

# PROLIFERATION OF THE INFLORESCENCE OF RIBES.

By

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With a view to give a description of a very rare case of proliferation of inflorescences, viz. in two species of *Ribes*, I feel it incumbent on me first to make a few preliminary remarks about the morphological place of the raceme in the said genus. As Eichler points out in his admirable book — *Blüthendiagramme*<sup>1)</sup> —, *Ribes* has two kinds of shoots; *long* and *short*, of which No. 1 produces nothing but foliage-leaves, No. 2 an inflorescence at top and a lateral leafshoot under the inflorescence. His sketch (Fig. 1) shows how in the latter case the developed bud bears a number of scales : 1—6, which higher up pass to a few foliage-leaves : 7—9, 2<sup>o</sup> the

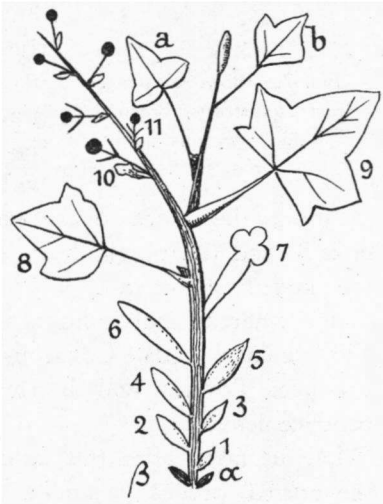


Fig. 1. *Ribes sanguineum* Pursh. Sketch of a flowering sprout: from one of the leaves springs a leafy branch which continues the growth of the shrub. The internodes between 1 and 8 are in reality very small and the scales consequently compact. (2 X).

<sup>1)</sup> II, p. 433.

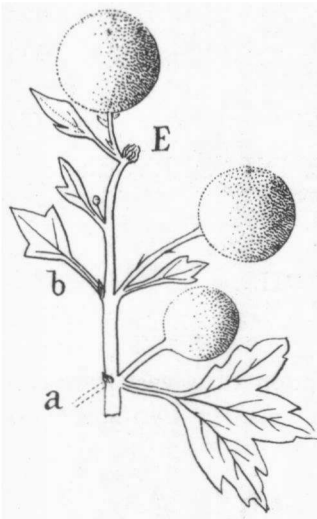


Fig. 2. *Ribes rubrum* L.  
Bracts foliaceous, bracteoles  
0-3. E: terminal bud.  
(nat. size).

inflorescence proper covered with bracts, 10, 11, 12 etc. as far as the top. From one (or two) of the foliage-leaves, in our figure No. 9, the leafy shoot is given off. This succession drawn from *Ribes sanguineum*, also applies to *Ribes rubrum* L. and *nigrum* L. We need hardly point out that in this sketch the lower portion of the developed bud is slightly magnified whereas the flowering part is reduced in size. The chief thing to be taken into consideration is that in the course of the season the leafy lateral branch strongly develops whereas the terminal, flowering, portion withers.

About the place of origin of the flowering (better: mixed) and the purely leafy shoots should be added that the mixed shoots are only produced by lateral (axillary) buds, whereas leafy shoots originate both from terminal and axillary buds. Consequently a terminal bud never produces flowers and berries, but both kinds of buds produce leaves.

Let us now, after this indispensable introduction about the normal process, examine the proliferating two species, represented by figures 2—4 and afterwards the case drawn in fig. 5.

The figures 2—4 show that we came into the possession only of the flowering portion, whereas fig. 5 represents the complete shoot, as will be pointed out further on.

Fig. 2 refers to the Red Currant (*Ribes rubrum* L.): three peculiarities deserve our special attention: 1°. that

the bracts, 5 of them, are foliaceous, 2°. that from each of their axils springs a berry, with the exception of a and b, which support a leaf-bud, 3°. that the number of bracteolae on the pedicelli varies from 1—3, 4°. that the top of the flowerstalk bears a terminal leaf bud E.

Fig. 3 represents in the same way the floriferous portion of a raceme of *Ribes nigrum* L.: two pedicels are poorly

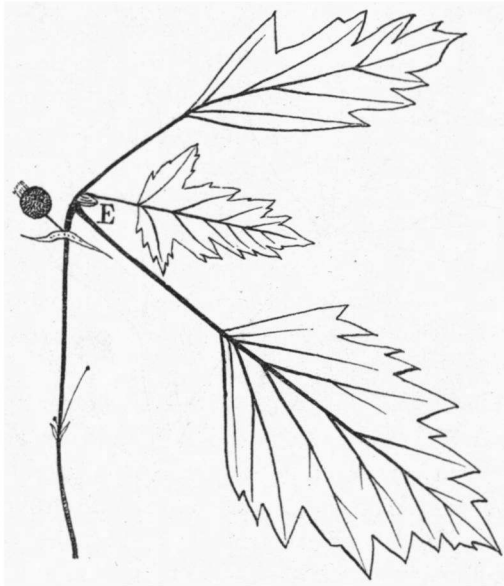


Fig. 3. *Ribes nigrum* L. Raceme with terminal bud E and three leaves (nat. size).

developed, only the higher one bears a fairly well grown out fruit. The peduncle ends into a bud E, supported by three large leaves.

The inflorescence represented by Fig. 4 shows also bracts and foliar leaves but from the axil of two bracts is produced instead of one flower each a complete raceme. There is, indeed, only one berry present, but a — in R.

*nigrum* exceptionally great-number of stalked little buds covers two stout racemes as if belonging to *R. rubrum* or *sanguineum*.

Let us now have a look at Fig. 5, representing also an erratic specimen of *Ribes nigrum*. Also in this case we

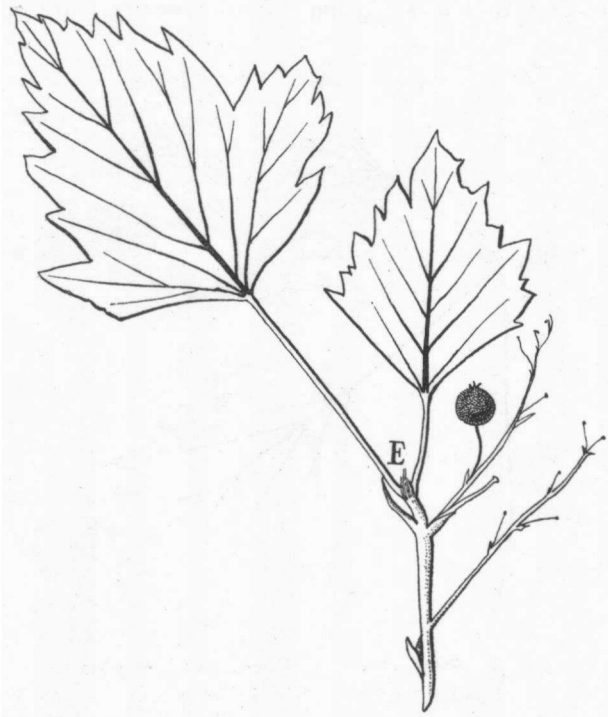


Fig. 4. *Ribes nigrum* L. Raceme with lateral branches in the axil of two of the bracts. E: terminal bud with two leaves at the base (nat. size).

find 1°. a few berries in different degrees of development and each of them supported by a virescent bract, 2°. a terminal bud E. But have we also to do with a proliferating raceme? I think not because the shoot is the outcome

of a terminal bud which as we know never produces flowers, in other words is always and exclusively of vegetative character. Accordingly the presence of E, the terminal bud, is altogether normal and the only aberration consists in three or four axillary buds having been transplacated, each of them,

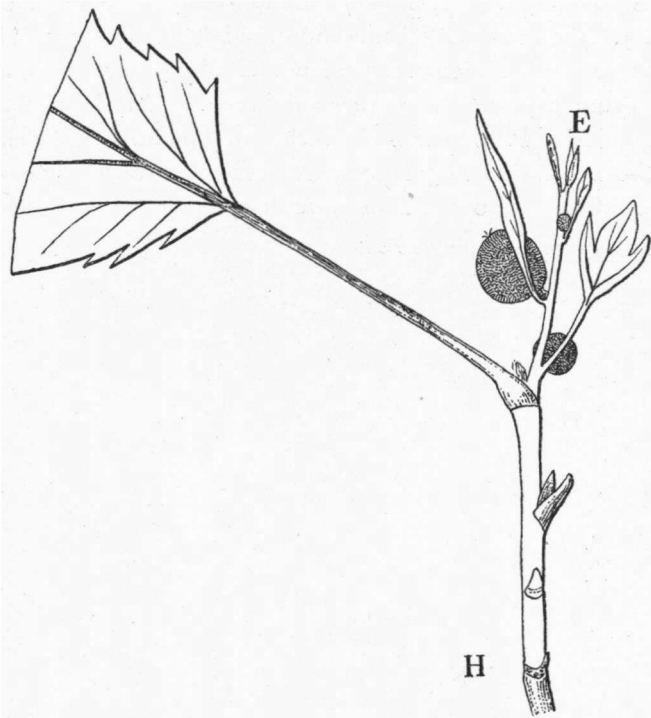


Fig. 5. *Ribes nigrum* L. Terminal leafshoot with leaves and buds in the basal portion and berries with bract-like leaves in the upper half (nat. size).

by a flower (berry) and the supporting leaves transforming to bracts (exactly the reverse of fig. 2 with two leafbuds instead of berries in the axils of a and b).

So our conclusion is that only the inflorescences, represented in figg. 2—4, are — very rare — instances of proli-

ferating inflorescences and fig. 5 shows the still rarer occurrence of flowers (berries) on a purely vegetative shoot.

As to the cause of these aberrations we absolutely grope in the dark, the proliferation as shown in figg. 2—4 might be caused artificially e. c. by clipping off the lateral leafshoot (fig. 1) in a very young state of development. Mr. J. Maarse at Schellinkhout, whom I may thank for these and other monstrosities, would oblige me very much by trying experiments in the said direction. My best thanks also to Mr. P. J. Schenk, technical functionary 1<sup>st</sup> class of the Phytopathological Service at Bussum for his repeated intervention as to cases of teratology.

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