. Interlobia non raro piceo-marginata, superiora brevia, inferiora sat brevia, latiuscula. Lobus terminalis sagittatus, magnus vel maximus, latus, acutiusculus ad breviter mucronatus, integer vel brevissime incisus, sub apice interdum dente parvo vel incisura parva utrinque praeditus. *Involucrum* mediocre vel sat parvum, obscure viride, basi truncatum. Squamae exteriores sat recurvae, numerosae, angustae (1,5–2,5 mm latae), sat breves, apice attenuatae, obscure virides, paulo purpurascentes. *Calathium* sat obscure luteum. Ligulae marginales angustae, extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata sat virescentia. *Achenium* brunneo-olivaceum, ca. 4 mm longum (pyramide inclusa), angustum (ca. 0,7 mm latum), superne squamuloso-spinulosum, ceterum tuberculatum—basi laeve, in pyramidem angustam, subcylindricam, ca. 0,7 mm longam abiens. Rostrum tenue, ca. 11 mm longum. Pappus albus, ca. 6 mm longus.

Holotypus: Graubünden: Davos, Wegrund am Schiabachtobel 1700 m, 27.5. 1936, P. Aellen (h); *Isotypus* in h v. S.

Die Pflanzen sind von HAGLUND in h Aellen beschrieben.

231. *T. formosum* v. SOEST, spec. nov.; Abb. 48.

Planta ad 3 dm alta, paulo araneosa. *Folia* numerosa, obscure viridia, ad 2 dm longa (petiolo rufo-purpureo angusto vel paulo alato inclusa); lobi laterales utrinque ad 9, late triangulares, interdum $\pm$ retroversi, ad 3 cm longi,

in apicem acuminatissimum angustati, dorso magis argute et longe subulato-dentata et denticulata, nervo mediano $\pm$ rufo-purpureo; interlobia brevia, violaceo- et crispato-plicatula, saepissime magis atro-violacea; lobus terminalis sagittatus ad elongato-hastatus, ad 4 cm longus, saepe magis dentatus et denticulatus, subobtusus, mucronulatus, lobulis basalibus acutis, $\pm$ dentatis. *Scapi* ad 3, floriferi foliis aequilongi. *Involucrum* angustum, ad 12 mm latum, ad 15 mm longum, subobscure viride, $\pm$ pruinulosum. Squamae exteriores retroflexae, lineares, ad 10 mm longae, 1,5–2,5 mm latae, erosae, anguste purpureo-maculatae, apice atro-violaceae, saepe $\pm$ callosae; squamae interiores $\pm$ callosae. *Calathium* planum, radians, ad 3 cm diametro, saturate luteum. Ligulae marginales planae, extus stria cano-violacea notatae, apice $\pm$ purpureo-aurantiae. Antherae polliniferae. Stylus et stigmata fusco-virescentia. Floret aestate. *Achenium* fusco-stramineum, 4–4,5 mm longum (pyramide inclusa), superne breviter spinulosum, ceterum laeve, in pyramidem subcylindricam, 0,8 mm longam, spinulis saepe praeditam, subabrupte abiens. Rostrum 9 mm longum; pappus albus, 7 mm longus.

Holotypus: Graubünden: Klosters, in silvis, 1250 m, 11.7.1954, v. Soest (h 33676).

232. *T. rufonervosum* v. SOEST, spec. nov.; Abb. 76.

Planta mediocris, ca. 1 dm alta, subaraneosa. *Folia* obscure subprasino-viridia, lobata, petiolis (nervique mediano intense rufo-colorata) alatis; lobi laterales utrinque 3–4; $\pm$ triangulares, ad 12 mm longi, acuminati et acuti, in lobis inferioribus apice retroversi vel valde recurvi, in lobis superioribus pro parte erecto-patentes vel abrupte suberecti, omnes $\pm$ integri; interlobia sat lata, piceo-colorata, integra vel grosse dentata et denticulata; lobus terminalis $\pm$ deltoideus, interdum incisus, 6–20 mm longus, integer, subobtusus. *Scapi* floriferi foliis aequilongi vel paulo superantes, glabrescentes. *Involucrum* obscure viride, sat angustum (12–14 mm), ad 16 mm longum. Squamae exteriores valde rufo-violaceo-coloratae, lanceolatae, sat longae, patentes, denique valde recurvae. *Calathium* saturate luteum, planum, ad 4,5 cm diametro. Ligulae marginales planae extus stria atro-violacea notatae. Antherae polliniferae. Stylus et stigmata virescentia. *Achenium* ignotum.

Holotypus: Graubünden: Lenzerheide, Alp Sanaspans 2000 m, 18.6.1966, v. Soest (h 45341).

233. *T. subpatens* HAGLUND, spec. nov.; Abb. 80.

Planta magnitudine mediocris. *Folia* lanceolata vel obovato-lanceolata, laete glaucescenti-viridia, juniora sat araneosa, petiolis pallidis ad leviter roseis. Lobi laterales deltoidei, latiusculi ad subangusti, $\pm$ patentes, dorso convexi, vulgo

integri, in apicem sat longum vel longum et angustum, acutum abeuntes. Lobus terminalis mediocris, in foliis interioribus magnus, hastato-sagittatus vel hastato-triangularis, sat acutis, integer vel incisus; interlobis angustis, mediocriter longis vel sat longis, piceo-marginatis, subintegris vel parce subulato-denticulatis. *Involucrum* magnitudine mediocris, obscure olivaceo-viride, basi truncatum. Squamae exteriores sat patentes ad recurvatae, lanceolatae, (2–)2,5(–5) mm latae, ca. 14 mm longae, sat laete virides, $\pm$ brunneo-purpurascens. *Calathium* subobscure luteum. Ligulae marginales extus stria fusco-violacea ornatae. Antherae polliniferae. Stylus et stigmata sat obscura. *Achenium* fusco-stramineum, ca. 4 mm longum (pyramide inclusa), 0,8–1 mm latum, superne squamuloso-spinulosum, ceterum tuberculatum basi sublaeve, in pyramidem subcylindricam ca. 0,7 mm longam sat abrupte abiens. Rostrum 9–11 mm longum; pappus albus, ca. 6 mm longus.

Holotypus: Graubünden: Davos, Wiese hinter der Villa Vecchia, 1560 m, 14.5.1936, P. Aellen (h).

Die Diagnose wurde von HAGLUND in h Aellen gegeben.

234. *T. grossum* v. SOEST, spec. nov.; Abb. 49.

Planta ad 35 cm alta, robusta, modice araneosa. *Folia* subprasino- ad glaucoviridia, lobata, petiolis pro parte alatis, rufo-purpureis. Lobi laterales utrinque 4–5, inferiores triangulares, acutissimi, patentes, superiores triangulares vel hamati, ad 20 mm longi, patentes vel recurvati, acuti ad subobtusum, margine inferiore interdum 1 dente munito, dorso saepe convexo dentato, denticulato vel integro; interlobis saepe conspicuis, ad 15 mm longis, ca. 7 mm latis, saepe grosse irregulariter sublobatis vel dentatis et denticulatis, angulis loborum saepe plicatulis; lobus terminalis saepe deltoideo-hastatus, 1,5–3 cm longus, 2–3 cm latus, integer, subacutus vel subobtusus, interdum mucronulatus, vel elongato-hastatus ad 4 cm longus, raro indistincte determinatus, $\pm$ late linguatus, 4–9 mm longus, incisus, grosse dentatus et denticulatus, subobtusus. *Scapi* crassi, floriferi foliis superiori vel aequilongi. *Involucrum* ad 17 mm longum, ad 20 mm latum, obscure viride. Squamae exteriores retroflexae, late lineari-lanceolatae, interdum inconspicue marginatae, rufo-purpurascens, laeves, interiores apice atro-violaceae. *Calathium* planum, radians, ad 4,5 cm diametro, luteum. Ligulae marginales planae, extus stria dilute vel cano-violacea notatae. Antherae polliniferae. Stylus luteus, stigmata fuscescentia. *Achenium* (maturum non visum) stramineum, ca. 4 mm longum, superne spinulosum, ceterum rugosum–basi laeve, in pyramidem conico-cylindricam 0,5 mm longam abrupte abiens. Rostrum breve (5 mm); pappus albus, 5 mm longus.

Holotypus: Italien: Südtirol: Obervinschgau, Schlinigtal, 1700–1800 m, 12.7. 1956, v. Soest et al. (h 36849); *Isotypus* no. 36763, 36838, 36855.

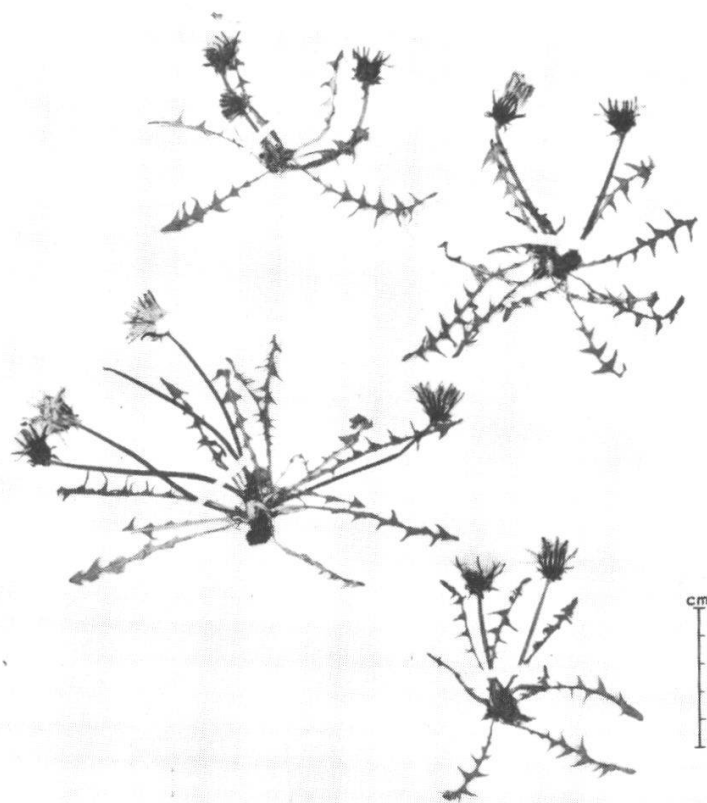
235. T. informe HAGLUND, spec. nov.; **Abb. 52.**

Planta mediocriter alta. Folia lanceolata ad oblongo-lanceolata, canescenti-viridia, sat araneosa, petiolis sat angustis, roseis vel rubro-violascentibus. Lobi laterales in foliis exterioribus et intermediis deltoidei, sat reflexi, dorso subrecti vel ad basin sat convexi, acuti, breviter et $\pm$ dense subulato-dentati, superiores subintegri vel lobulo angusto praediti, in apicem reflexum vel curvatum $\pm$ abrupte abeuntes, lobus terminalis parvus vel mediocris, breviter hastato-sagittatus, rarius hastatus, interlobia sat lata, $\pm$ subulato-dentata, in foliis interioribus approximati, longi, sat falciformes, dorso aequae ac angulis loborum vel margine inferiore dentibus longis muniti, lobus terminalis triangulari-sagittatus. *Involucrum* mediocre, obscure viride, basi truncatum. Squamae exteriores recurvae, lanceolatae, subangustae, sat longae, obscure virides. *Calathium* sat obscure luteum. Ligulae marginales stria fusco-violacea ornatae. Antherae polliniferae; stylus et stigmata luteo-viridia. *Achenium* fusco-stramineum, ca. 4 mm longum (pyramide inclusa), ca. 1,1 mm latum, spinulosum—basi laeve, pyramide conica. ca. 0,5 mm longa.

Holotypus: Graubünden: Davos, Wegrund im Schiabachtobel, 1700 m, 27.5. 1936, P. Aellen (h); *Isotypus* in h v. S.; die Figur stellt den Isotypus dar.

Die Art ist von HAGLUND in h Aellen mit obiger Diagnose beschrieben.

Abbildungen



HERBARIUM PAUL ALLEN

Taraxacum brachycarpum
Regele 1912

BASEL: Linkes Rheintal bei der St. Johannsbrücke

19. 4. 1936

P. Allen

Abb. 2 *T. brachycarpum*

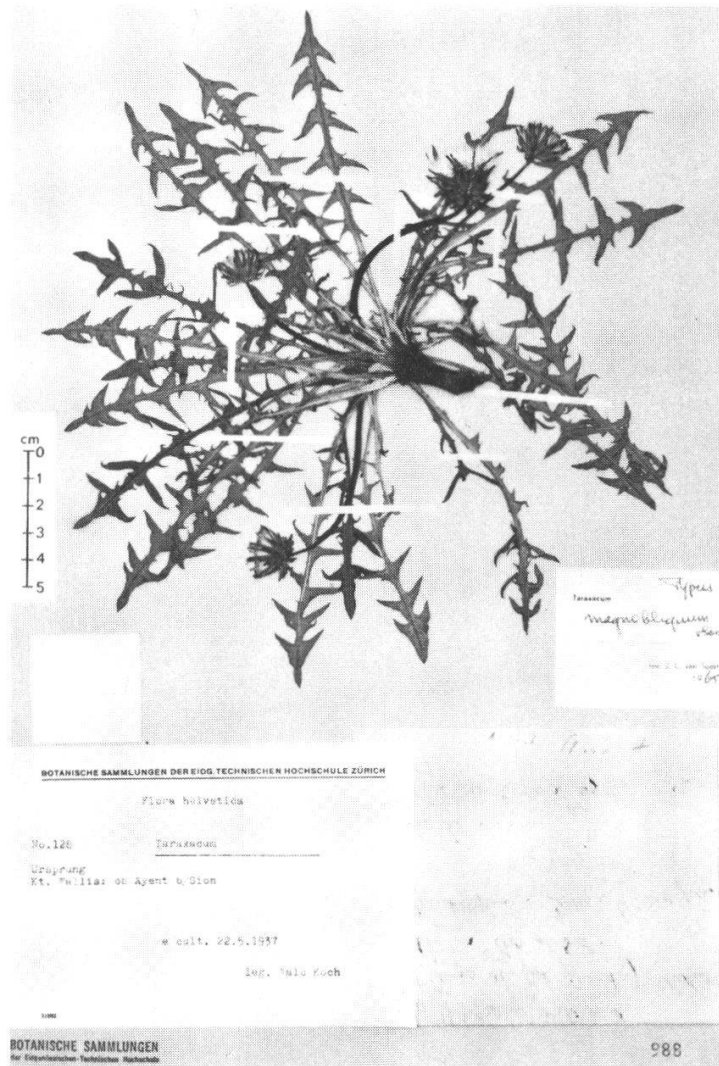


Abb. 3 *T. magnobliquum*

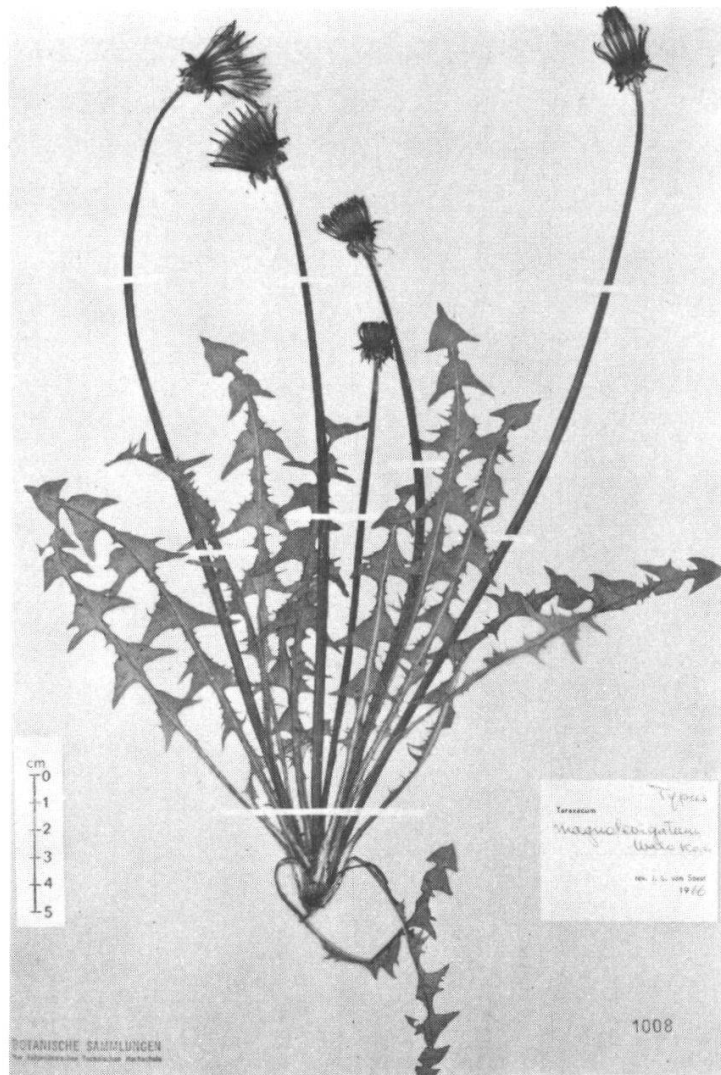


Abb. 4 *T. magnolevigatum*

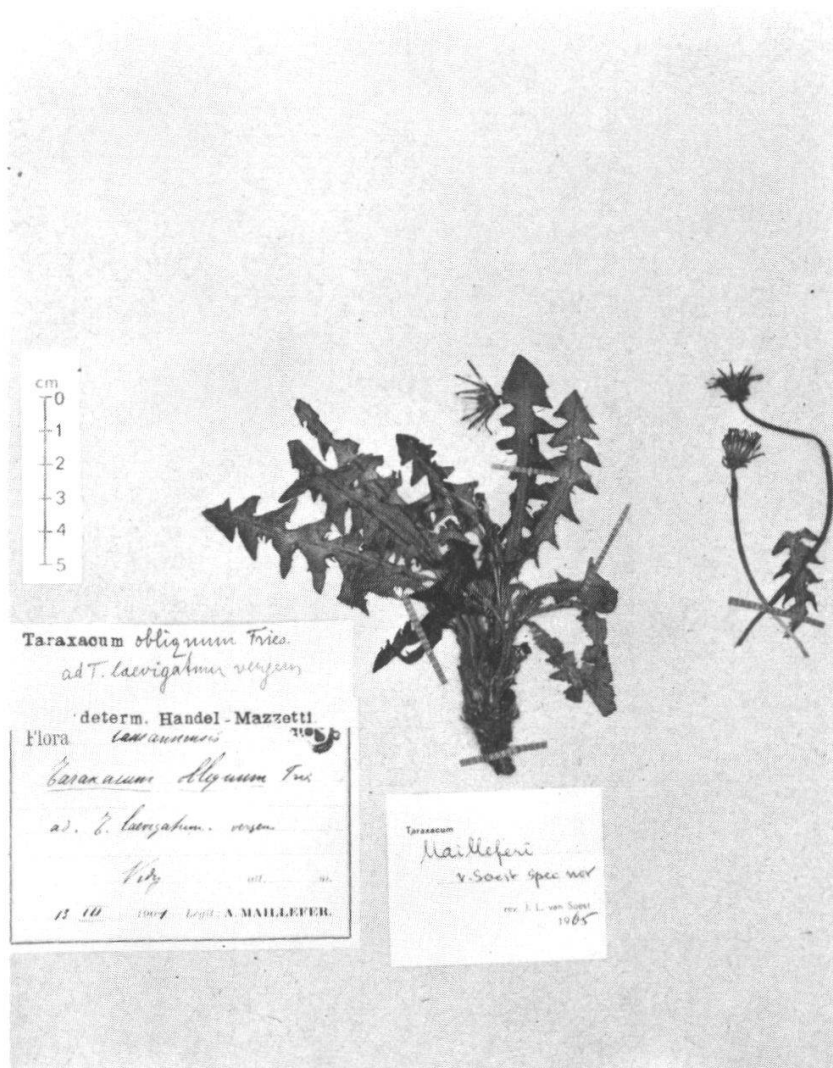


Abb. 5 *T. mailleferi*

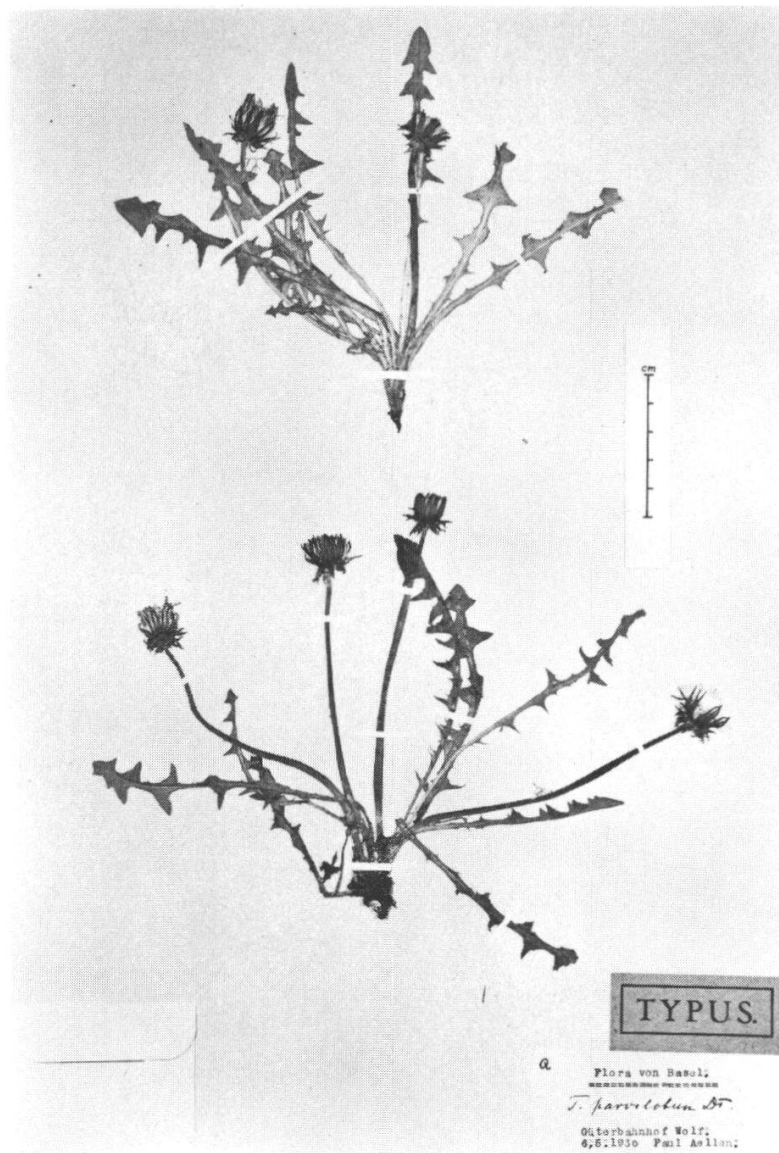


Abb. 6 *T. parvilobum*

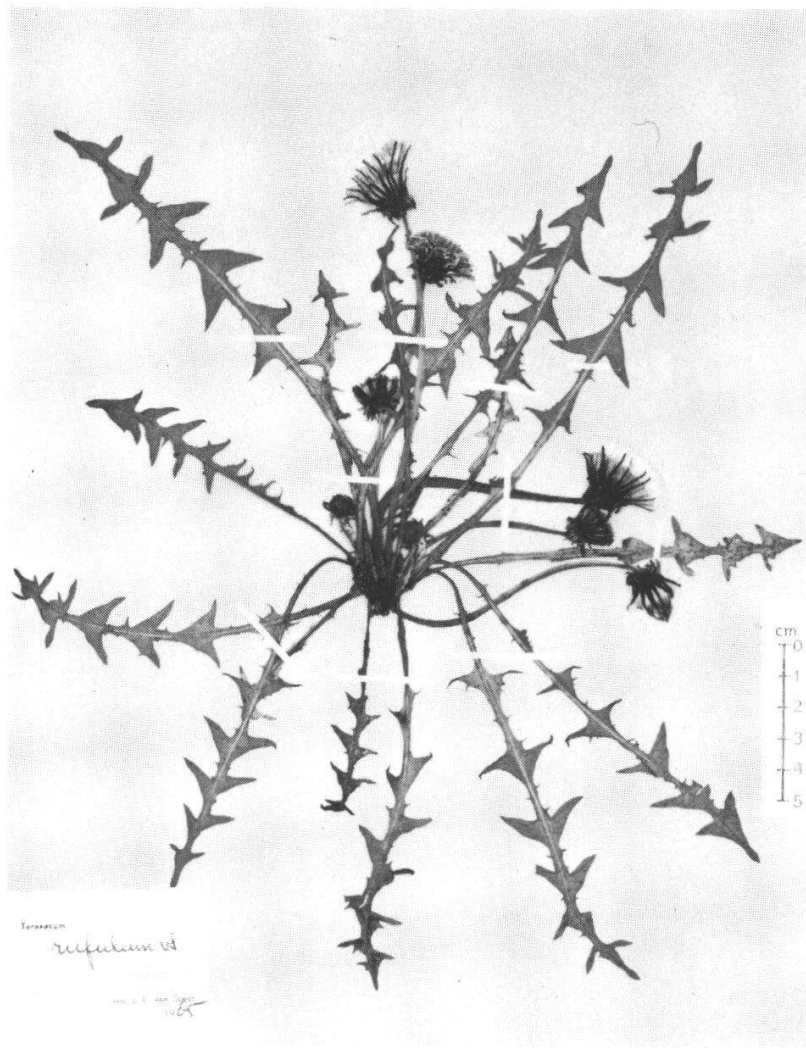


Abb. 7 *T. rufulum*

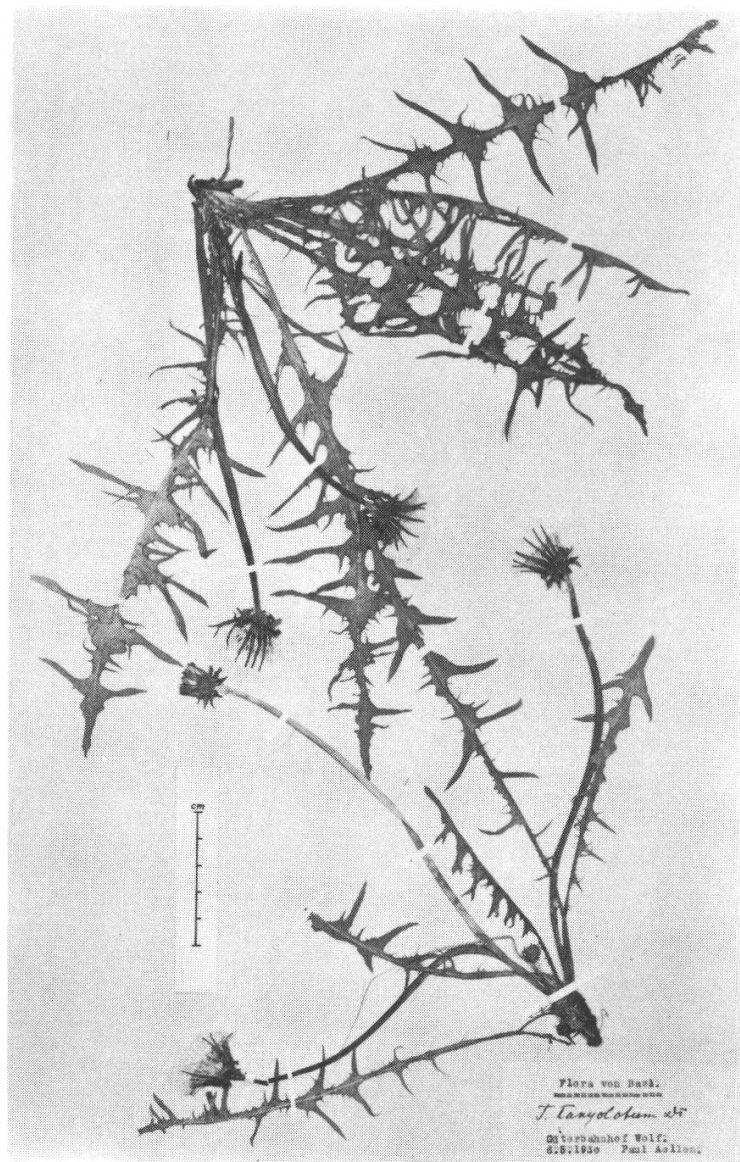


Abb. 8 *T. tanyolobum*



Abb. 9 *T. melanops*

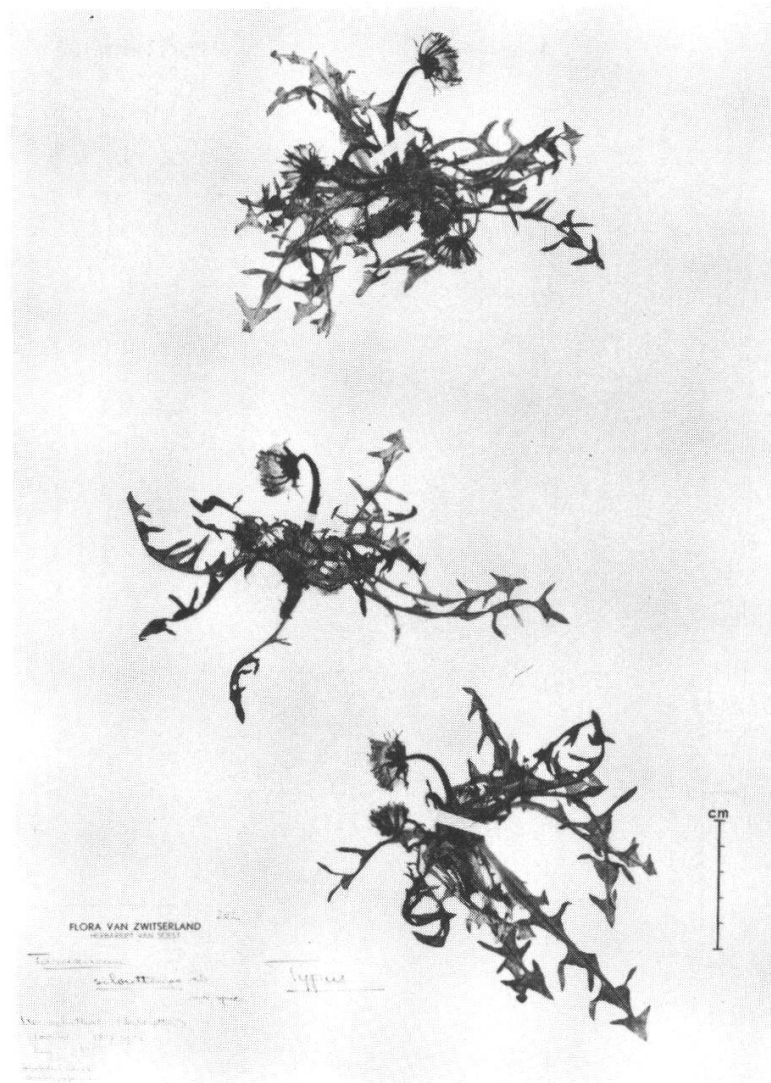


Abb. 10 *T. silvrettense*

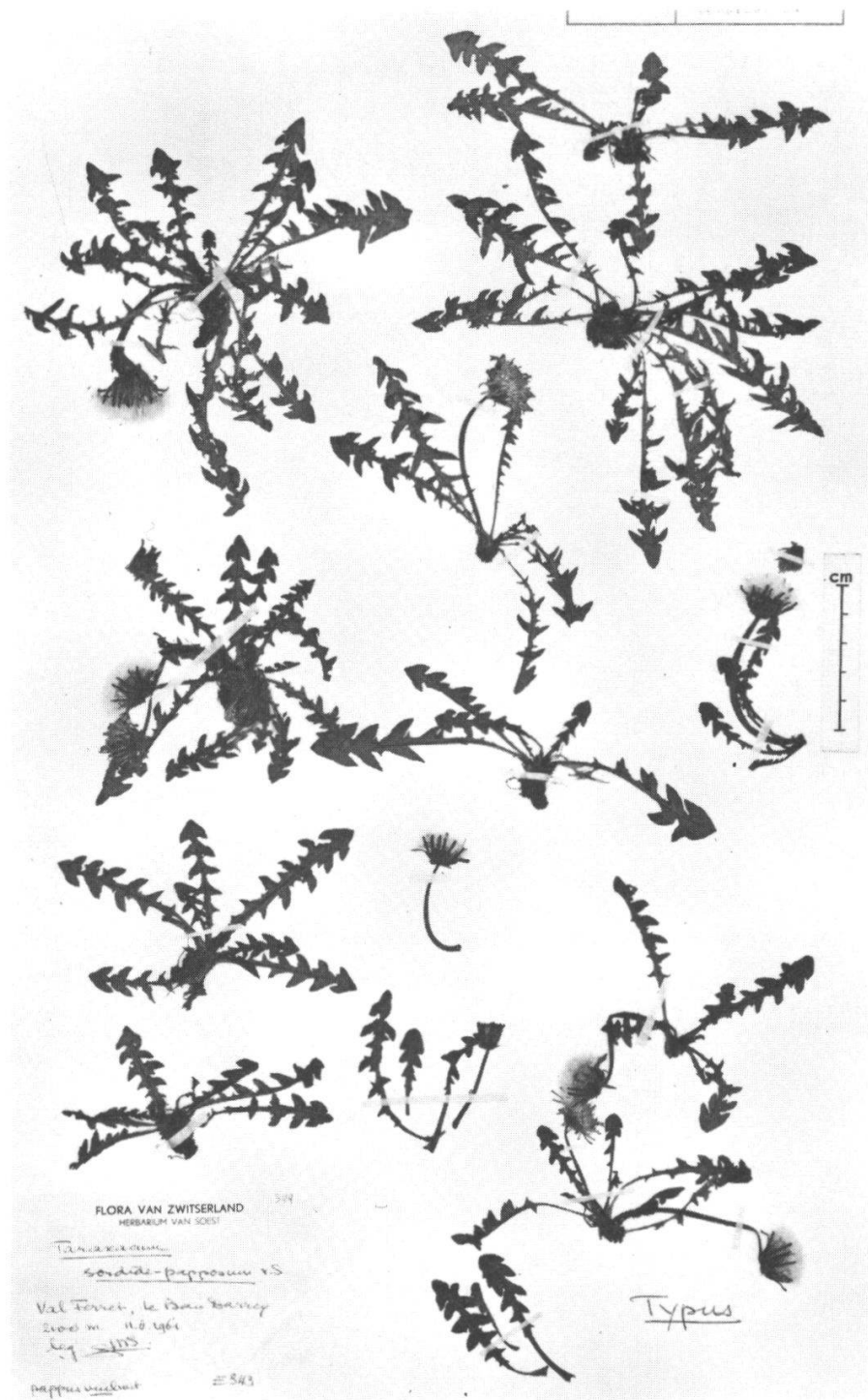


Abb. 11 *T. sordidepapposum*



Abb. 12 *T. magnopyramidophorum*



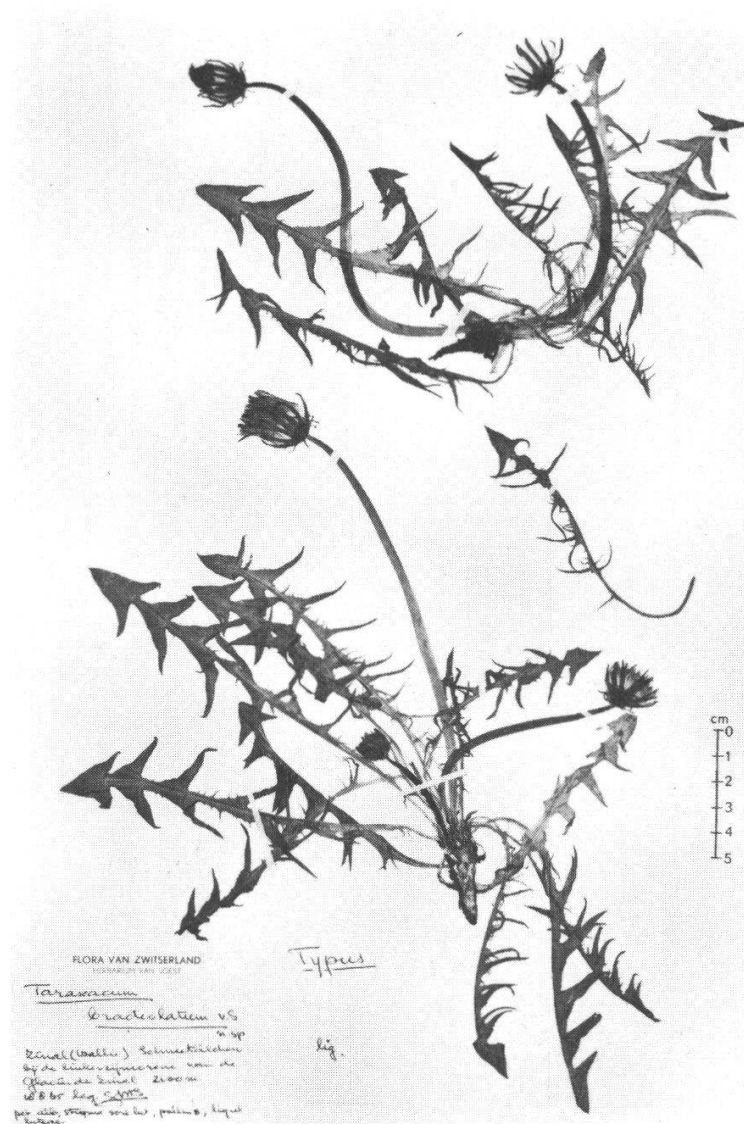


Abb. 14 *T. bracteolatum*



Abb. 15 *T. cordatifolium*



Abb. 16 *T. grandiflorum*

RIJKSHERBARIUM, LEIDEN
(Herb. Lugd. Bat.)



Abb. 17 *T. magnoligulatum*



Abb. 18 *T. metriocallosum*



Abb. 19 *T.ochrospermum*

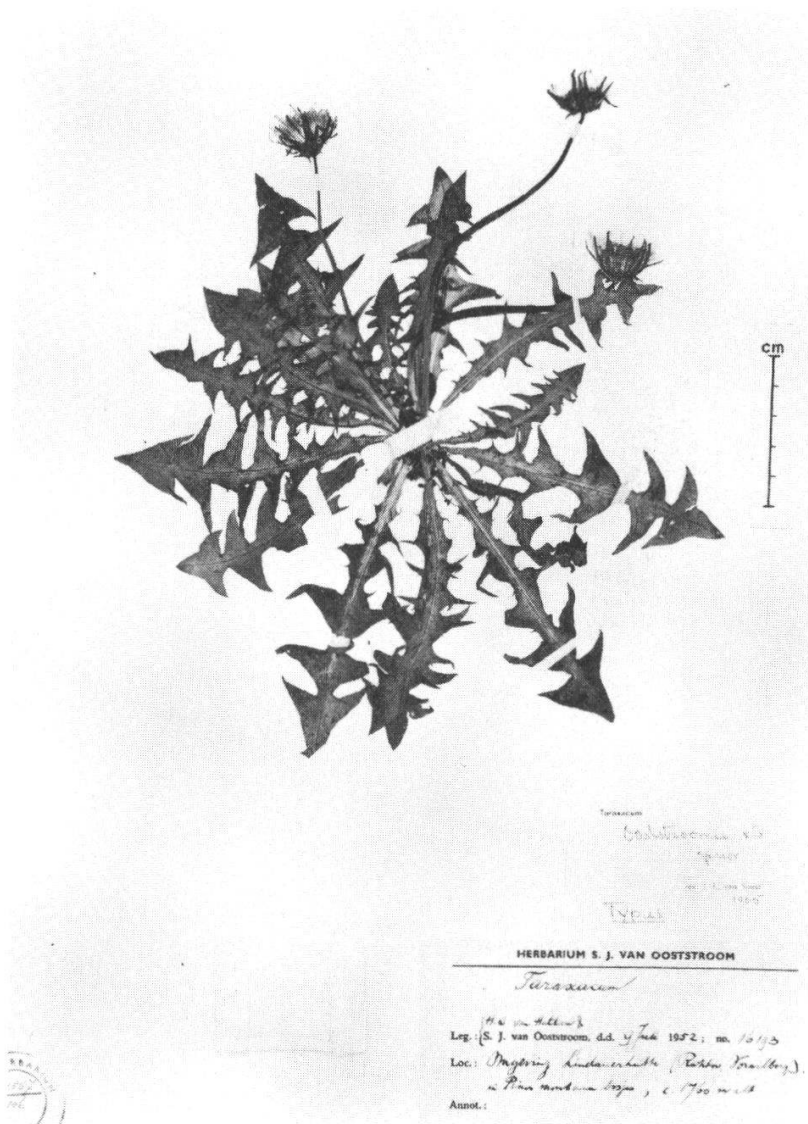


Abb. 20 *T. ooststroomii*



Abb. 22 *T. rufonerve*

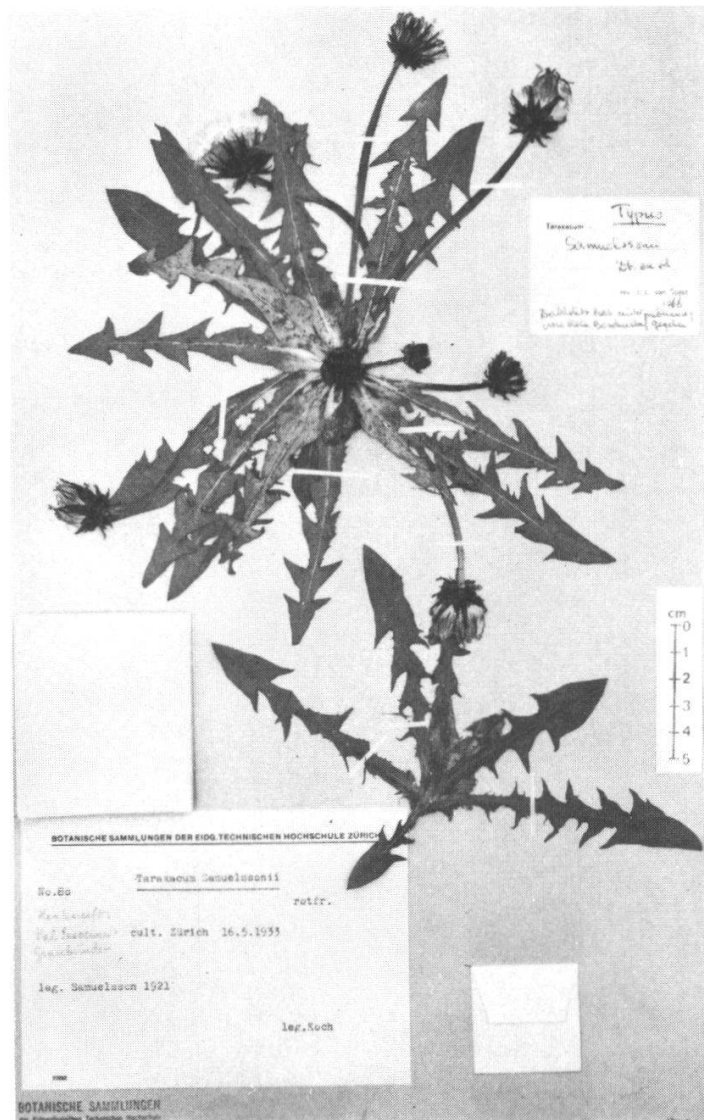


Abb. 23 *T. samuelssonii*

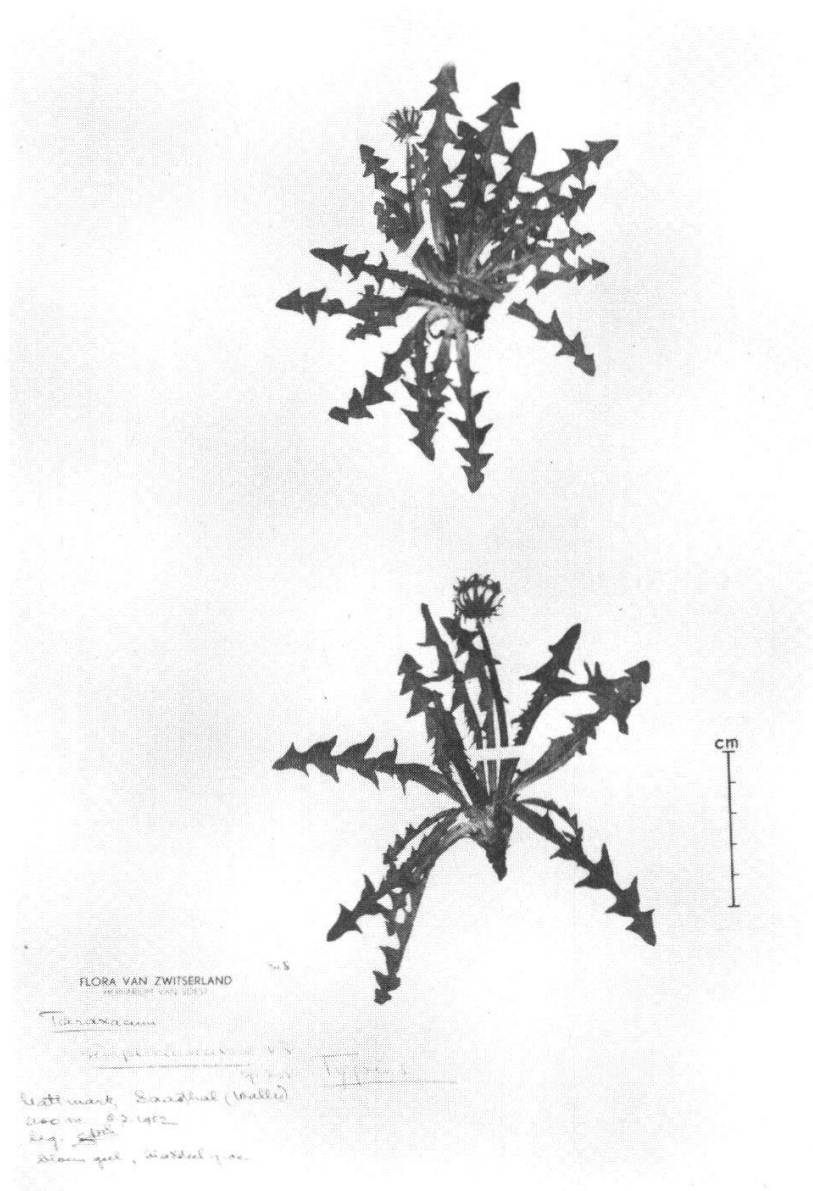


Abb. 24 *T. simpliciusculum*

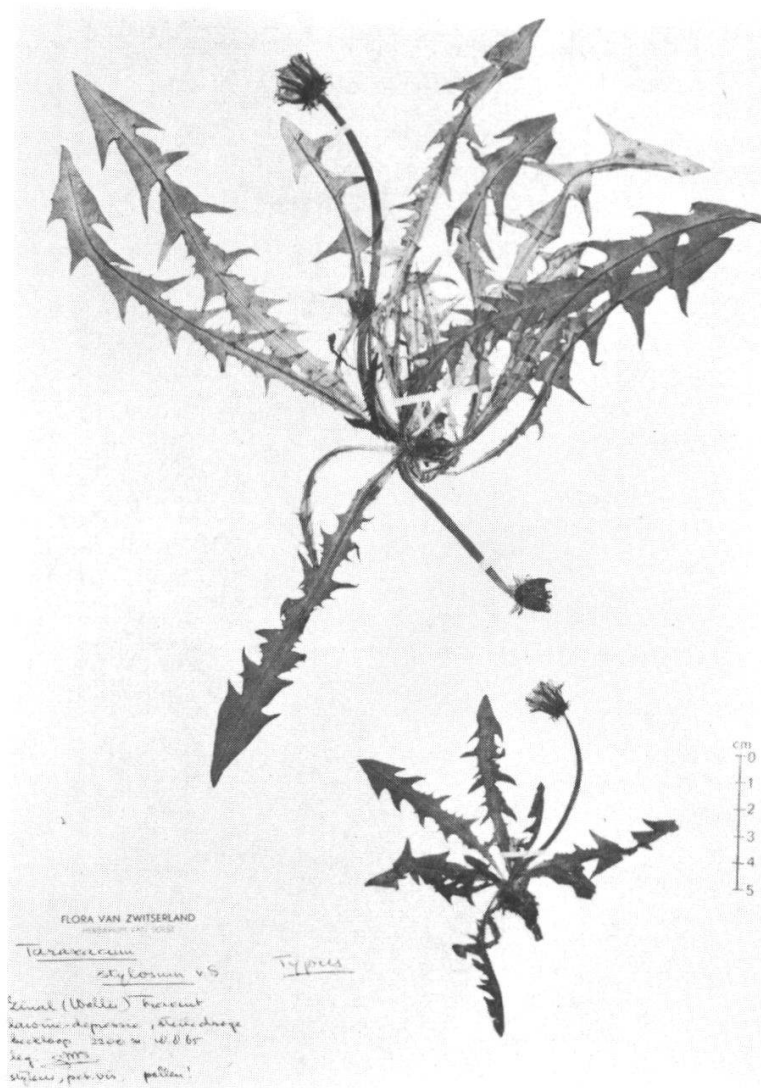


Abb. 26 *T. stylosum*

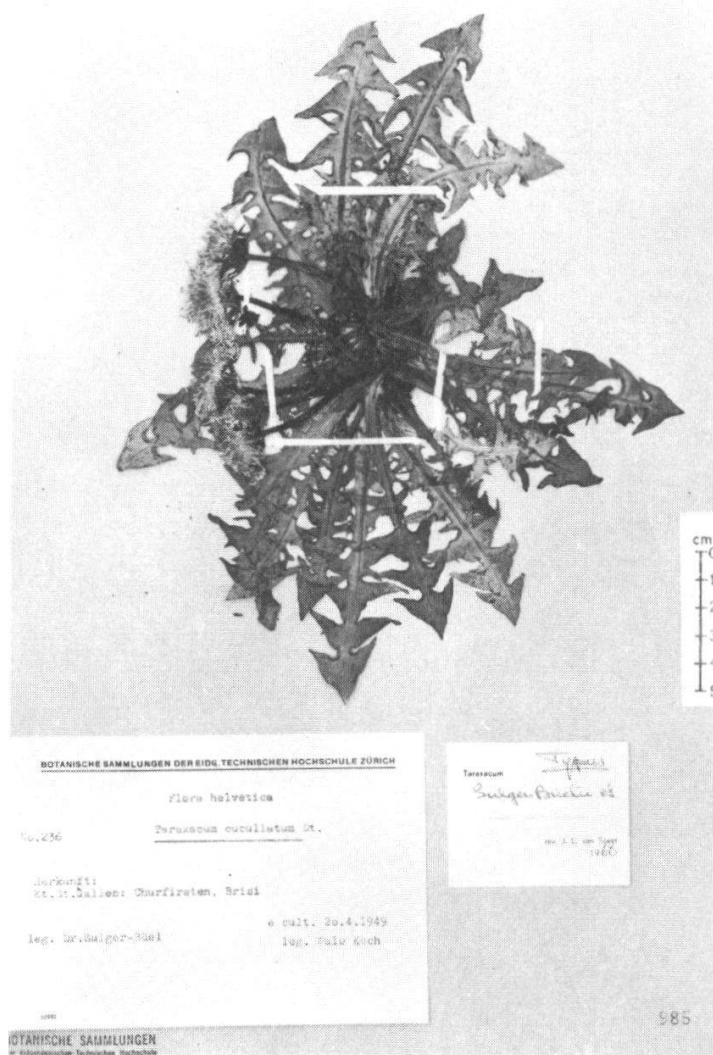


Abb. 27 *T. sulger-büelii*

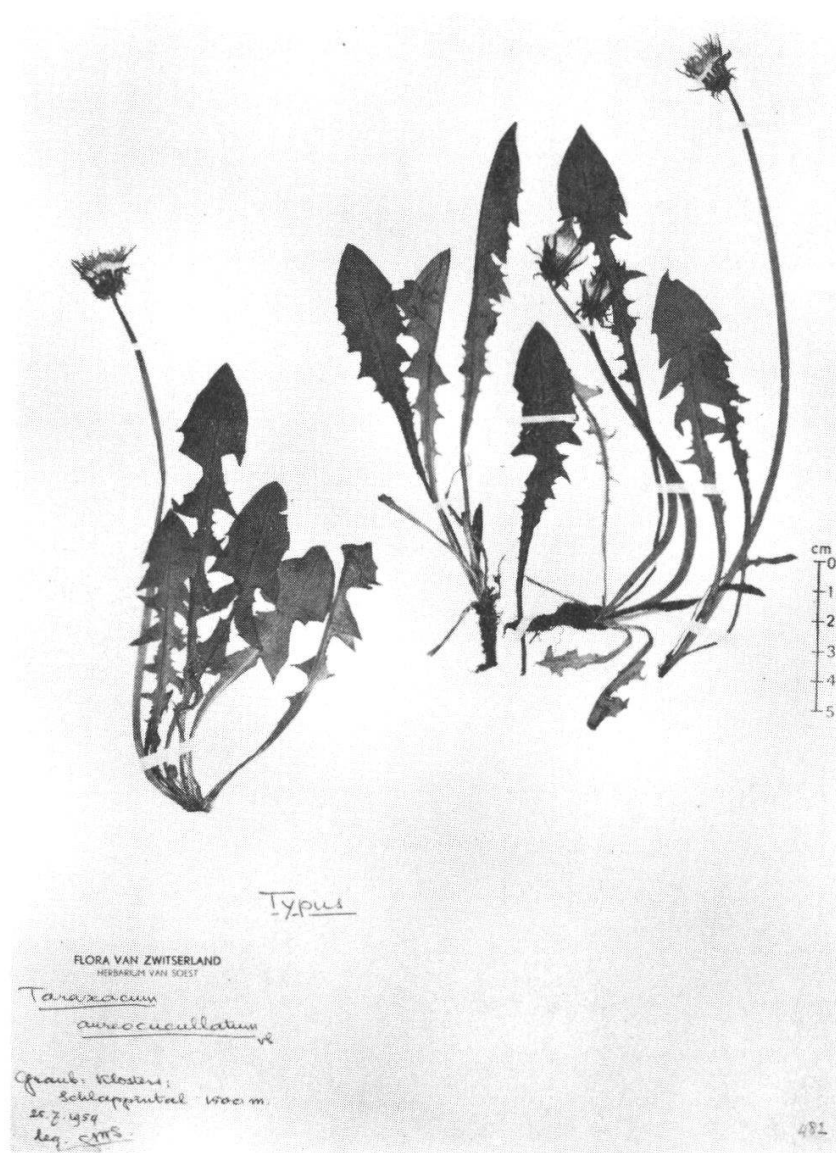


Abb. 28 *T. aureocucullatum*

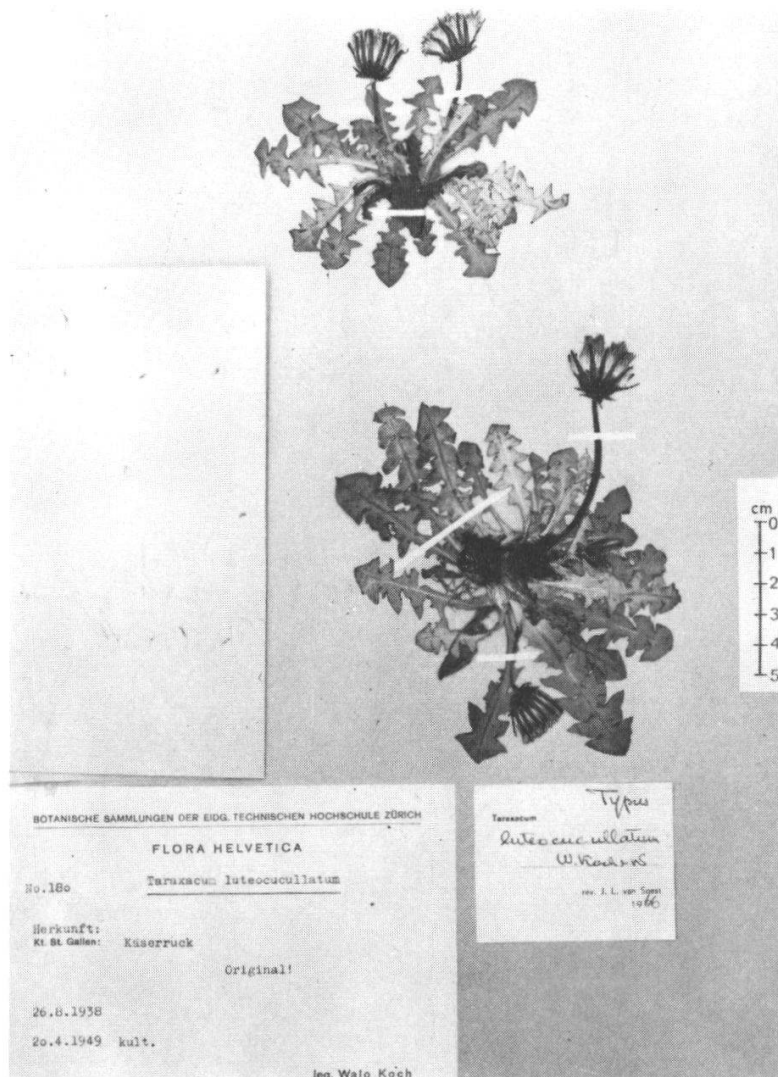


Abb. 29 *T. luteocucullatum*



Abb. 30 *T. aganophytum*

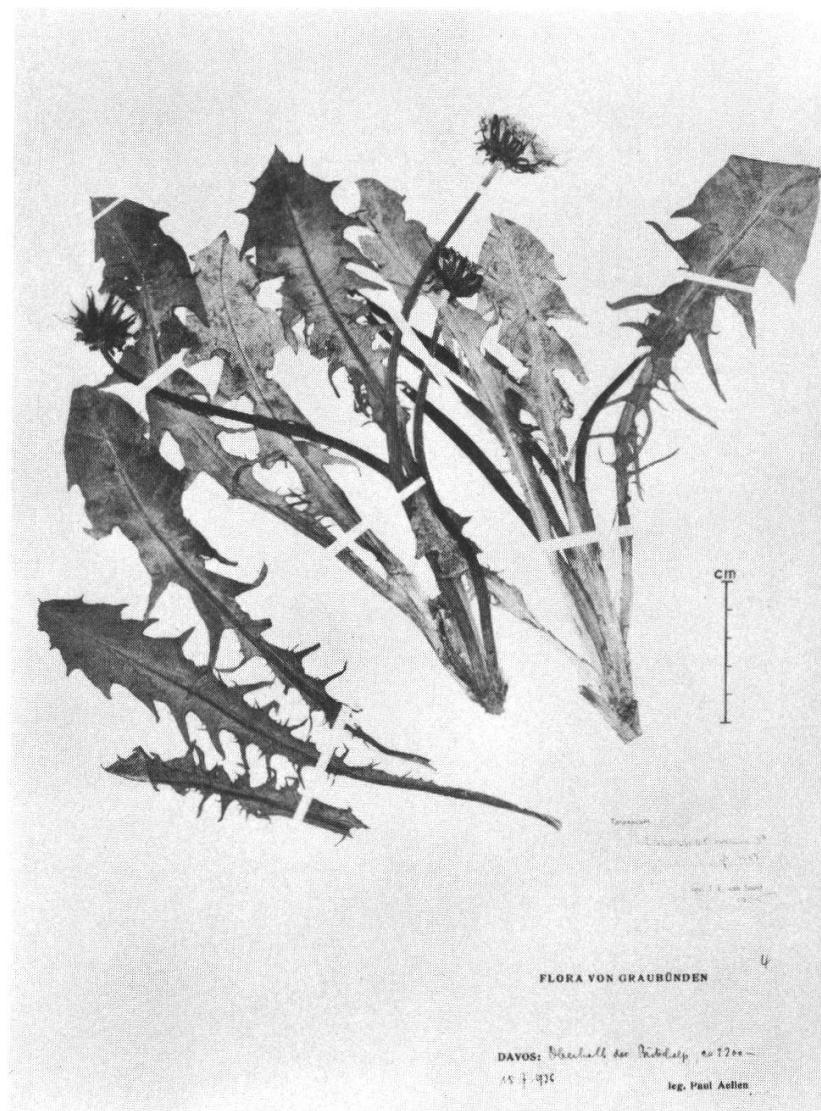


Abb. 31 *T. anemomum*



Abb. 32 *T. aperavtum*



Abb. 33 *T. argoviense*

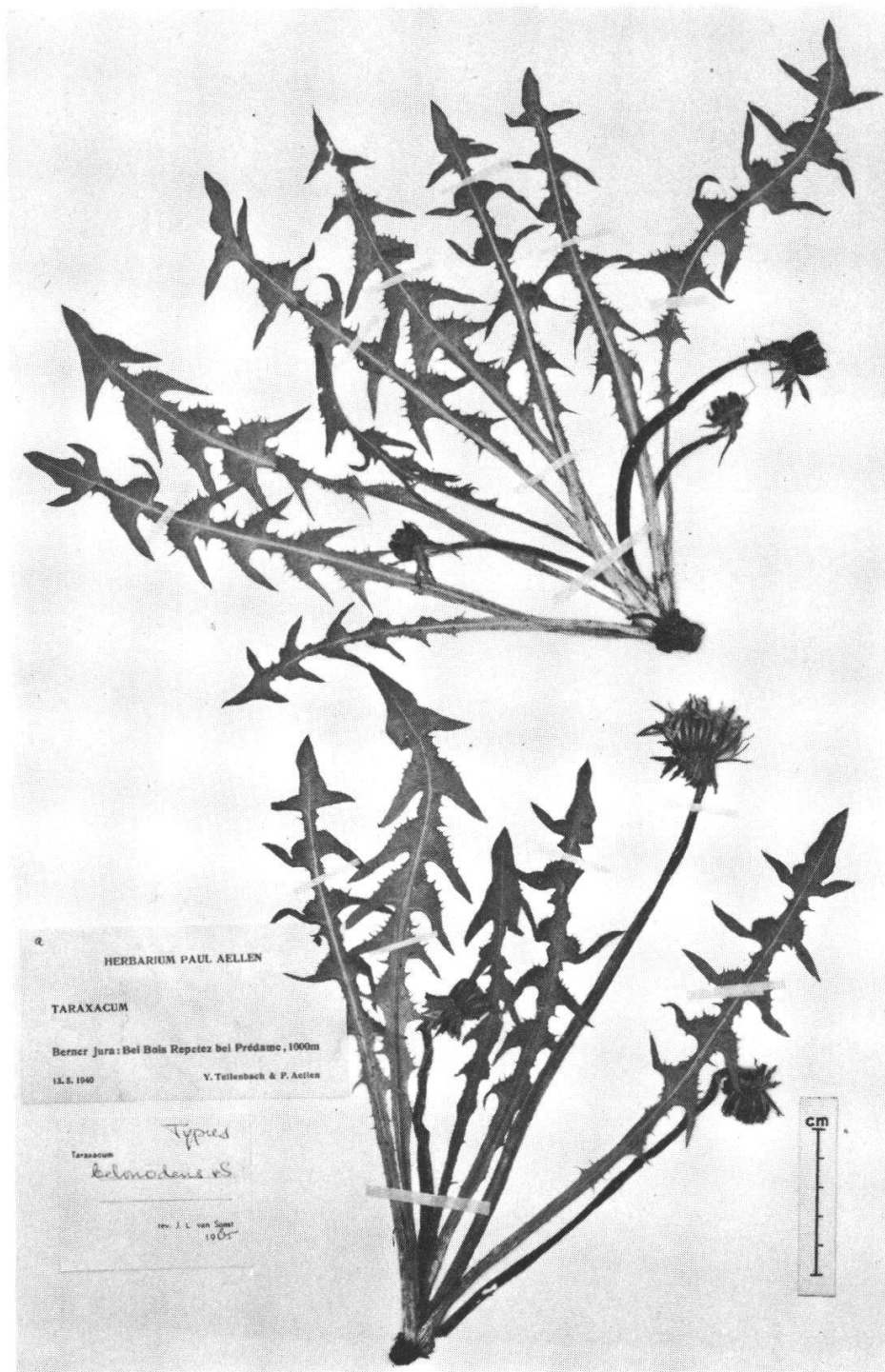


Abb. 34 *T. belonodens*



Abb. 35 *T. brachypodon*

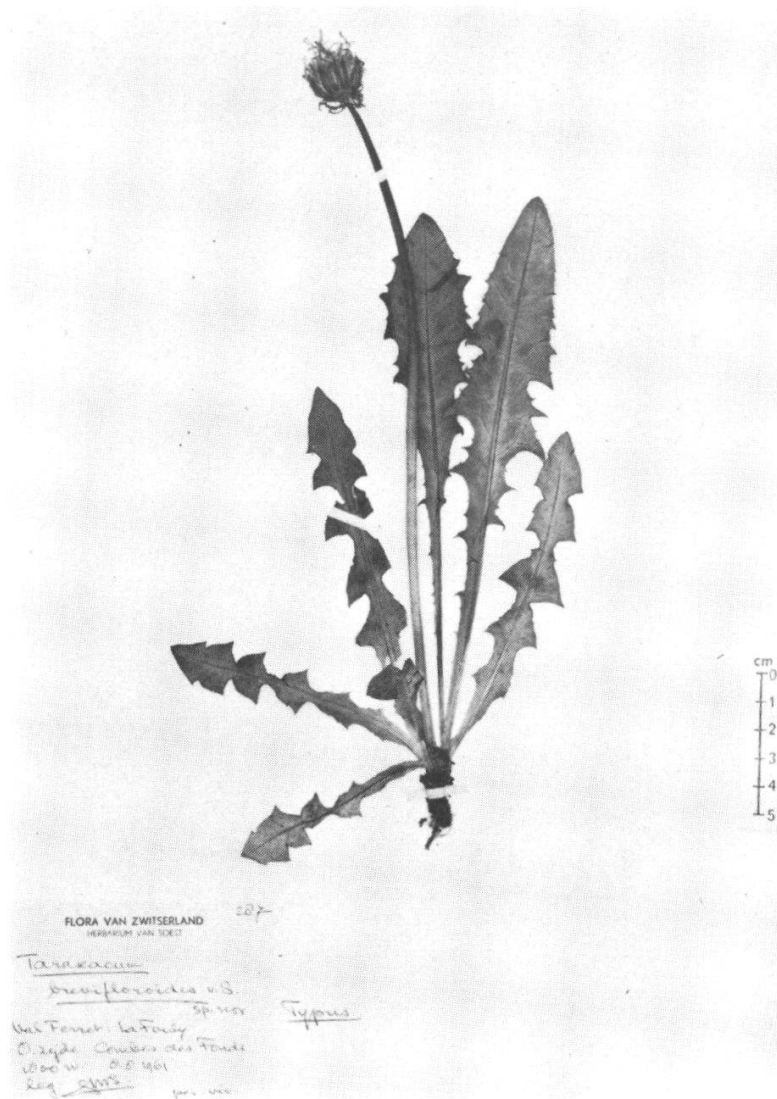


Abb. 36 *T. brevifloroides*



Abb. 37 *T. brevisectoides*

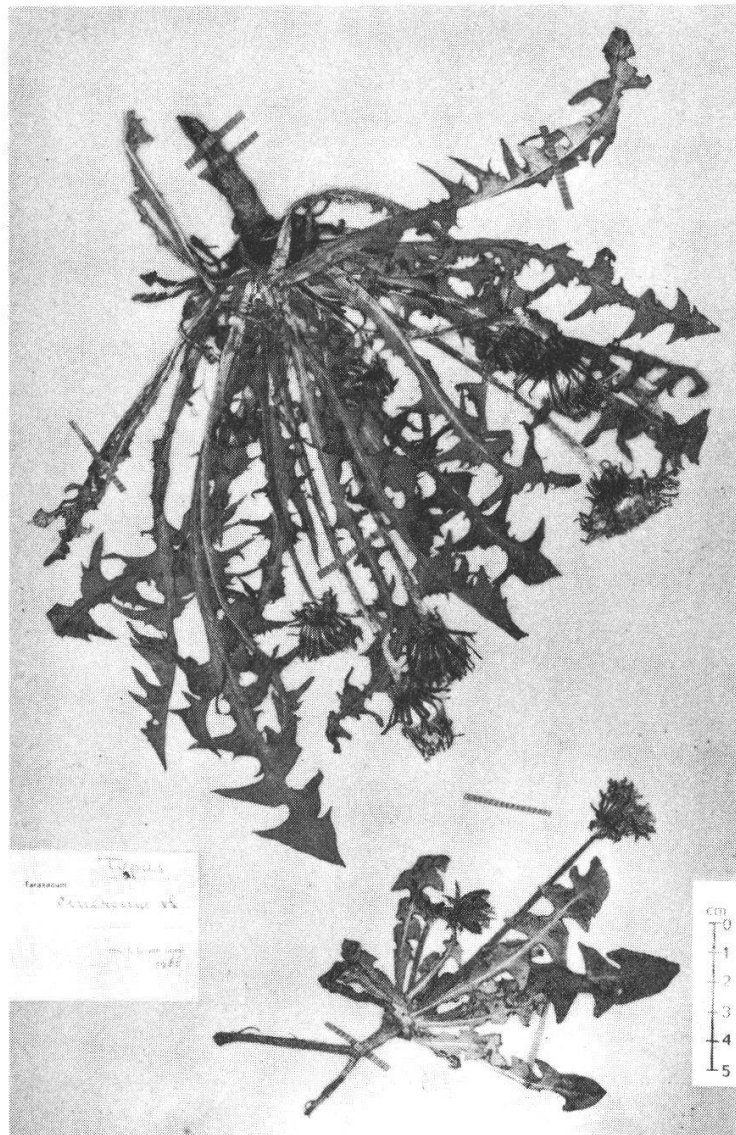


Abb. 38 *T. cinereum*

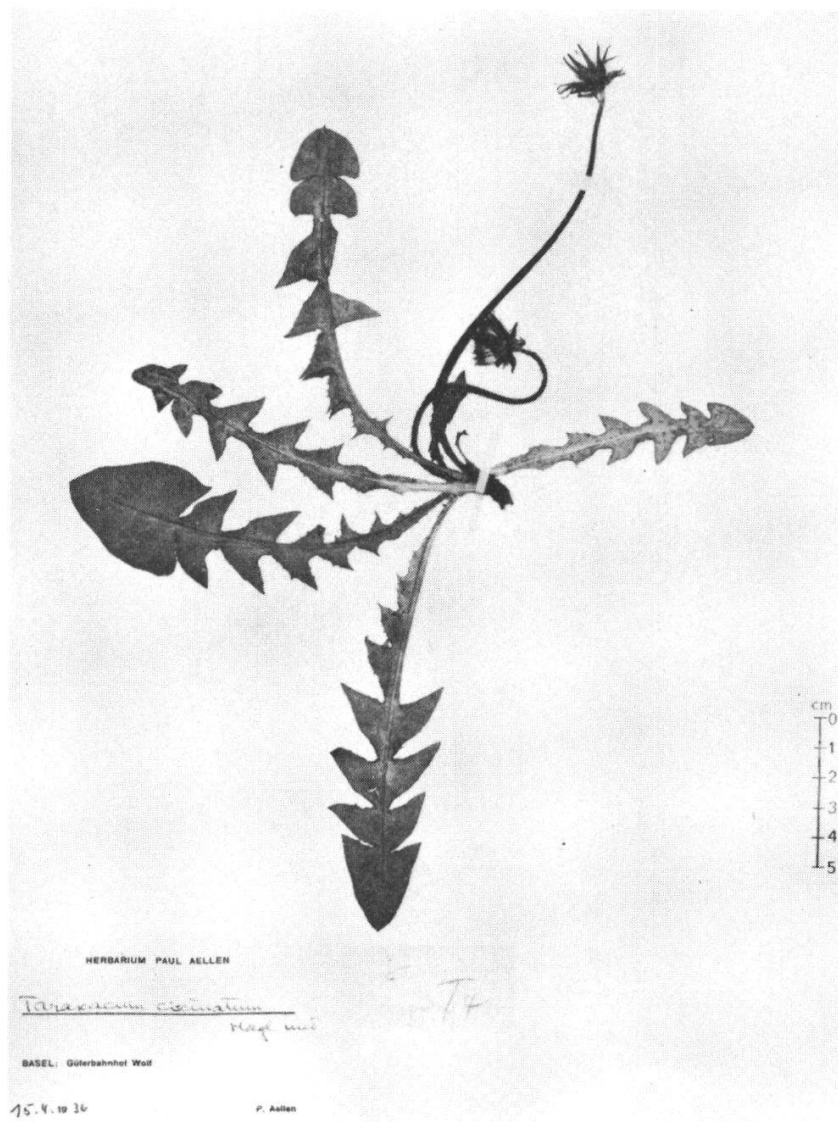


Abb. 39 *T. circinatum*



Abb. 40 *T. croceifloroides*



Abb. 41 *T. cultratum*

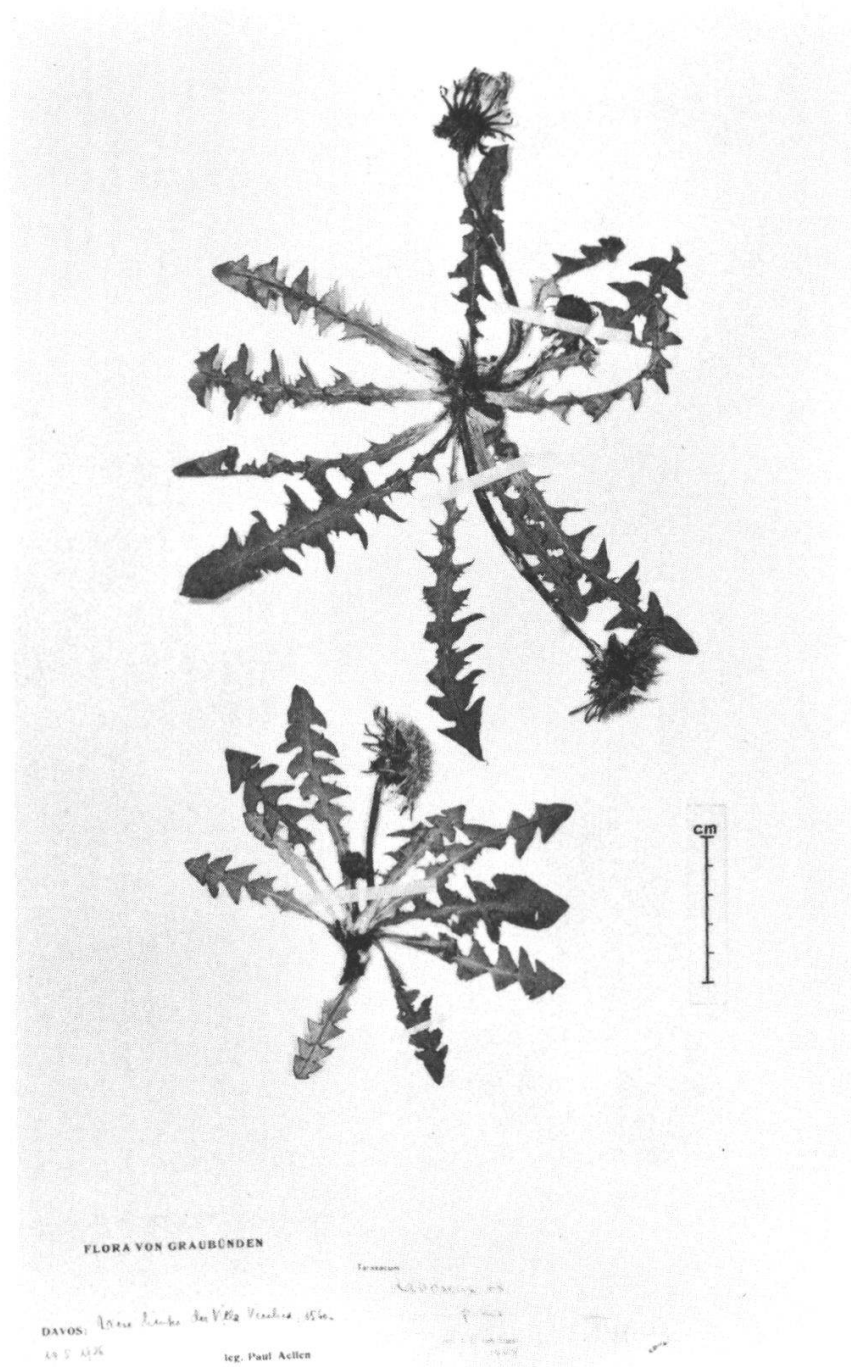


Abb. 42 *T. davosense*

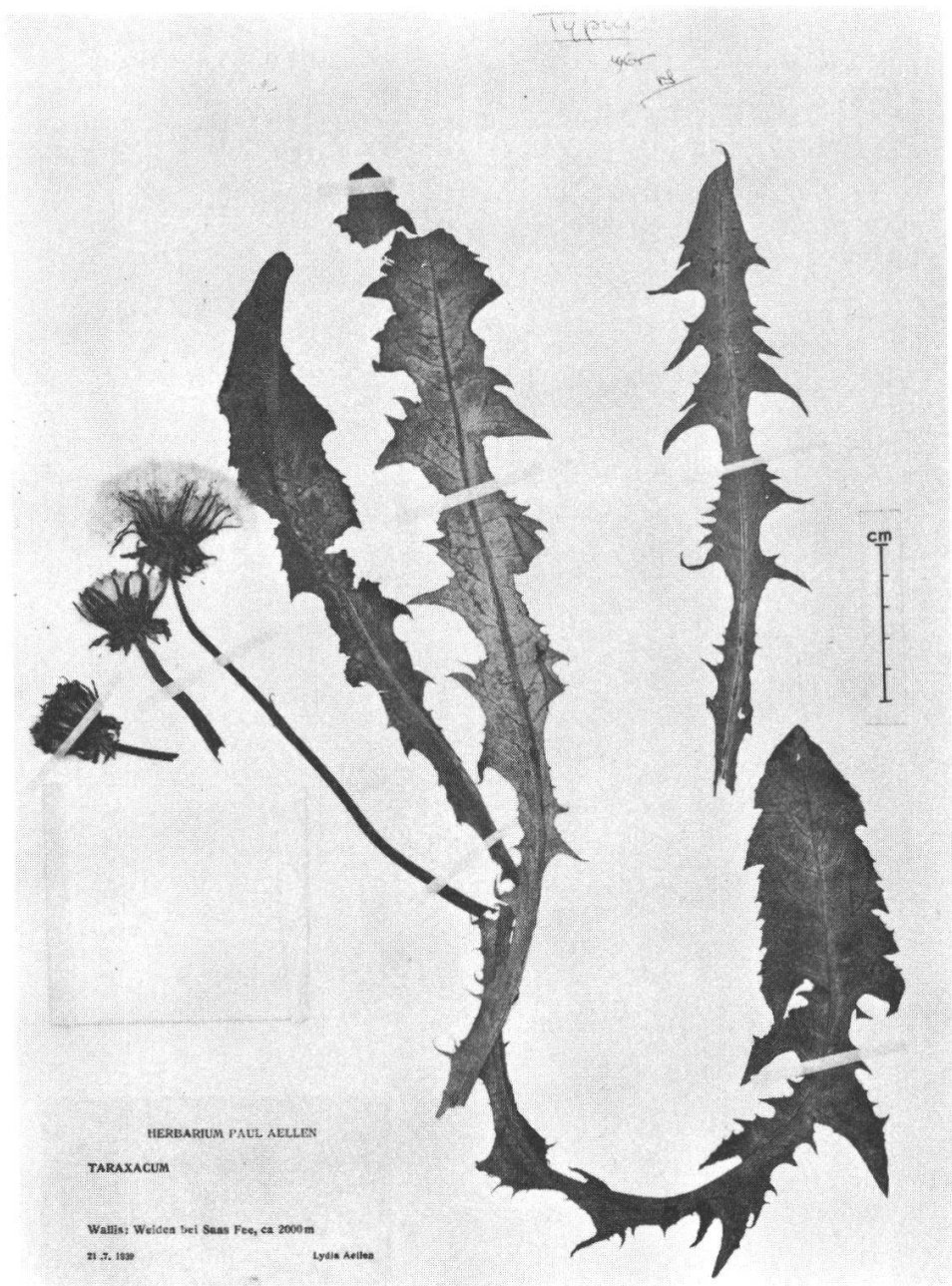


Abb. 43 *T. diapyrum*



Abb. 44 *T. elongatihastatum*

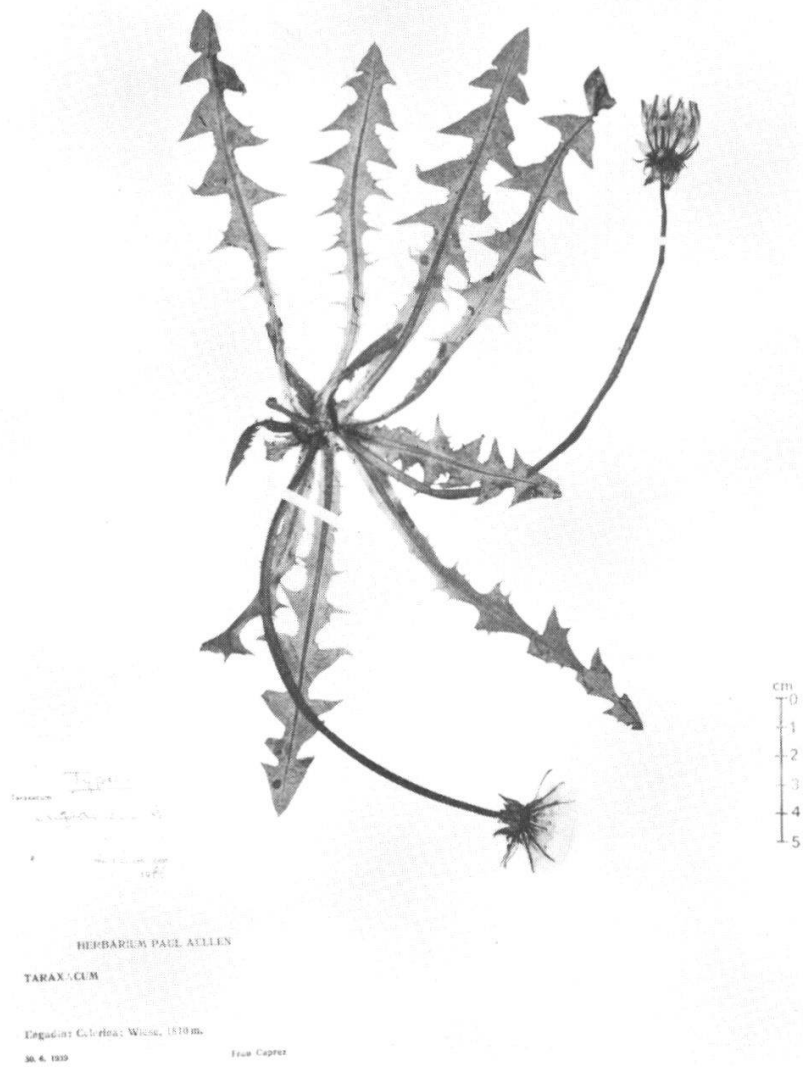


Abb. 45 *T. engadinense*

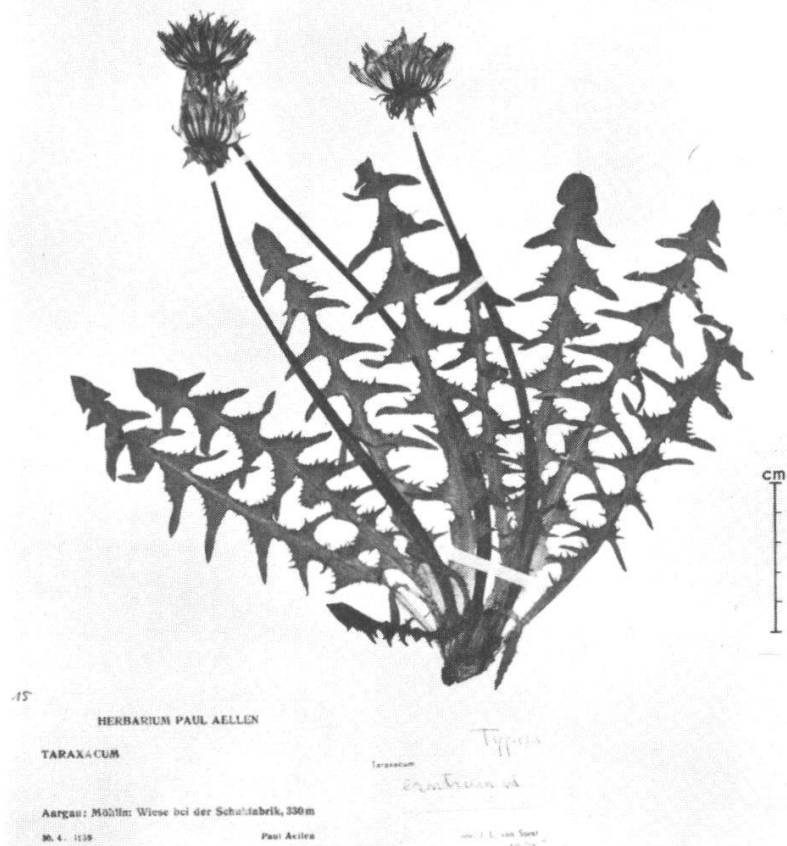


Abb. 46 *T.erntrum*





Abb. 48 *T. formosum*



Abb. 49 *T. grossum*



Abb. 50 *T. heterophylloides*

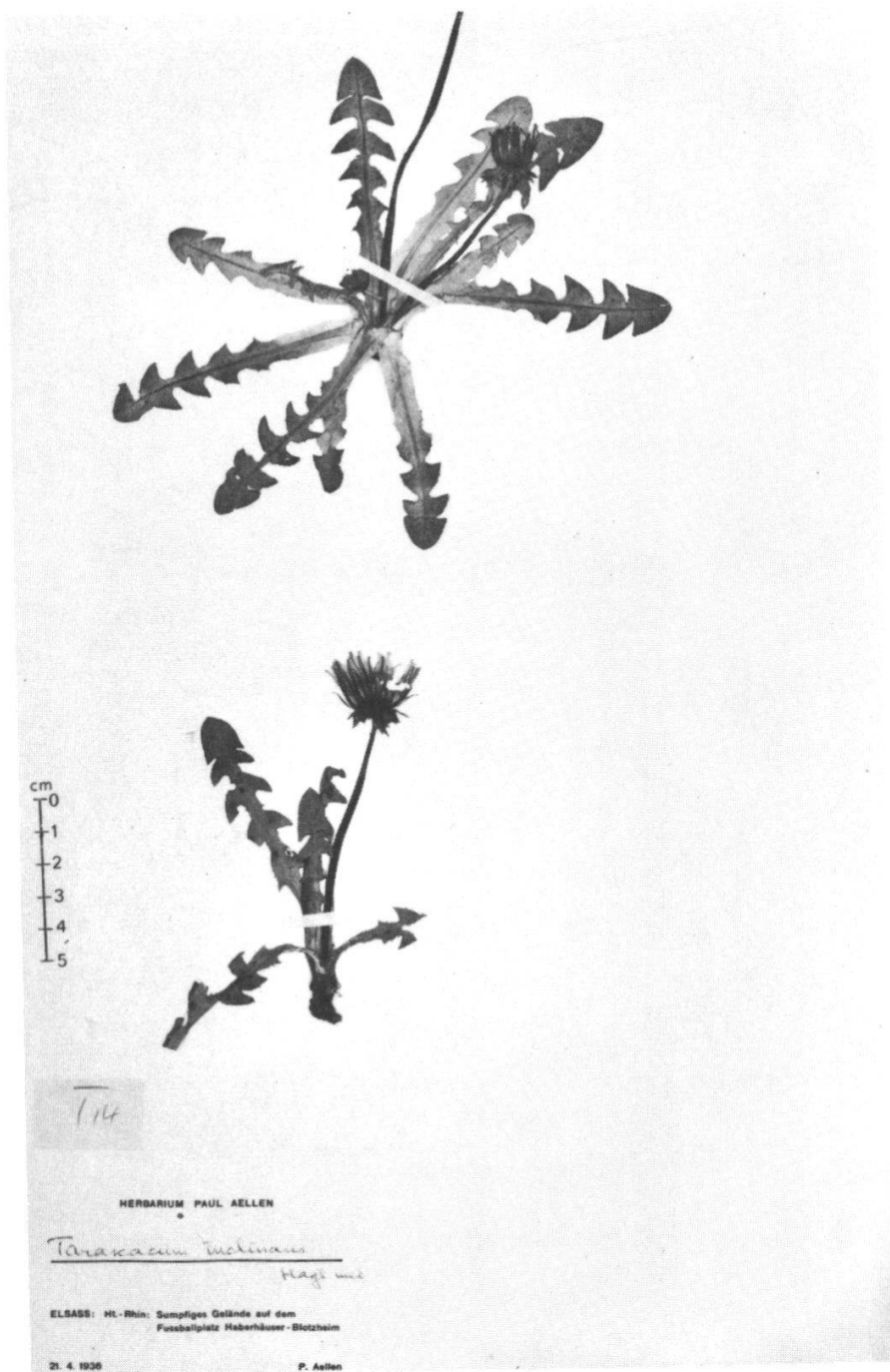


Abb. 51 *T. inclinaus*



Abb. 52 *T. informis*

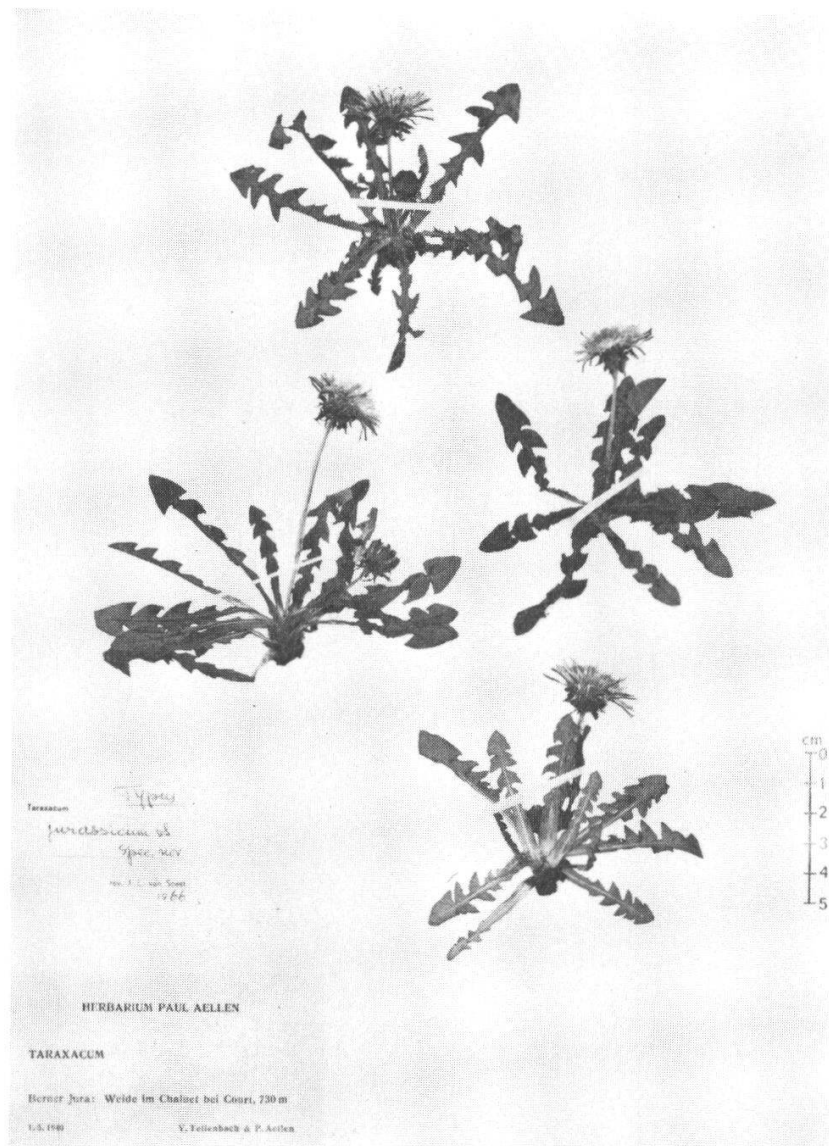


Abb. 53 *T. jurassicum*

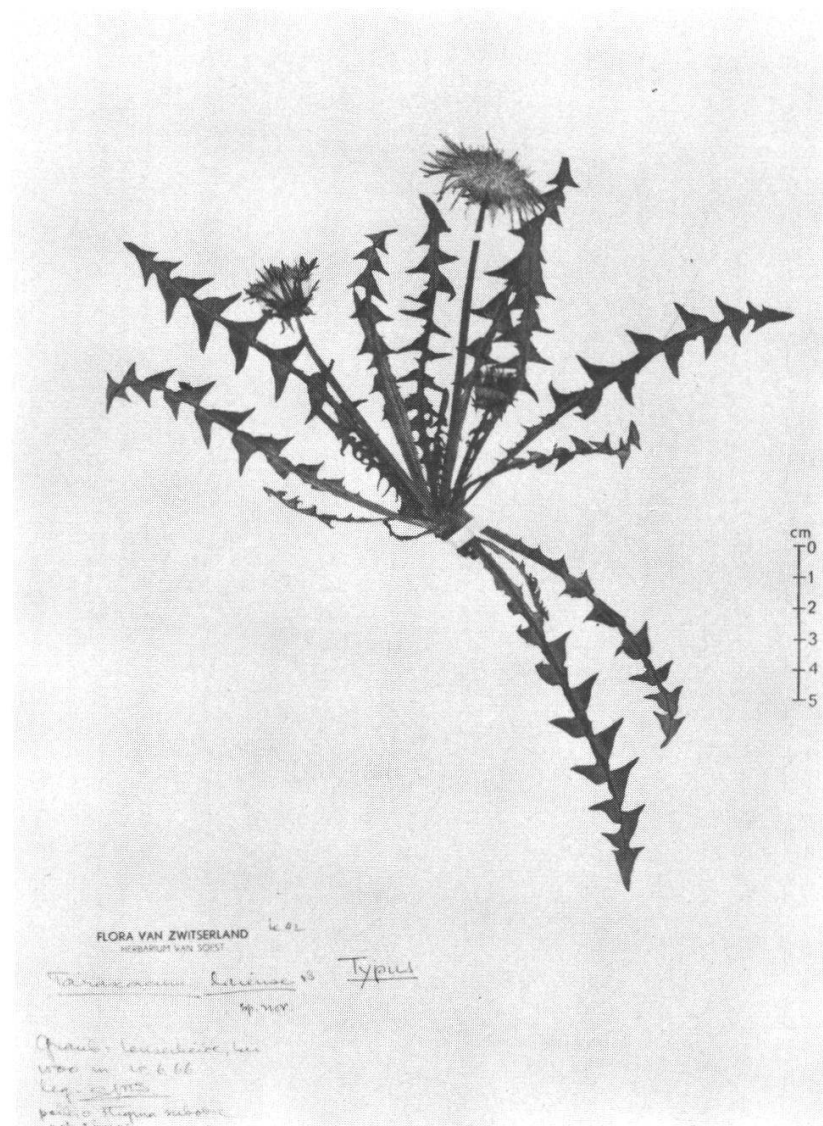


Abb. 54 *T. laienense*

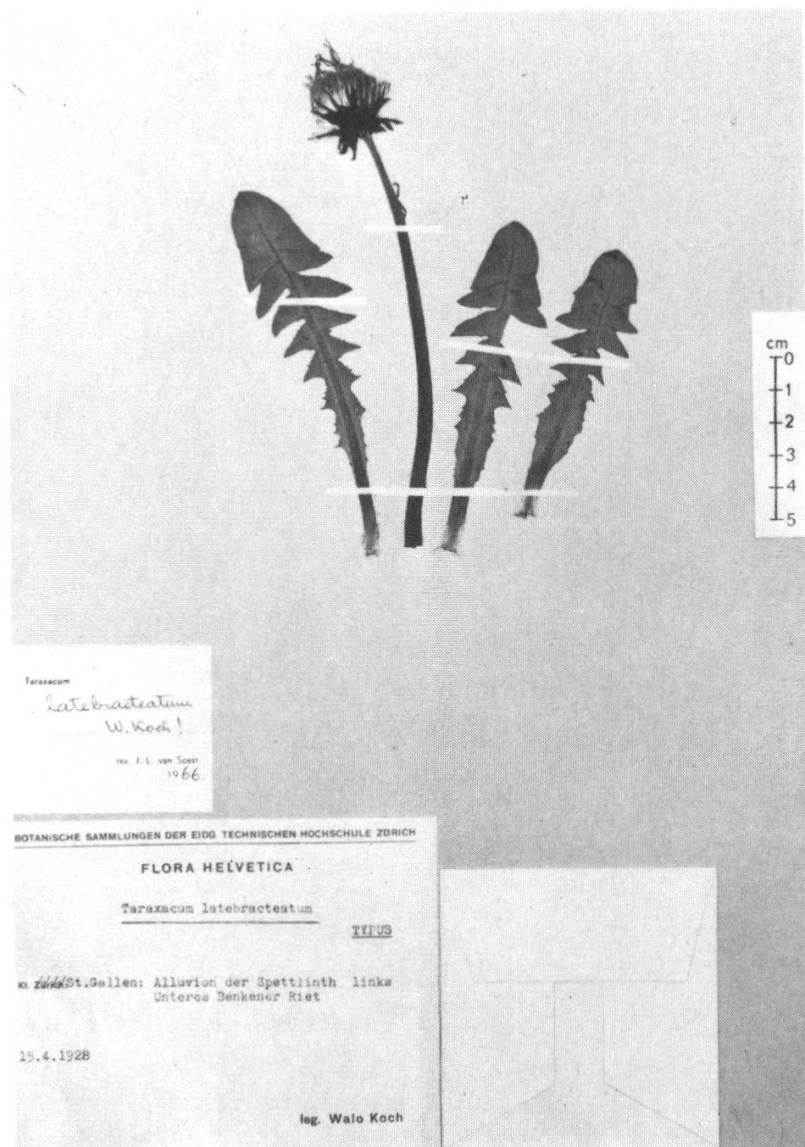


Abb. 55 *T. latebracteatum*



Abb. 56 *T. leucopodioides*

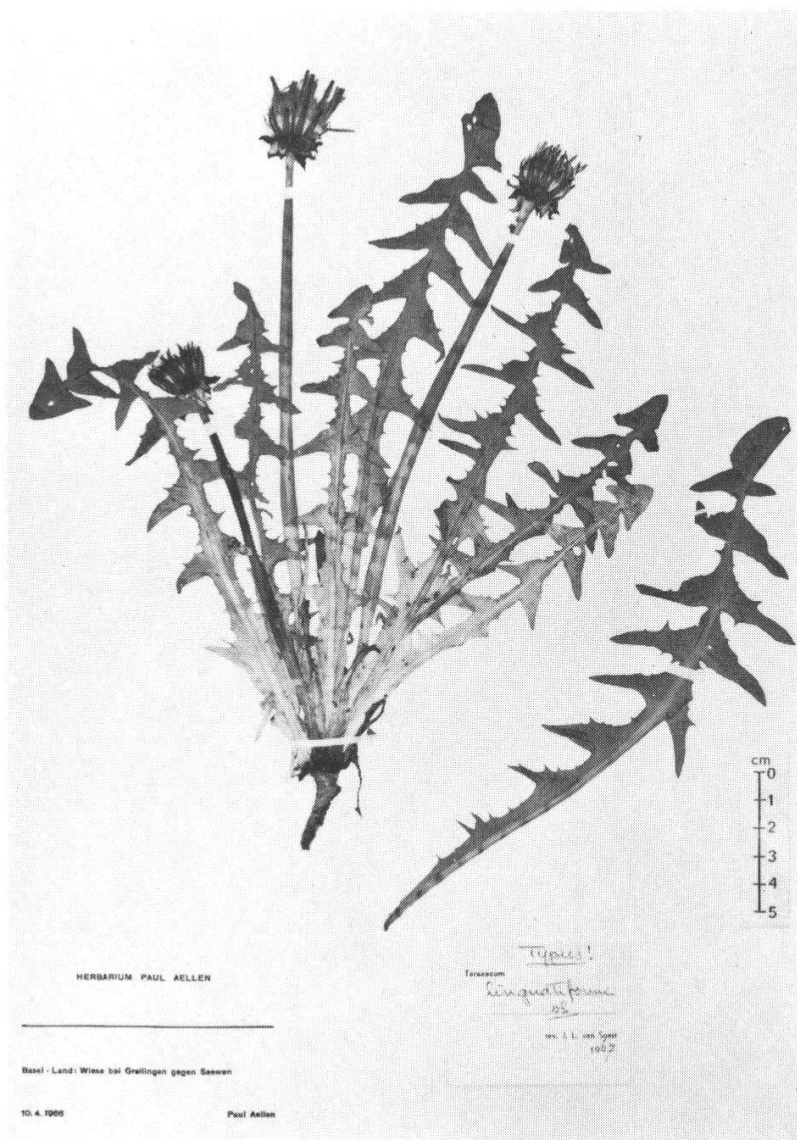


Abb. 57 *T. linguatiforme*

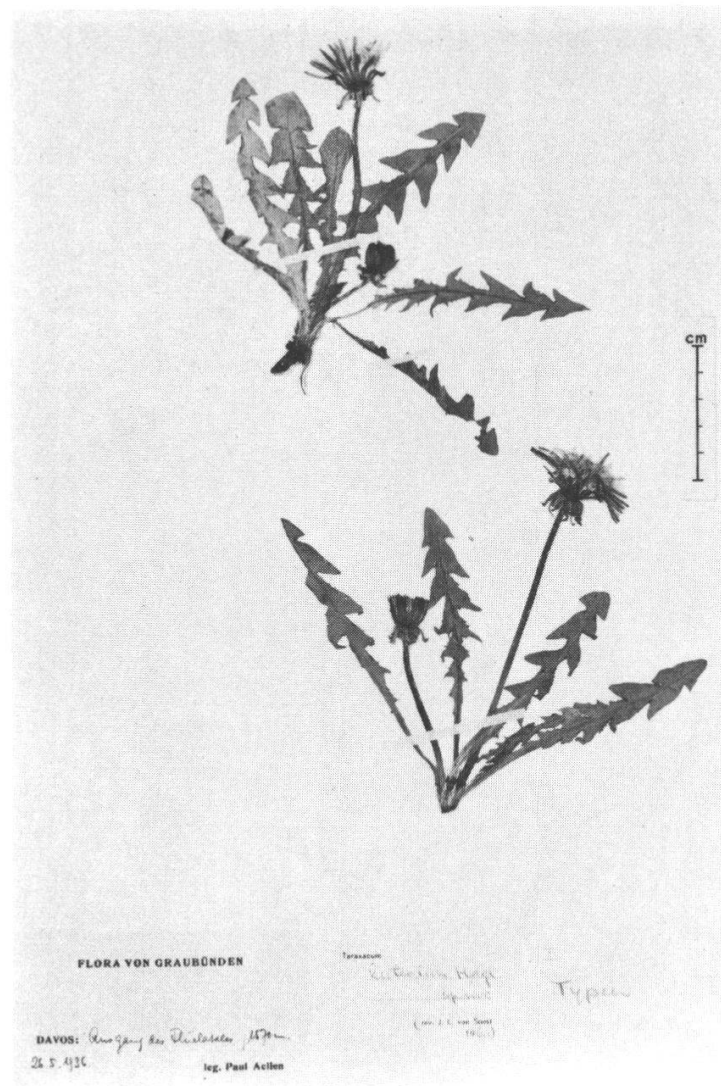


Abb. 58 *T. luteolum*

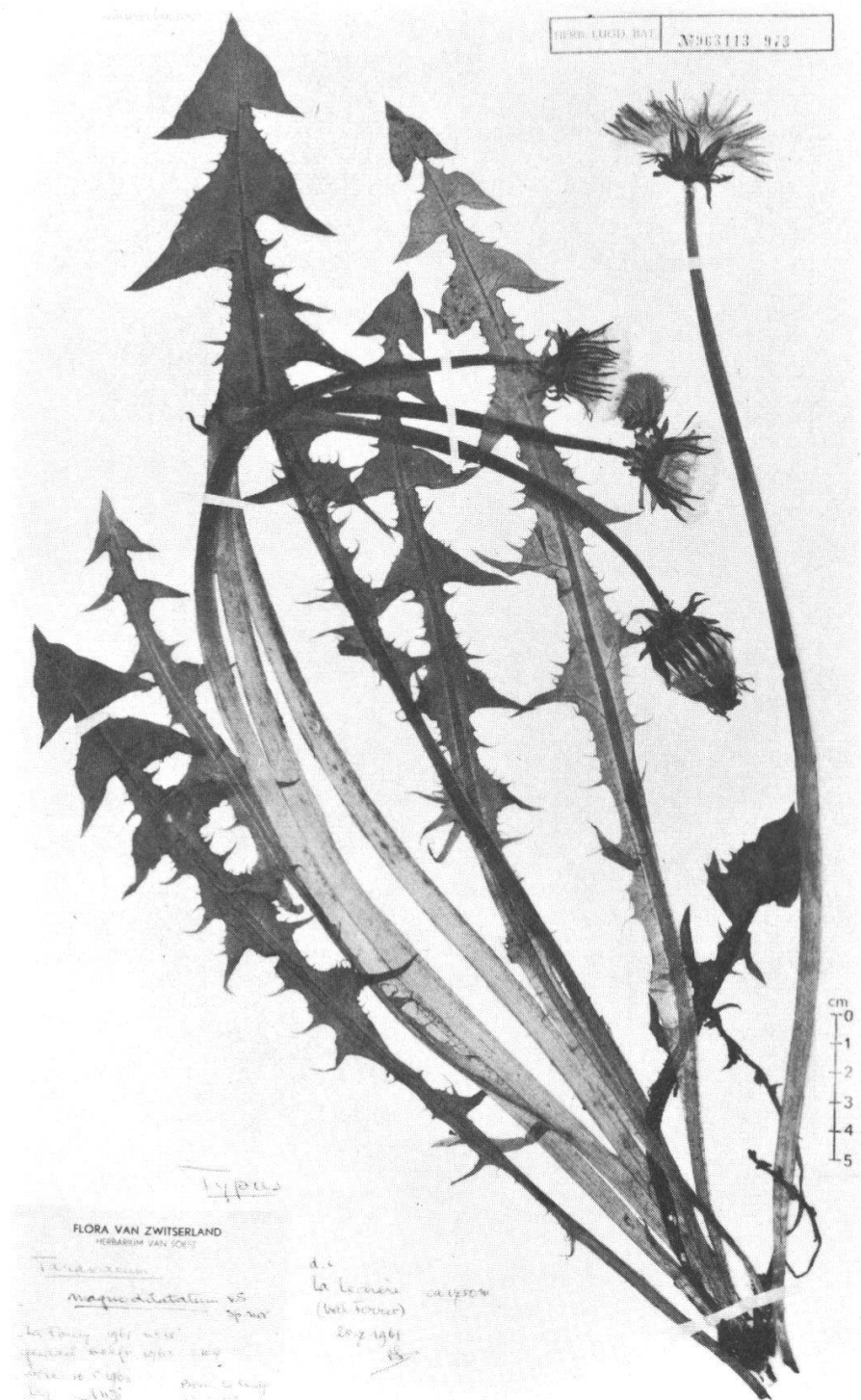


Abb. 59 *T. magnodilatatum*



Abb. 60 *T. meiseliae*

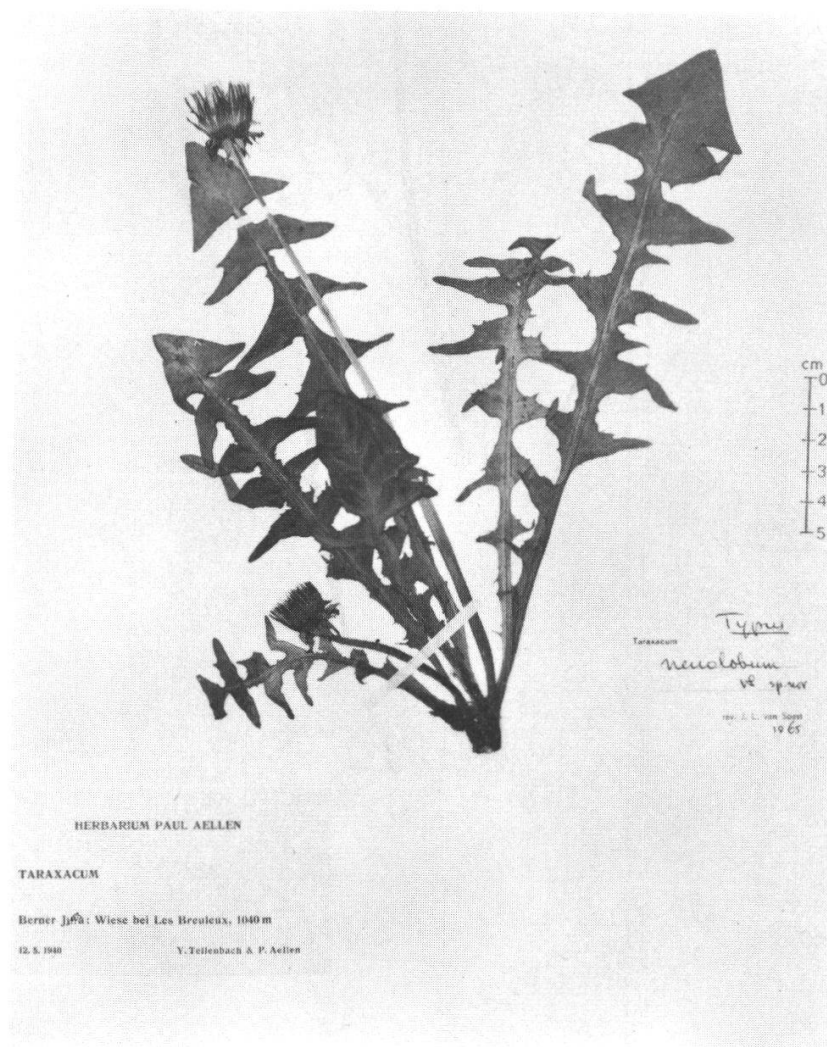


Abb. 61 *T. neuolobum*

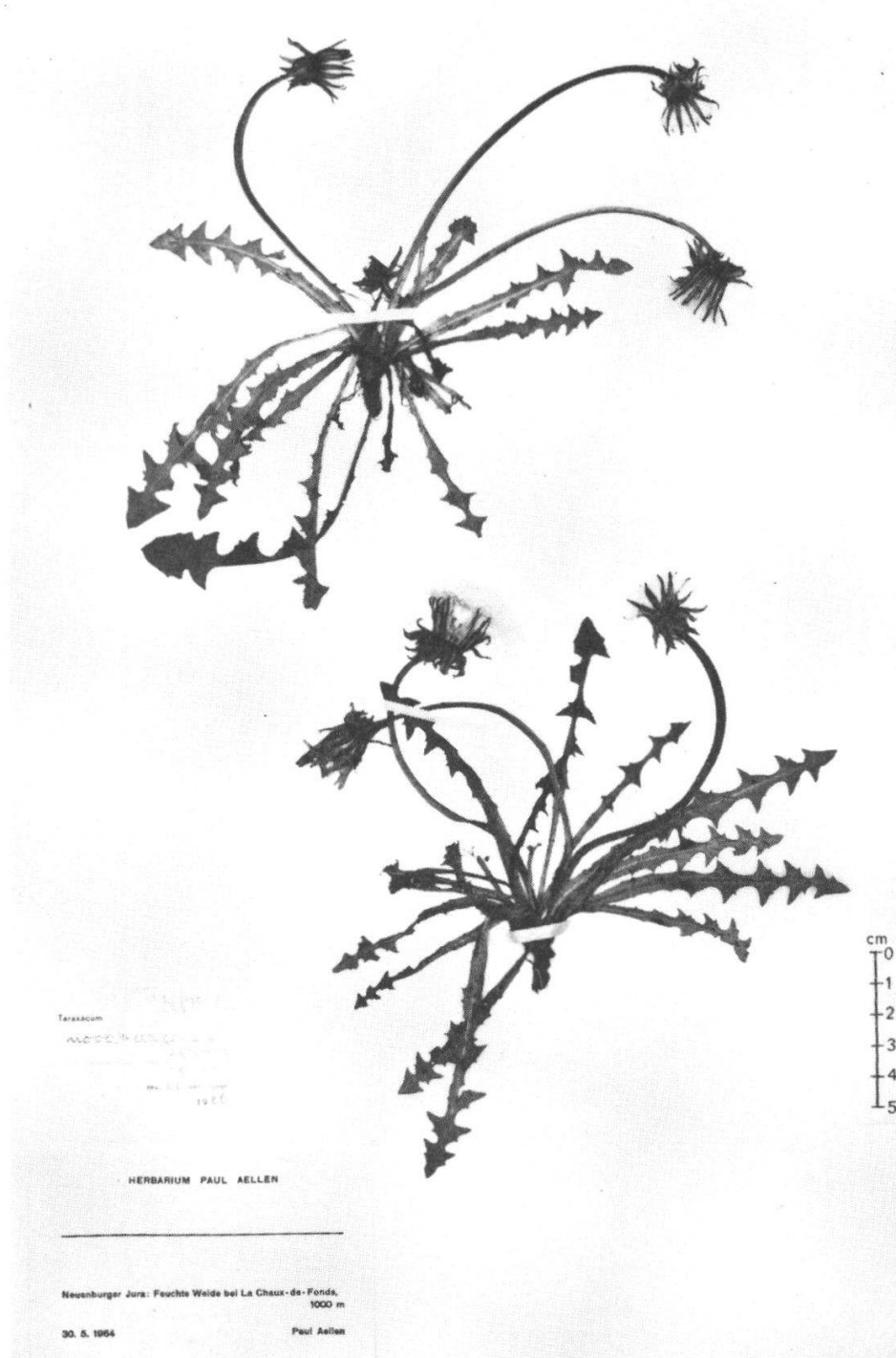


Abb. 62 *T. novoburgense*

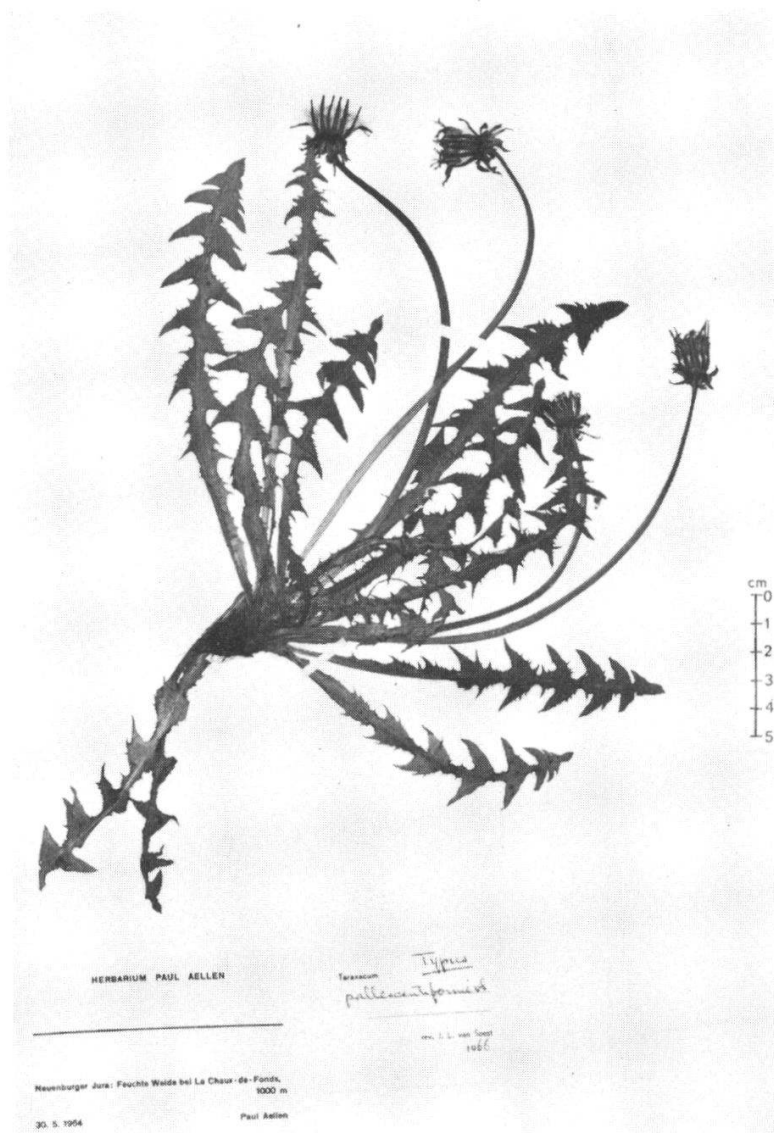


Abb. 63 *T. pallescentiforme*



Abb. 64 *T. pallidissimum*



Abb. 65 *T. paradoxachrum*



Abb. 66 *T. pedemontanum*

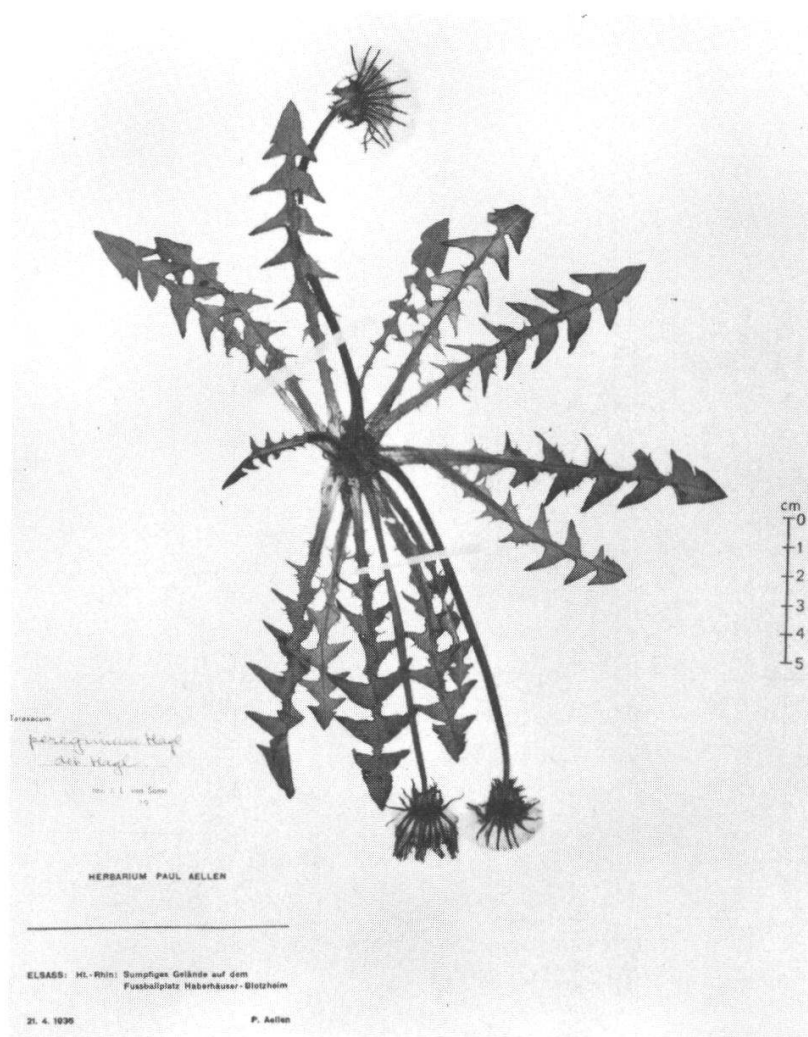


Abb. 67 *T. peregrinum*



Abb. 68 *T. piceatiforme*

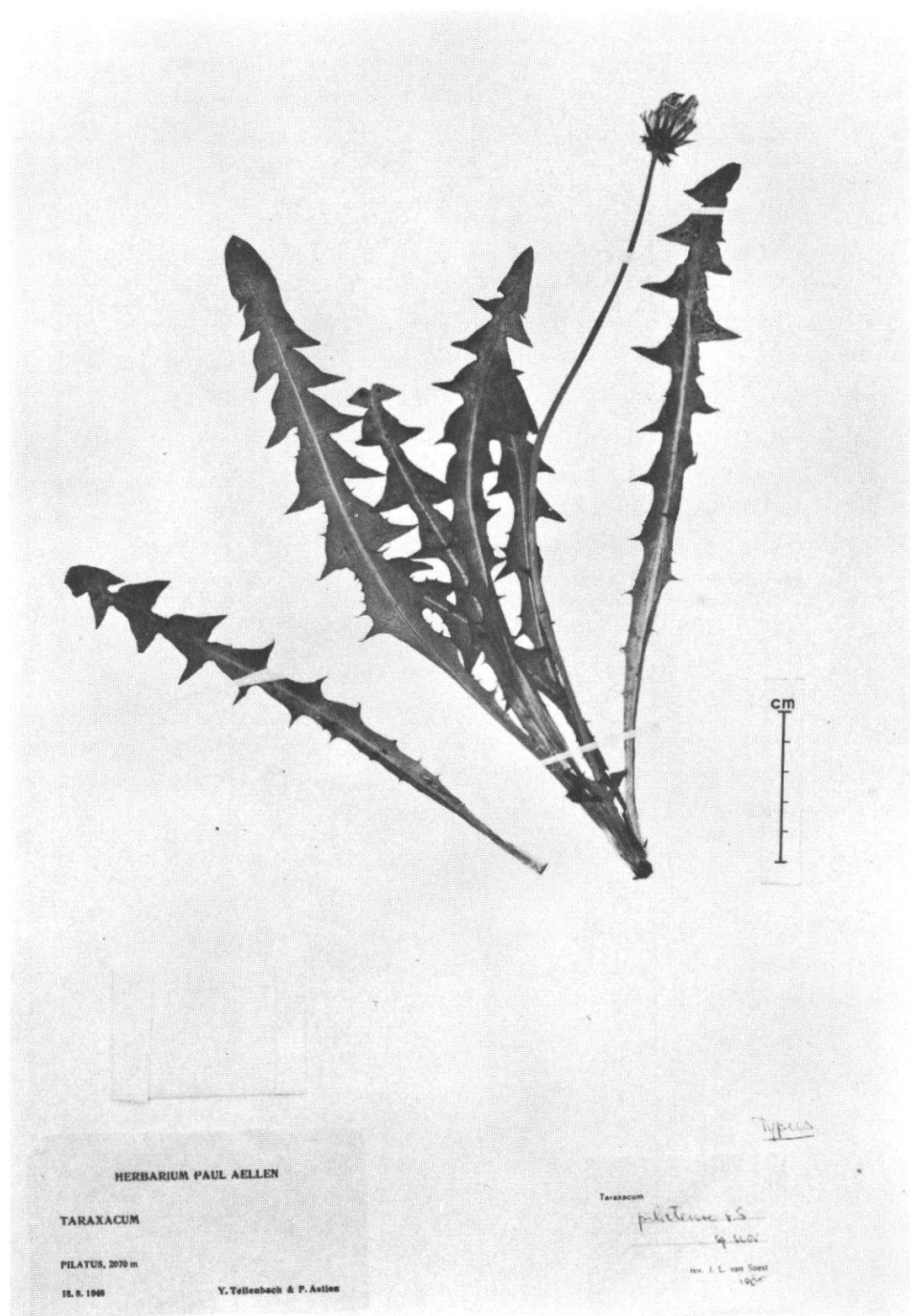


Abb. 69 *T. pilatense*



Abb. 70 *T. piluliferum*

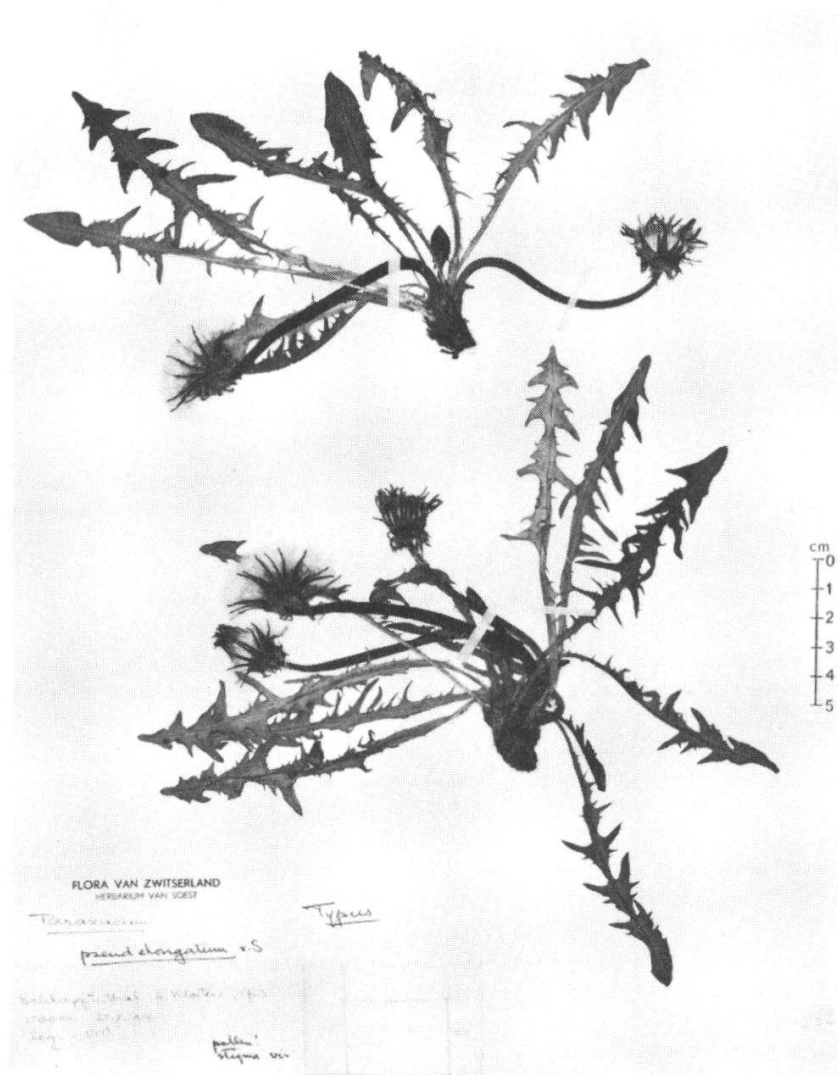


Abb. 71 *T. pseudelongatum*

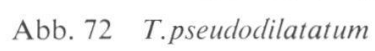




Abb. 74 *T. pyrochromum*



Abb. 75 *T. rigidum*



Abb. 76 *T. rufonervosum*

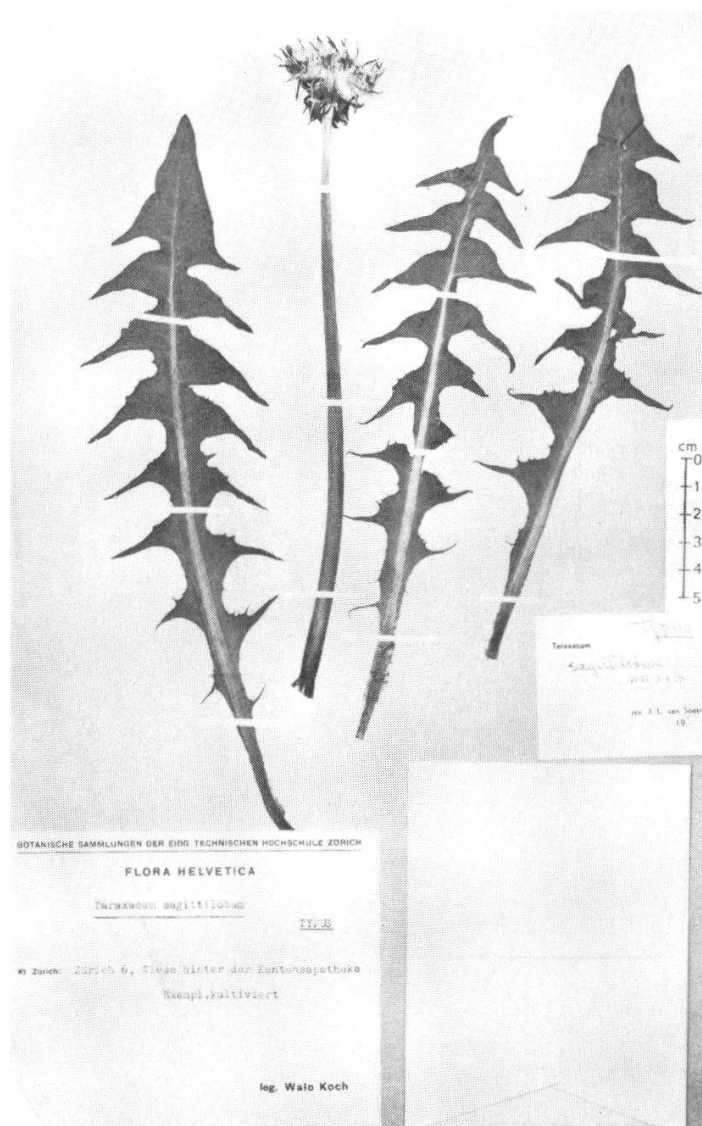


Abb. 77 *T. sagittilobum*

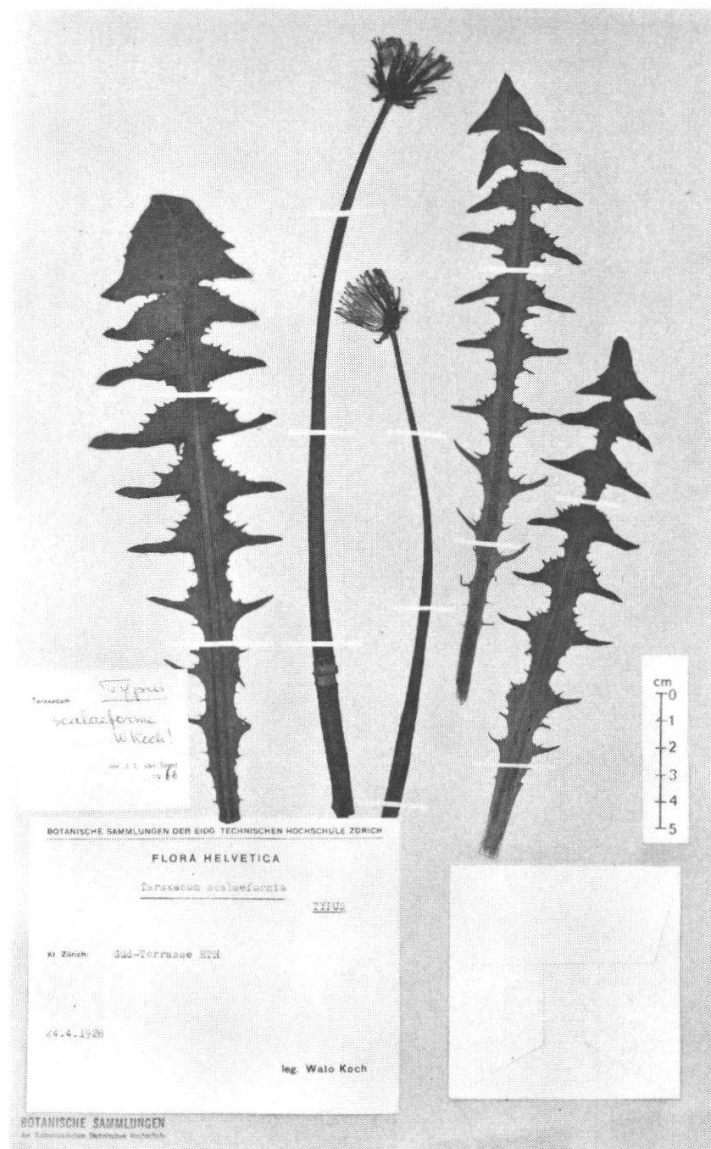


Abb. 78 *T. scabraforme*

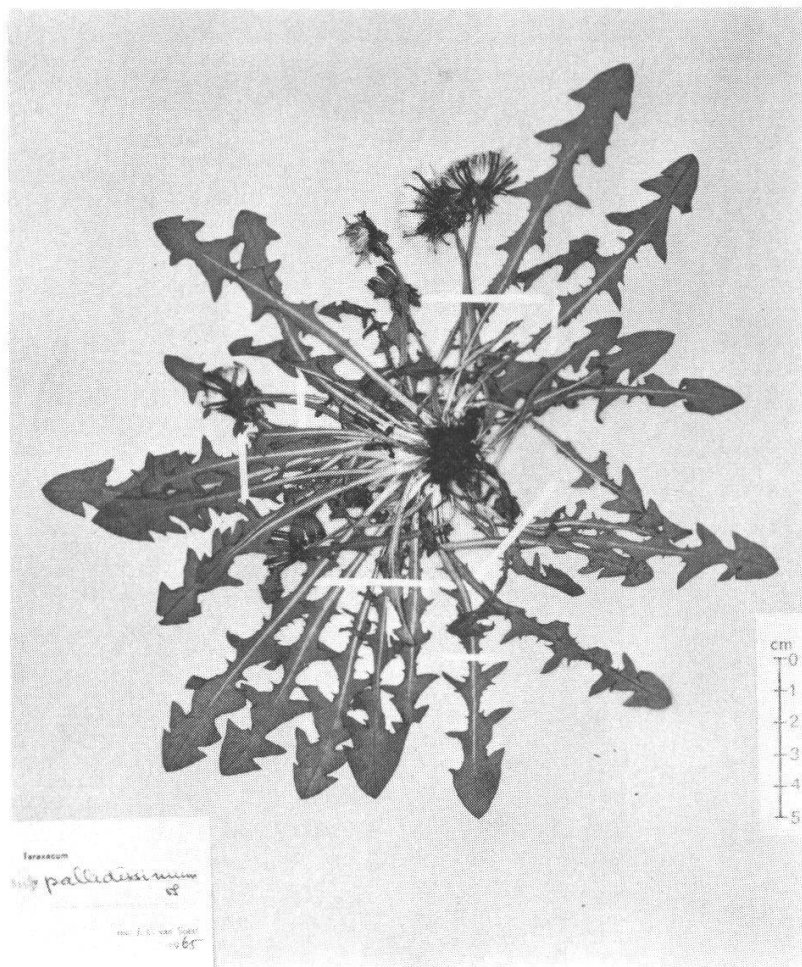


Abb. 79 *T. subpallidissimum*

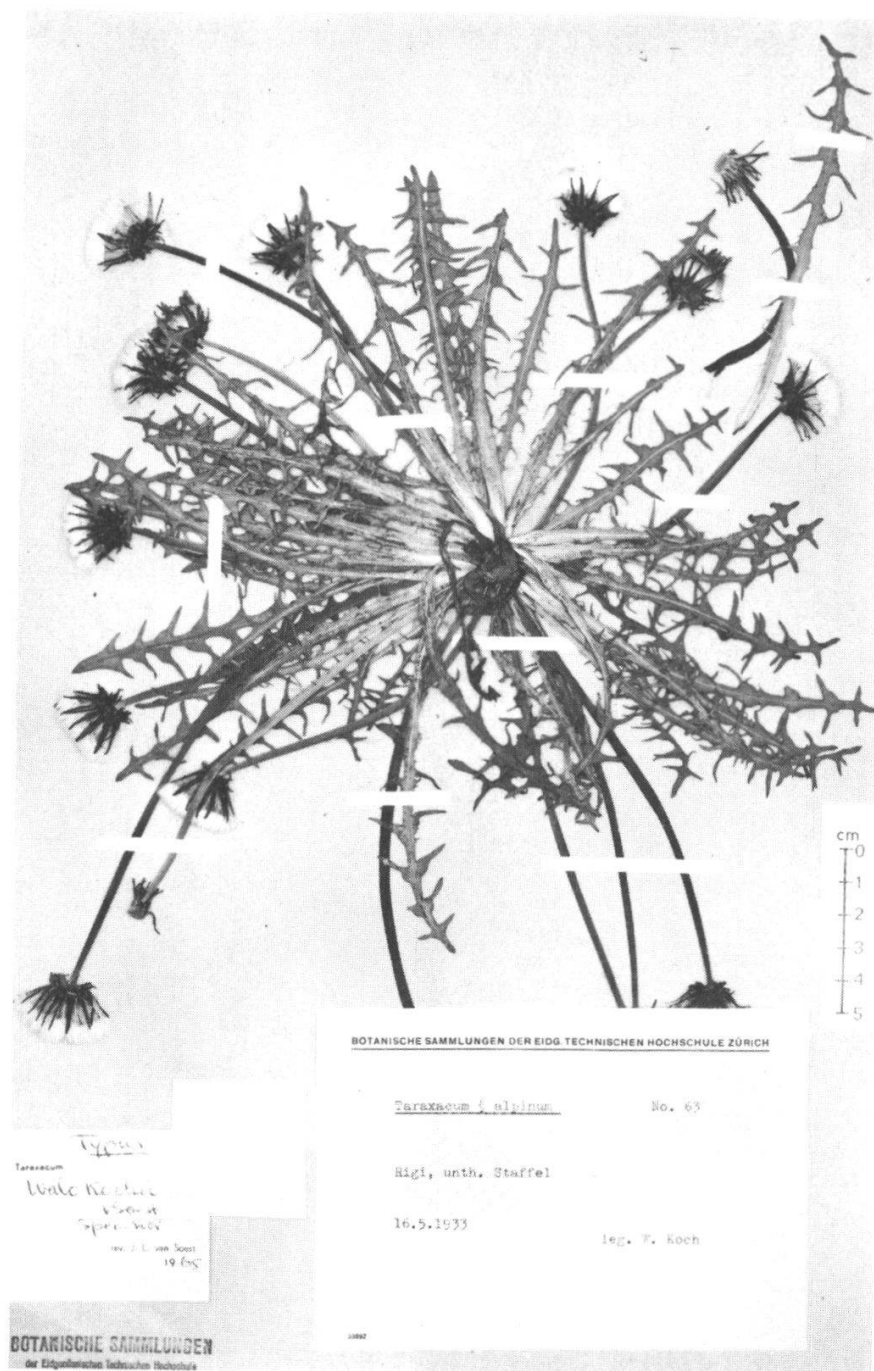


Abb. 82 *T. walo-kochii*