

NOTES ON *STELLARIA NEMORUM* L.

*STELLARIA NEMORUM* L. SUBSP. *GLOCHIDISPERMA* MURBECK  
IN THE NETHERLANDS

BY

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INTRODUCTION

*Stellaria nemorum* L. is a plant of rare and local occurrence in the Netherlands, growing in woods.

With a few exceptions (Leiden, Dordrecht 1915) it is restricted to the eastern part of the country, mainly to the very southeast (southern district of the province of Limburg) and the central northeast (near the village of Norg in the province of Drente).

When collecting specimens in Limburg and Drente in 1950 I found them to be of mutually different appearance, especially on account of the indumentum of stems and leaves and of the length of the leafstalks. It was judged worth while to continue and to extend the study of the two populations.

The late professor Siertsema had already noticed the existence not of one but of two taxa in the Netherlands and on the labels in the Leiden herbarium had named them *Stellaria nemorum* L. and *Stellaria nemorum* L. subsp. *glochidosperma* var. *laevibes*. — (subdivisions without names of authors) —, the latter of which was new to the Netherlands. As far as we know, however, he did not publish his findings.

A closer and comparative study of european herbarium and of the literature led us to nearly similar results and made it clear that representatives of two types of *Stellaria nemorum* do occur in the Netherlands. The two taxa might even be conceived as two separate, yet closely related species, which would depend on the investigator's opinion on species limits. We found already many differences but, since results of breeding experiments are not available yet in sufficient quantity, we would not make any statement on taxonomic rank of the two groups here. We leave them in the rank of subspecies, as it was generally done by workers on the present subject.

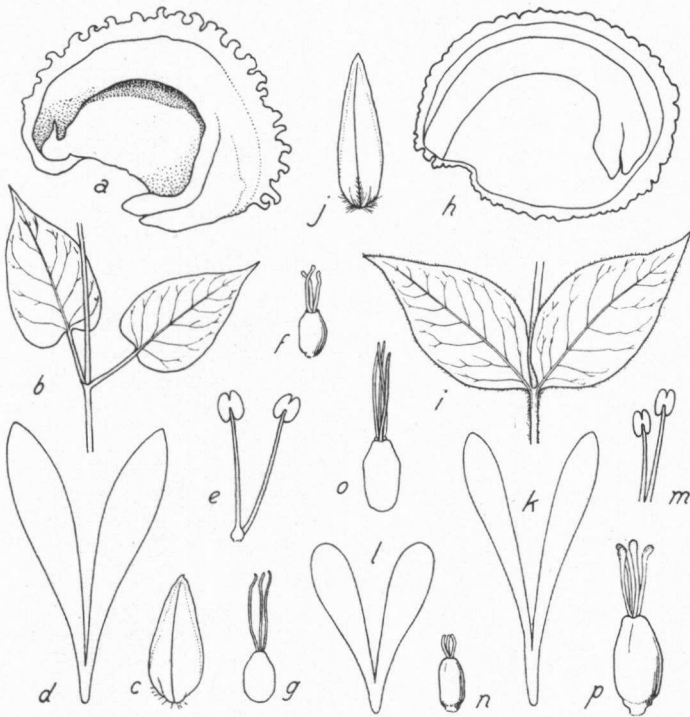
However, publication of the data obtained so far on *Stellaria nemorum* in the Netherlands might be desirable at present, as it may mean a connecting link between recent papers on the same subject from Great Britain and Belgium. Our data concerning the Netherlands fill up a gap in the known area of the subspecies *glochidosperma* Murb., having been extended recently in France, into Spain, LAWALRÉE (1953 a, b) and into Great Britain, GREEN (1954).

For the sake of a comprehensive terminology it is desirable to state in advance that the Limburg specimens are considered to belong to *S. nemorum* L. subsp. *nemorum*, whilst the plants of Drente, few doubtful specimens excepted, belong to *S. nemorum* L. subsp. *glochidisperma* Murb.

During the present studies we made use of the herbaria of Groningen, Leiden (State herbarium and herb. of the Roy. Bot. Soc. of the Netherl.), Utrecht, Wageningen. Our thanks are due to dr V. Westhoff and mr H. Doing Kraft for valuable ecological information.

#### DESCRIPTION AND DISCUSSION

Although Murbeck was not the first to distinguish various types of *S. nemorum* L., he was the first to publish a detailed comparative description of the two taxa, which in his opinion deserved the rank of subspecies. He summed up quite a number of differences between his subspecies *glochidisperma* and the type-comprising taxon concerning colour of plant, height of stems, number of stolons, indumentum, presence or absence and length of petioles, shape of leaves, size



*Stellaria nemorum* L. a-g, subsp. *glochidisperma* Murb.: a, seed (section,  $33\frac{1}{3} \times$ ); b, uppermost pair of leaves under inflorescence ( $2/3 \times$ ); c, calyx leaf; d, petal of early flower; e, stamens; f, g, pistils in various stages of development; (c-g  $3\frac{1}{3} \times$ ). h-p, subsp. *nemorum*: h, seed (section,  $33\frac{1}{3} \times$ ); i, uppermost pair of leaves under inflorescence ( $2/3 \times$ ); j, calyx leaf; k, l, petals of early and later flower resp.; m, stamens; n, o, p, pistils in various stages of development; (j-p  $3\frac{1}{3} \times$ ).

of bracts, position of main pedicels at fruiting stage, size of fruit in relation to calyx, appearance of seeds.

Most of the differences mentioned are also evident on comparison of the two main dutch populations. The bending down of the main fruit stalks, however, is not restricted to subsp. *nemorum*, but also happens to take place in subsp. *glochidisperma*. On the other hand we discovered some more differences, especially in flower characters, in the dutch material at least.<sup>1</sup> All these differences, being quanti-

Characters of *Stellaria nemorum* L.

subsp. <i>nemorum</i>	subsp. <i>glochidisperma</i> Murb.
plants higher, paler green; tend to be red when young, only in basal parts of basal internodes	plants lower, darker green; tend to be rather red when young, especially in lower internodes
stolons not so numerous	stolons numerous
stems usually thicker	stems usually thinner
leaves solid, longer and narrower (relatively at least), slightly cordate to cuneate at base, stalked (lower leaves) to sessile (upper leaves); leaves at node under first branching of inflorescence usually sessile	leaves delicate, shorter and (relatively) wider, obviously cordate at base, often with undulated margin, stalked to sessile, stalks relative to leafblades longer; leaves at node under first branching of inflorescence usually stalked
indumentum $\pm$ rich, also on basal parts of plant	indumentum less developed, basal parts of plants almost glabrous, except when young
bracts gradually diminishing in size	bracts abruptly diminishing in size
calyx bowl- to funnel-shaped	calyx bowl-shaped
sepals more narrowly elliptical to ovate, bearing bristles and glandular hairs	sepals somewhat bigger in size, identical in shape or relatively wider, less pubescent, particularly in matters of glands
corolla smaller <sup>2</sup>	corolla larger
petal lobes spatulated, narrow; widest zone near to the top	petal lobes spatulated, wider; widest zone not so near to the top
filaments falcate, slender; glands at base of epispalous filaments not so obvious	filaments falcate, but not so slender; glands at base of epispalous filaments obvious
anthers smaller	anthers larger
ovary cask-shaped	ovary egg-shaped
styles (and stigmas) slender <sup>3</sup>	styles (and stigmas) not so slender <sup>3</sup>
fruits at most twice as long as calyx	fruits usually twice as long as calyx
edge of ripe seeds furnished with hemispherical to cylindrical and unarmed tubercles	edge of ripe seeds furnished with long, cylindrical or conical papillae with barbate caps
flowering time earlier, (May and June in the Netherl.)	flowering time later (June until the middle of July in the Netherl.)
habitat: moist forest on rich soils, pH $\pm$ 6-7	habitat: dryer forest on poorer soils, pH $\pm$ 4-5
chromosomes $2n = 26$ (counted by Peterson)	chromosomes $2n = 26$ (Peterson)

<sup>1</sup> On my request preliminary studies were made by miss C. S. Duintjer.

<sup>2</sup> to be considered at time when both subspecies are flowering.

<sup>3</sup> Comparison with length of ovary is difficult, as their mutual length ratio depends on stage of development.

tative in nature, are obvious on comparison of the two taxa, but the characters are probably not so easy to handle in a study of one single subspecies.

The known differences, as presented by several workers and as they were met with in the dutch plants, may be listed in the foregoing table.

A brief discussion is needed concerning several paragraphs of the present list.

In my opinion the index and shape of the leaves in *S. nemorum* are on the whole usable as diagnostic characters in comparable stages of full-grown plants. Yet difficulties remain and we should point here to remarks by P. S. GREEN in his paper (1954), who established a great deal of overlapping. Thus a discrepancy between the usefulness of the character in fieldbotanical research and the results of statistical calculations may exist. In any case is there sense only in comparing leaves at corresponding nodes, the node under the first branching of the cyme being preferable for that purpose. Moreover the leaves at that node are usually sessile in subsp. *nemorum*, while stalked in subsp. *glochidisperma*.

The decrease in size of bracts — gradual in subsp. *nemorum*, abrupt in subsp. *glochidisperma* — is a good diagnostic character and the same holds for the relief of the edge of the seeds, mentioned above (see also GREEN, 1954).

HEGI (1911) denied the occurrence of papillae with barbate caps in subsp. *glochidisperma* Murb. It was one of his motives, — an invalid one — to the rejection of the subspecific epithet, which he thought inappropriate, in favour of *circaeoides* Schwarz. The other reason was a question of supposed priority, to be dealt with below.

The difference in size of flowers observed probably is mainly due to difference in flowering time, combined with the phenomenon of the earliest flowers being larger than those developed towards the end of the season. Thus, by the time when subsp. *glochidisperma* starts to unfold its first flowers, which have maximal size, subsp. *nemorum* already bears its later and smaller flowers.

Difference in flowering time between the two taxa was already established by PIERRAT in France, who recorded a difference of ten days at least, his *S. montana* (= subsp. *glochidisperma* Murb.) being the latter to unfold its flowers. Still greater difference is sometimes evident in the Netherlands, where it may amount to about 3 weeks. Culture experiments in the University botanic garden "de Wolf" have revealed that this is not a mere question of latitude; even after several years of cultivation in one locality the difference in flowering time continues to exist. Thus there seems to be rather an effective barrier to gene exchange, a restriction of possibilities for such an exchange at least, even in localities where the two taxa might grow side by side in nature.

The principal area of *S. nemorum* subsp. *nemorum* in the Netherlands lies in the very south-east of the country, S.-Limburg. However, few specimens of various other localities are present in the Leiden herbarium, coming from more central-eastern, central and central-

western districts (Roermond-Beegden, Denekamp (coll. 1911), Heerwaarden, Dordrecht (1915), Leiden): Subsp. *glochidisperma* is known so far from Norg only.

When considering the two main areas of distribution of the two subspecies in the Netherlands, one might expect geographical causes of distribution. There is a difference in latitude, the distance between Norg and southern Limburg being almost 200 miles in a north-south direction. Without further study we might take the difference in latitude also as a ready explanation of difference in flowering time; such a difference of ca 2 weeks is evident in various phenomena with many species of the dutch flora. We have learnt, however, from our cultivation experiments that such an explanation does not hold for *Stellaria nemorum*; its flowering time appeared to be genetically fixed.

Moreover, the position of the other localities, mentioned above, and a comparison of the whole european area of the two subspecies make us reject a geographical explanation. Both taxa are now known from the greater part of Europe; the borderline of the area of distribution of the species as a whole runs through Sweden, Norway, Great Britain (Wales), France, Spain, Corsica, Italy, Yugoslavia and probably Russia. It should be remarked, however, that extensive information on the two subspecies separately is not available. In central Europe the species is mainly recorded from montane and subalpine regions; only few alpine localities are known (800 ft., subsp. *nemorum* 860 ft.). It also occurs in lower regions. More chorological details are desirable.

Concerning the known area of subsp. *glochidisperma*, Spain (LAWALRÉE, 1953 *b*), Great Britain (GREEN, 1954) and the Netherlands (SIERTSEMA in sched. 1935, ANDREAS, 1955) could be incorporated only recently. In Scandinavia subsp. *nemorum* goes further north than subsp. *glochidisperma* (HULTÉN, 1950). Thus, there is no important divergence in geography of the two subspecies; they are considerably sympatric from that point of view.

Nevertheless barriers of some kind seem to be active in generally keeping the two taxa separate; putative hybrids are rare as known so far. HEGI mentioned „Zwischenformen“ (1911*a*), GREEN considered a few specimens in british herbaria to be such hybrids (1954), while PETERSON (1936) stated to have obtained hybrids artificially; in the Leiden herbarium few doubtful specimens from Norg are present. But, keeping in mind the nature of the characters listed above, we may understand that such hybrids are by no means easy to be distinguished.

After having treated in brief morphological data, the partial effectiveness of genetically fixed biological barriers and the area of distribution of the species, we now turn to ecological barriers, which possibly are important in determining the details of the distribution pattern of *Stellaria nemorum* and in keeping both subspecies separate.

## ECOLOGY

Ecological (including phytosociological) conditions are evidently dissimilar in the two main dutch localities. Some years ago dr V. Westhoff in a letter kindly communicated details. Revision and enlargement of his then description in collaboration with mr H. Doing Kraft brought his notes into line with recent views and resulted in the following ecological paragraph.<sup>1</sup> I am indebted to both and especially to dr V. Westhoff for his permission to include it in my paper.

He described the forest of Norg as a plant community near to the north eastern dutch geographical variant of *Querceto-Betuletum* s.s. The association of *Querceto-Betuletum* s.s. indicates a poor sand soil or loam with a low base status, a low biological activity, a low pH ( $\pm 3-4$ ), raw humus and a gray-brown podzolic profile. The geographical variant mentioned above, marked a.o. by abundance of *Ilex aquifolium* and *Corydalis claviculata* (atlantic features!) and by the occurrence of *Luzula pilosa*, is a vegetation type indicating an elevated humidity of the air, which, in its turn, may be an atlantic as well as a montane character. Indeed, this variant presents a transitional form between the pure, poor *Querceto-Betuletum* of lowland sands (the former *Querceto roboris-Betuletum*) and the submontaneous *Quercetum sessiliflorae* (previously named *Querceto sessiliflorae-Betuletum*). The circumscription of the forest of Norg as a plant community "near to" this north-eastern dutch variant is due to the circumstance, that the abundance of *Oxalis acetosella*, *Corylus avellana* and *Milium effusum* and the occurrence of *Stellaria holostea* and *Anemone nemorosa* in the forest of Norg indicate a tendency to the woodland associations of the *Querceto-Fagetea*, i.e. they indicate a habitat with a richer soil than it is found within typical *Querceto-Betuletum*: finer texture, higher base status, higher biological activity and a tendency to crumb structure. The whole qualitative and quantitative floristic assemblage of this transitional form further indicates a pH of the soil (in a depth of 20 cm) of 4-5, a moist soil with an A-G-profile and somewhat raw humus.

To provide more detailed ecological information dr Westhoff procured the following ecological sample plot analysis taken by him after the method of Braun-Blanquet, i.e. a species list arranged to vegetation structure, and presenting quantitative data about the abundance and dominance of the individuals. A description of the soil profile is added.<sup>2</sup>

Number of the sample plot analysis: V.W. 41-128. Date: July 1941.  
 Locality: forest of Norg, part W. of the way Norg-Huis ter Heide.  
 Aspect: heavy oak wood.

<sup>1</sup> Without responsibilities on our side, except for some minor details — Ch.H.A.

<sup>2</sup> My own plant list, now being superfluous, has been deleted. — Ch.H.A.

Surface studied: 100 m <sup>2</sup>			
High tree layer: 90 %, 15 m high.			
Quercus robur L. (4 ex.)	5		
Low tree layer: 30 %, 6-7 m high.			
Ilex aquifolium L.	3.2		
Shrub layer: 40 %, 2-4 m high.			
Sorbus aucuparia L.	2.2	Ilex aquifolium L.	2.1
Corylus avellana L.	2.1	Frangula alnus Mill.	+1
Herb layer: 80 %.			
Rubus fruticosus L. coll.	4.2	Ilex aquifolium L.	+1
Oxalis acetosella L.	3.3	Sorbus aucuparia L.	+1
Convallaria majalis L.	2.1	Luzula pilosa Willd.	+1
Holcus mollis L.	2.2	Pteridium aquilinum Kuhn	+1
Maianthemum bifolium F. W.			
	Schmidt 1.2	Corydalis claviculata Lam. et DC.	+2
Milium effusum L.	1.2	Hedera helix L.	+2
Stellaria nemorum L.	+2	(Melandrium diurnum Fr.)	
Stellaria holostea L.	+2	Anemone nemorosa L.: died away.	
Moss layer: 5 %.			
Dicranum scoparium (L.)			
	Hedw. +2	Polytrichum attenuatum Menz.	+2

Outside the studied plot in other parts of the forest the following species occurred moreover:

*Picea abies* Karsten (planted), *Fagus sylvatica* L., *Betula pubescens* Ehrh., *Lonicera periclymenum* L., *Ajuga reptans* L.

Soil profile: A<sub>0</sub>: 2 cm fresh litter; A<sub>1</sub>: 4 cm decaying litter; A<sub>2</sub>: 15 cm black humus; G: gray-black sand with white grains, gradually getting more pale to the depth.

In southern Limburg dr Westhoff never saw *S. nemorum* in a like vegetation; there the species (subsp. *nemorum*) is exclusively met with in the Pruneto-Fraxinetum on alluvium along brooks. This association belongs to the alliance of Alno-Ulmion (class of Querceto-Fagetea) and is for the greater part synonymous with the subassociation Querceto-Carpinetum filipenduletosum, an older and better known name. Those habitats are more fertile than the other ones assigned to the class of Querceto-Fagetea, and they are extremely fertile compared with the habitat of the forest of Norg. They have mild humus and a rather wet soil being rich in carbonates and presenting a high base status and a well-developed crumb structure, their pH amounting to 6-7. Dr Westhoff communicated the following ecological sample plot analysis (see above):

Number of the sample plot analysis: V.W. 42-49. Date: August 2, 1942. Locality: Forest S. of Slenaken at the left edge of the small river Gulp, Southern Limburg, quite near the Belgian frontier. Soil: black wet humus more than 20 cm deep. Phreatic level 10-40 cm below surface.

Aspect: Poplar forest.			
Surface studied: 200 m <sup>2</sup>			
High tree layer: 70 %, 20 m high.			
Populus L. spec. culta	4		
Low tree layer: 30 %, 10 m high.			
Alnus glutinosa Gaertn.	3		
Shrub layer: 60 %, 2-3 m high.			
Alnus glutinosa Gaerth.	4.2	Rosa canina L.	+1
Fraxinus excelsior L.	2.1	Prunus avium L.	+1
Corylus avellana L.	2.1	Ribes uva-crispa L.	
Euonymus europaeus L.	+1	Crataegus oxyacantha L.	+1
Herb layer: 100 %, up to 2 m high.			
Rubus fruticosus L. coll.	2.2	Polygonatum multiflorum All.	+2
Stellaria nemorum L.	2.3	Epipactis helleborine Crantz	+1
Urtica dioica L.	2.3	Humulus lupulus L.	+2
Aegopodium podagraria L.	1.1	Crataegus monogyna Jacq.	+1
Impatiens noli-tangere L.	1.3	Agropyrum caninum P.B.	+2
Festuca gigantea Vill.	1.2		
Filipendula ulmaria Maxim.	1.1	Geum urbanum L.	+2
Galium aparine L.	1.1	Ficaria verna Huds.	+2
Melandrium diurnum Fr.	1.1	Primula elatior Grufb.	+2
Lamium galeobdolon Crantz	1.3	Chrysosplenium oppositifolium L.	+3
Brachypodium silvaticum P.B.	1.3		
Ribes silvestre M. et K.	1.2	Hedera helix L.	+1
Phalaris arundinacea L.	1.2	Valeriana officinalis L.	+1
Quercus robur L.	+1	Equisetum arvense L.	+2
Corylus avellana L.	+1	Galeopsis tetrahit L.	+1
Fraxinus excelsior L.	+1	Solanum dulcamara L.	+1
Dactylis glomerata L.	+2	Dryopteris austriaca (Jacq.)	
Rumex obtusifolius L.	+1	Woynar	+1
Stellaria holostea L.	+2	Angelica silvestris L.	+1
Geranium robertianum L.	+2	Vicia sepium L.	+1
Heracleum sphondylium L.	+1	Polygonum bistorta L.	+2
Stachys silvatica L.	+2	Rubus idaeus L.	+2
Moss layer: 10 %.			
Eurhynchium Br. eur. sp.	2.3	Atrichum undulatum (L.) P.B.	+2
Fissidens taxifolius (L.) Hedw.	+2	Lophocolea bidentata (L.) Dum.	+2

To this information dr Westhoff adds some notes on his experience abroad about *Stellaria nemorum*. On the 9th of October, 1955, he collected *Stellaria nemorum* ssp. *glochidisperma* in a wet mountain alder woodland of *Alnus glutinosa* (Alnetum glutinosae cardaminetosum) at 750 m altitude, near the small town Altenau in the Picea-zone of the central european mountain of Harz, situated at the N.E. limits of Western Germany. *Stellaria nemorum* was thriving there abundantly; main companion species were *Carex elongata* L. (dominant), *Carex remota* L., *Stellaria alsine* Grimm., *Deschampsia caespitosa* P.B., *Chrysosplenium oppositifolium* L., *Chrysosplenium alternifolium* L., *Phalaris arundinacea* L.



Edaphically this habitat is intermediate between that of *S. nemorum* subsp. *nemorum* (southern Limburg) and that of subsp. *glochidisperma* (Drente) in the Netherlands; it is much wetter than the latter (as waterlogged as the former), but it is poorer in nutrients than the former and equals the latter in that respect. Moreover, it corresponds with the latter in climatic respect: more elevated precipitation, high air humidity and cool summers (common features of montaneous and atlantic climates).<sup>1</sup>

The conclusion that each of the two subspecies has its own ecological preference was arrived at not only by an analysis of the natural habitats, but also by the results of cultivation experiments. In the botanic garden "de Wolf" a great variety of environments has been created and is kept up, so that many plant species may find suitable conditions for their development and the transplant of particular plants tends to be successful. We began planting specimens of the two subspecies in one habitat, a deciduous wood along a brooklet on rather moist and rich soil, pH =  $\pm$  6.1. Subsp. *nemorum* thrived well and spreaded, whereas subsp. *glochidisperma* had disappeared after about three years, so that fresh material had to be introduced. These experiments are to be continued.

Ecological indications on herbarium labels, if present, usually are too brief to procure knowledge of habitat conditions. The few comprehensive notes, however, dealing with subsp. *nemorum*, agree in the point of moist habitats.

Although HEGI (1911 *b*) presents rather detailed information on ecological conditions of central-european habitats, such data are usually scanty. *S. nemorum* is frequently but not exclusively met with in deciduous woods, where it gives preference to the presence of *Alnus* species. Subsp. *glochidisperma* in northern Europe preferably grows in beech forests (MURBECK 1899, HEGI 1911*b*); SCHWARZ (1897) considers it a diverging form, originating in shady localities.

We need detailed ecological particulars on the various habitats, especially from localities where the two subspecies occur not too far apart, which is probably the case in Luxemburg. Moreover, we should look out for hybrids, mentioned already by HEGI (1911*a*) and GREEN (1954). More detailed information in these fields might help us to gain a better insight also in the micro-evolutionary development of the units and their present taxonomic status, not to be discussed here.

#### NOMENCLATURE

*Stellaria nemorum* was named and described by LINNAEUS (1753). In 1880 the french naturalist D. Pierrat described a new species, closely related to the foregoing *S. nemorum*, under the name *S. montana* Pierrat sp. nov.

S. MURBECK (1891) was the first to publish *S. glochidisperma* as a subspecies under *S. nemorum* L. Although under the present Code of Nomenclature (art. 34) the binary combination of the subspecific

<sup>1</sup> Here ends dr Westhoff's communication.

epithet with the genus name is not admissible, it is reasonable to accept it here, while Murbeck clearly indicated that a subspecies of *S. nemorum* was meant. FREYN (1892) apparently gave species rank to the taxon under the name *Stellaria glochidisperma* Murb. In a subsequent paper (1899) and again in a binary combination MURBECK named his subspecies *S. glochidosperma*, thus changing *i* into *o*, yet without any explanation. We cannot accept, however, the latter orthography of the subspecific epithet for the following reasons.

From Murbeck's description it is evident that his epithet referred to the barbed tubercles of the seedcoat of the plant under consideration and thus should have been based on the greek word glōchin or glōchis. Consequently *glochinosperma* would have been the correct spelling, as HEGI (1911a, b) already stated. We are not entitled, however, to alter a name for etymological reasons, whilst the original spelling must be retained except in case of typographical or orthographic errors (art. 82, Code). Thus, in my opinion, *glochidisperma* Murb., which is the earliest subspecific epithet in its original spelling, should be retained; it should not be replaced by *glochidosperma* Murb., which might be considered to be either orthographic aberrant or a later synonym.

HYLANDER (1945), however, seems to hold a different opinion; he uses the epithet *glochidosperma* Murb., as did many authors.

HEGI (1911a), — (see also p. 148 of the present paper) —, when defending SCHWARZ's epithet *circaeoides* of 1897 by reasons of priority, referred to MURBECK's paper of 1899 only, but he apparently overlooked MURBECK 1891. Moreover this epithet is of uncertain taxonomic rank, as its author applied it to "eine habituell sehr abweichende Form:  $\beta$  circaeoides A. Schwarz. And his information "ad amicos" of 1881 means an ineffective publication.

MURBECK (1891) does not make any mention of Pierrat's *S. montana*. Yet, in 1899 he divided *S. nemorum* L. into 2 subspecies, viz. *S. glochidisperma* Murb. and *S. montana* Pierrat. (According to the present rules the latter should have been signed (Pierrat) Murb., because of change of taxonomic rank).

From 1899 on and up to the present time these two names were conceived as indicating two mutually different subspecies, *glochidisperma* (or *glochidosperma*) divergent from the Linnean type, *montana* comprising it. This interpretation, however, was incorrect.

PIERRAT's original description, which appeared in C. r. de la Soc. bot. Rochelaise II (1879), p. 58 (La Rochelle — 1880), under the title "Note sur le *Stellaria montana* Pierrat sp. nov." may be fully quoted here.<sup>1</sup>

"Cette plante diffère du *Stellaria nemorum* L. par une taille moins

<sup>1</sup> On Mr P. Jovet's request Mr L. Rallet kindly procured on my behalf a handwritten copy of the original description by Pierrat and some details on its author. Pierrat was a french naturalist, who lived at Gerbamont, Vosges. From 1878 to 1892 he was a member of the "Soc. bot. Rochelaise", which was a botanical exchange club.

élevée, une floraison plus tardive, au moins dix jours, à la même altitude, et surtout par les caractères suivants:

Feuilles moins larges et moins profondément en cœur à la base, pétioles moins bordés, pétales à division plus longues, plus étroites et plus acuminées au sommet; capsules longues.

Elle n'affectionne pas les lieux humides et les cours d'eau comme *Stellaria nemorum*".

This copy of the description is exactly identical with the printed diagnosis on the herbarium sheet with *S. montana* of Kew, signed by Pierrat and published in photograph in a recent paper by P. S. GREEN (1954). It should be remarked that the name *Stellaria montanum* (not *montana*) figures on the printed label of Soc. Roch., added to that sheet.

Although there are some discrepancies (leaf shape) in the diagnosis, which is somewhat inadequate, it seems evident that *S. montana* denoted the same taxon as the one which Murbeck was to name subsp. *S. glochidisperma* ten years later. Thus, *S. montana* is not a synonym of *S. nemorum* L. subsp. *nemorum*, but of *S. nemorum* L. subsp. *glochidisperma* Murb., (see also GREEN 1954).

There is, however, no need for nomenclatural change as long as we consider the two taxa to be subspecies, for the epithet *glochidisperma* Murb. was the earliest having been published in subspecific rank.

As in this paper we do not intend to make any decision on taxonomic rank yet, we shall follow previous writers here in retaining two subspecies, the names of which should be *Stellaria nemorum* L. subsp. *nemorum* and *Stellaria nemorum* L. subsp. *glochidisperma* Murb. (= *S. montana* Pierrat). Both subspecies now are known from the Netherlands.

#### SUMMARY

A study on *Stellaria nemorum* L. in the Netherlands was made concerning morphology, geography, ecology and nomenclature. The species has usually been divided into 2 subspecies, the nomenclature of which is dealt with. The correct names appear to be *S. nemorum* L. subsp. *nemorum* and *S. nemorum* L. subsp. *glochidisperma* Murb. The known area of distribution of subsp. *glochidisperma* Murb. has been extended into the Netherlands; representative populations of both taxa were found. The two subspecies are mutually different not only in many morphological properties, but also in flowering time and probably in ecological preference. Cultures and breeding experiments were made and are still in progress.

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