



Left:
Geum urbanum at the base of a wall, Comely Bank, Edinburgh

Right:
Geum macrophyllum, by the pond in Inverleith Park, Edinburgh

<i>Geum urbanum</i>	<i>Geum macrophyllum</i>
Calyx patent or weakly reflexed	Calyx fully reflexed
Calyx visible when flower viewed from above	Calyx not visible from above
Petals, narrowing from half way and bluntly pointed	Petal broader, tips incurved giving a notched appearance
Flowering stems thin, 1-1.5mm	Flowering stems thicker, 2-4mm
Sparse cyme with few 2(3)4 flowers	Crowded cyme with 8-15 flowers
Peduncles long >10cm and thin	Peduncles short 2-7 cm and thicker
Glands and long hairs on peduncle, shaggy	No glands, short hairs on peduncle, velvety
Foliage dark green	Foliage light yellow-green
Stem leaves sparsely hairy, no glands	Stem leaves sparsely hairy, no glands.
Leaves coarsely toothed; red hydathodes	Leaves less coarsely toothed with large white hydathodes*
Stem leaves 3-lobed, stipulate	Stem leaves 3-lobed, stipulate, larger
Leaf lobes elliptical	Leaf lobes rounded
Receptacular hairs long, up to 2.5mm or half the length of ripe achenes	Receptacular hairs absent or microscopically short

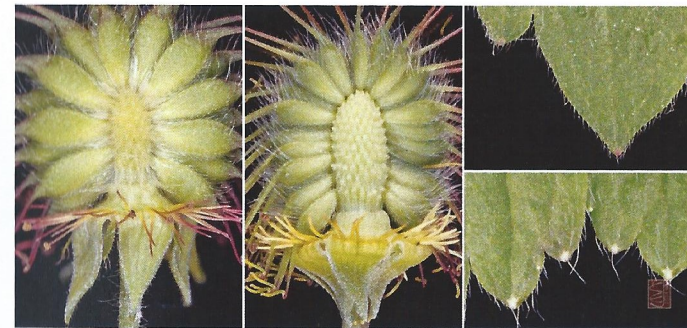
* Poland (2009) says both have red hydathodes - not so on our samples.



Left: Flower of *Geum urbanum*. The flowers are borne on long pedicels, the sepals patent and visible between the petals which are flat and taper to a blunt point

Centre: Flower of *Geum macrophyllum* face view, showing incurved petal tips. The sepals are not visible between petals

Right: *Geum macrophyllum* side view, showing the very short pedicels, bringing the flowers into crowded groups, the sepals strongly reflexed



Left:
Geum urbanum. An exposed receptacle showing long hairs

Centre:
Geum macrophyllum, exposed receptacle without visible hairs

Right top:
Red hydathodes on leaf teeth of *Geum urbanum*

Right bottom:
White hydathodes on leaf teeth of *Geum macrophyllum*

The question we are now asking is whether some of the plants we are seeing are in fact hybrids between these two species. There is of course also our native *G. rivale*, which is well known to hybridise with *G. urbanum*. The fact that hybrids between all three species exist has been confirmed by Wilcox (2015). He describes the hybrid as *Geum x convallis* M.P. Wilcox, hybr. nov. (*G. macrophyllum* Willd. x *Geum urbanum* L.) with sterile pollen and achenes. McKean and McHaffie (2012) reputedly discovered hybrids in our local area of Stockbridge in 2011, but Wilcox, who subsequently examined all the sites carefully, concluded that all were fertile and hybrids were not present. Our own findings corroborate that because none of the plants we found had sterile achenes, but... the search continues.

References:

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 Smith, P.M., 2002. *Plant Life of Edinburgh and the Lothians*. Edinburgh University Press.
 Wilcox, M.P. (2015). *Geum x convallis* (*G. macrophyllum* x *G. urbanum*, Rosaceae): a new *Geum* hybrid from England. *New Journal of Botany* 5, 26-31.
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