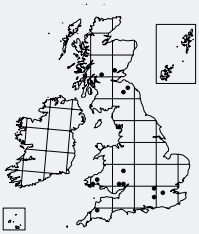
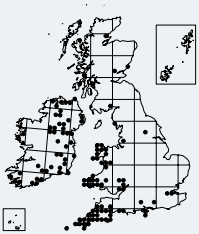
Phaeoceros carolinianus/laevis

Carolina/Smooth Hornworts

Key 23



P. carolinianus



P. laevis

Identification Although identifiable in the field, *P. carolinianus* and *P. laevis* are treated together because they show no differences apart from their sexes. Both grow as opaque, dark green rosettes up to about 3–4 cm across, with a smooth upper surface and non-frilly thallus edges. The dioicous *P. laevis* has colonies composed of small male plants with almost their entire upper surface covered with male pits, and much larger female plants with scattered reproductive organs (sometimes only visible as bumps on the upper surface) or horns. The monoicous *P. carolinianus* has a few male pits and a few female organs mixed together on a single, medium-sized thallus. *P. carolinianus* has been overlooked in Britain in the past, and plants should not be assumed to be *P. laevis*. Mature spores on the tip of the horns are orange in both species.

Similar species *Anthoceros agrestis* and *A. punctatus* (p. 272) have frilly thalli, whilst the thalli of *Blasia pusilla* (p. 240) have undulate wings. *Pellia* species (pp. 235–237) may look similar, but have a thallus differentiated into midrib and wings, as do large forms of *Aneura pinguis* (p. 241); both lack the dark spots of *Nostoc* colonies that are scattered in *Phaeoceros* thalli.

Habitat Like *Anthoceros* species, *P. carolinianus* and *P. laevis* grow in damp stubble fields, on fallow land, ditchsides, woodland tracks and in poached field corners, and like *Anthoceros* they show some differences in their east–west distributions. In south-east Ireland and south-west Wales, all *Phaeoceros* species examined in cereal stubble fields since 2000 were *P. laevis*; in contrast, 80% of *Phaeoceros* species in cereal fields in south-east Wales over this period were *P. carolinianus*, although the two species did occur together at some sites.

Photos David Holyoak (left) & Sam Bosanquet (right) *Text Sam Bosanquet*