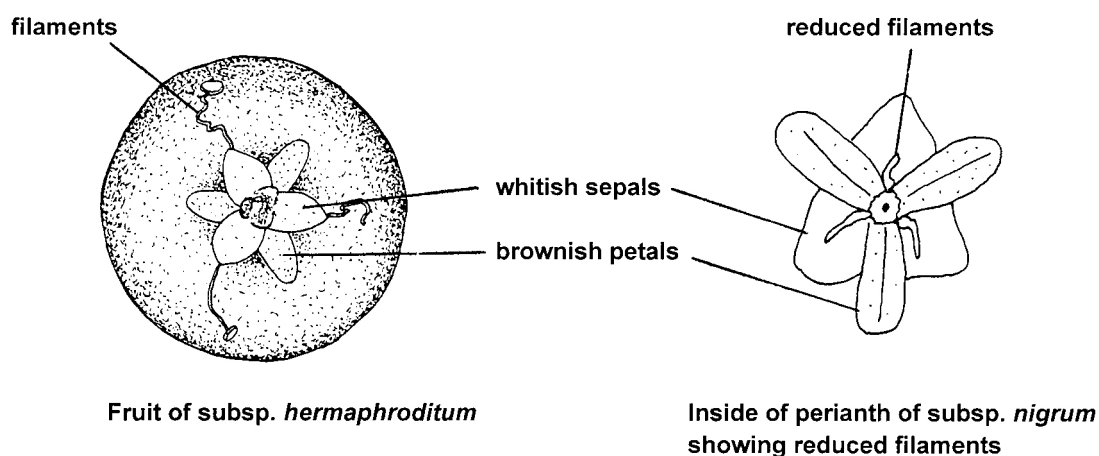


EMPETRUM NIGRUM

A useful tip for spotting *E. nigrum* L. subsp. *hermaphroditum* (Hagerup) Böcher quickly in the field is to look for plants with abundant fruit. Then, examine the back of the fruit and look for the remains of the three stamens which often persist between the perianth and the fruit. The stamens may persist intact with the anthers attached, but often the anthers are lost leaving slender, white filaments *c.* 2-3 times as long as the perianth segment. These can easily be seen with a lens or by eye. Reduced, sterile filaments without anthers are present in subsp. *nigrum* fruits, but these are brown, short and hidden under the calyx segments and can really only be seen if you are looking specially for them under a microscope.



When fruit are absent or fruit determinations inconclusive, it is possible to carefully dissect, under a microscope, next years' flower buds (present from mid-summer onwards). Buds of subsp. *hermaphroditum* have both ovary and anthers present. Buds of subsp. *nigrum* either have only an ovary, or only stamens (the latter more easily visible; reduced filaments (cf. above) are virtually impossible to see at this stage, even under a microscope). Similarly, flowers can also be examined in spring and early summer.

Note that the dioecious versus hermaphrodite flower character is not absolute; hermaphrodite subsp. *nigrum* has been reported in Durham and elsewhere (Blackburn 1938), and monoecious (i.e. different sex flowers on different branches of the same plant) subsp. *hermaphroditum* reported in Sweden (Danielsson 1988). It is therefore best to check several plants or flowers.

Subsp. *hermaphroditum* tends to be a more erect plant with denser shoots, and is characteristic of broken, rocky, north-facing ground towards its southern limit in Britain though it occurs at sea level in the north. Subsp. *nigrum* tends to be more prostrate with more lax shoots, often also on peat. Stace's *New Flora* and Danielsson (1988) list other characters and should be consulted for non-typical plants. Altitude ranges overlap.

References Blackburn, K. B. (1938). *Journal of Botany* **76**: 306-307.
Danielsson, B. (1988). *Svensk Bot. Tidskr.* **82**: 118-124.

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