

form in more than one of the characters above denoted, two or more letters with the appropriate symbol are affixed. The use of Greek letters is reserved for those forms which I would denominate *lusus*.

I proceed to give diagnostic characters for the species and the more remarkable subspecies and varieties with which I am acquainted, subjoining occasionally critical observations derived from notes made in the course of an examination of the specimens contained in my herbarium. Such further information is added with respect to the distribution and synonymy of each species as appeared to rest on trustworthy authority.

LEONTODON, L. Involucrum imbricatum. Achenium columnare, sæpius in rostrum sensim attenuatum. Pappus conformis, persistens, plumosus, radiis exterioribus interdum brevioribus eplumosis. Plumulæ radiorum fere semper persistentes. Receptaculum subnudum.

Sect. I. **OPORINA.** Radix præmorsa. Pappi radii subæquales, omnes plumosi, ad basin dilatati serrulati. Capitula virginea erecta. Pili simplices.

1. *L. autumnalis*, L. Radice undique fibrosa; scapo diviso; foliis lineari-lanceolatis, vix acutis; pedunculis superne incrassatis, squamosis; acheniorum suberostrum costæ rugulosæ.

A. foliis pinnatifido-dentatis, lobis integris, subobtusis, linearibus; herba tota pilis simplicibus adspersa.

Hab. in graminosis Europæ præsertim septentrionalis frequens. Nascitur etiam in America boreali, dubitant tamen cl. Torrey et Gray an vere indigenus.

A + f. var. *pratensis*, foliis pinnatifido-dentatis; involucro fusco-villoso; scapo foliisque pilosis.

Hab. sparsim in pratis humidis. (Habui a *Scavaig*, *Isle of Skye*, Prof. Balfour; legi prope Cracoviam, et in montibus prope *Ambleside*, in Angliæ Comitatu *Westmoreland*.)

Syn. *Apargia pratensis*, Link.

-I, -d, + g. subsp. *palustris*, scapo subsimplici; foliis subintegerrimis, obsolete dentatis, glabris; capitulis parvis, in pedunculum attenuatis; involucri squamis glabris, atrovirentibus.

Hab. in paludosis, tam montanis quam maritimis. (Legi in Anglia, *Westmoreland Mountains*; *Black Mountains*, *Breconshire*; et in Hibernia, *Salt marsh by the Boyne near Drogheda*.)

+ F, -D, -I. subsp. *borealis*, scapo simplici, foliis subintegerrimis, obsolete dentatis; involucro fusco-villoso.

Hab. in torfosis subalpinis Europæ septentrionalis. (*Clova Mountains*, Prof. Graham et Prof. Balfour; *Sutherland*, Prof. Balfour; legi in Hiberniæ monte *Lugnaquilla* et in Scotiæ montibus *Grampians*.)

Syn. *Hieracium Taraxaci*, L. *Apargia Taraxaci*, Sm.

Hetruria (*Val di Chiana, La Verna, Fiesole, Apennino Pistoiese*), semper tamen in montosis soli expositis.

Syn. *Apargia Rosani*, Ten. Stirpem Tenoreanam in regno Neapolitano nascentem nunquam vidi, hanc tamen ex diagnosi Candolleano, ipsissimam fore speciem quam ego jam plurimis annis in Hetruria observavi, nullum dubito.

This species is considerably larger in all its parts than *L. Villarsii*, nevertheless it is doubtful whether the adpressed outer scales of the involucre would afford a sufficient mark of specific distinction, but, in the present state of our knowledge of this group, we may assume that the roughness of the hairs with which the leaves are abundantly clothed, together with the muricated achenia, furnish characters which do not allow us to unite this with the last-mentioned species.

Sect. III. ASTEROTHRIX. Radix fusiformis, verticaliter descendens. Capitula virginea nutantia. Foliola involucri 3-5-seriata, imbricata. Pili stellati. Achenia muricata plus minus rostrata.

* *Pappus ut in § II.*

10. *L. incanus*, Scop. Radice simplici subramosa; foliis oblongis integerrimis, seu leviter denticulatis, e pilis subæqualibus brevibus stellatis utrinque incanis; involucri foliolis lanceolatis, atrovirentibus, cum scapo apice parce squamoso, pube brevissima stellata, pilis nonnullis furcatis intermixta, obtectis; achenio superne attenuato, ruguloso.

Hab. in montosis, præcipue calcareis Europæ mediæ. Habui ex alpibus Rhæticis (*Albula*, E. Thomas, *Tyrol*, Bartling), ex Carpathorum monte *Chocs*, comm. Dr. Flittner, atque ex collibus prope Vindobonam, a *Kovats*.

Syn. *Hieracium incanum*, L. *Apargia incana*, Scop. *Leontodon alpinum*, Vill. (see D.C. Prod. vii. p. 103).

+ **D** + **E**. subsp. *arenarius*, scapo bi-trifido; foliorum indumento aliquantum breviori, involucri foliolis exterioribus recurvis.

Hab. in arenosis ad ripas fl. *Isonzo* prope *Goritz* unde possideo specimen unicum immaturum; prope *Togliano* et *Monfalcone*, Reich.

Syn. *Apargia Berinii*, Bartl. *A. arenaria*, Moretti. *A. canescens*, Sieb.

There are no characters assigned to *L. Berinii* in the descriptions of authors which justify its being retained as a distinct species, and it is doubtful even whether it should rank as more than a variety produced by the peculiar position in which it is found in the sandy detritus of the rivers in Friuli.

The character of the pubescence is identical in both forms, but it appears to be slightly shorter in the subspecies *arenarius*. In the ordinary form the stellate hairs of the scape become gradually

shorter from the base upwards, and ultimately the radiated star with which each is crowned becomes nearly sessile.

11. *L. tenuiflorus*, D.C. Prod. Radice simplici, interdum 2-3-furcato; foliis oblongo-linearibus, integerrimis, obscure virentibus; pilis rigidis stellula brevi coronatis, obtectis, scapo sparsim squamoso, versus basin folio unico lineari seu oblongo-lineari instructo, glabro, vel pilis stellulatis paucis adperso, superne, cum involucri squamis lineari-lanceolatis, pube rara brevissima subincano; achenio breviter rostrato, præsertim superne muricato.

Hab. in calcareis subalpinis Insubriæ. Legi juxta Lacum Larium copiose plerisque locis. (*Monte Crocione, prope Tremezzo, Villa Arcolani.*)

+ *i.* foliis versus medium sinuato-dentatis.

Habui ex *Monte Salvatore* prope *Lugano* comm. E. Thomas.

Syn. *Apargia tenuiflora*, Gaud., descr. ex spec. a *Monte Salvatore* quæ nobis ad varietatem spectare videntur, cum forma *Alpium Insubriæ* solennis gaudet foliis integerrimis, cæterum descr. Gaudiniano omnino conformis.

The less numerous hairs crowned with a shorter star might not suffice to distinguish this species, but the presence of scales and a cauline leaf on the stem, the narrower and longer involucre leaflets, and the more beaked and rougher fruit, furnish abundant points of specific distinction which have not been sufficiently pointed out.

This and the preceding species fall into the section *Apargia* of Koch; but that group, which is founded on a difference in the structure of the inner rays of the pappus, which in these are flattened and serrulate at the base, while in the succeeding species they are feathered throughout, appears to me quite artificial, as in all other important respects it is closely allied with the true *Asterothrices*; but I find that if the pappus alone be considered, it is scarcely correct to separate these from the preceding group which Koch has termed *Dens leonis*. All the rays of the pappus are not feathered in *L. incanus* and *L. tenuiflorus*, for I have always found a few short scabrous hairs; so that in the structure of the pappus these species exhibit a nexus between the two groups, which it might otherwise be desirable to distinguish as separate genera.

** *Pappi radii e basi plumosi, exteriores breviores interdum scabri.*

12. *L. saxatilis*, Reich. (?). Radice crasso, fusiformi; foliis antrorsum sinuato-dentatis pilis stellatis vestitis; scapo pilis raris adperso; involucri laxiusculi foliolis lineari-lanceolatis, acutiusculis, glabris aut margine et dorso pilis brevibus rigidis ciliatis, in series 4-5 haud æquidistantibus instructis; achenio longe rostrata, præsertim in rostro muricato.