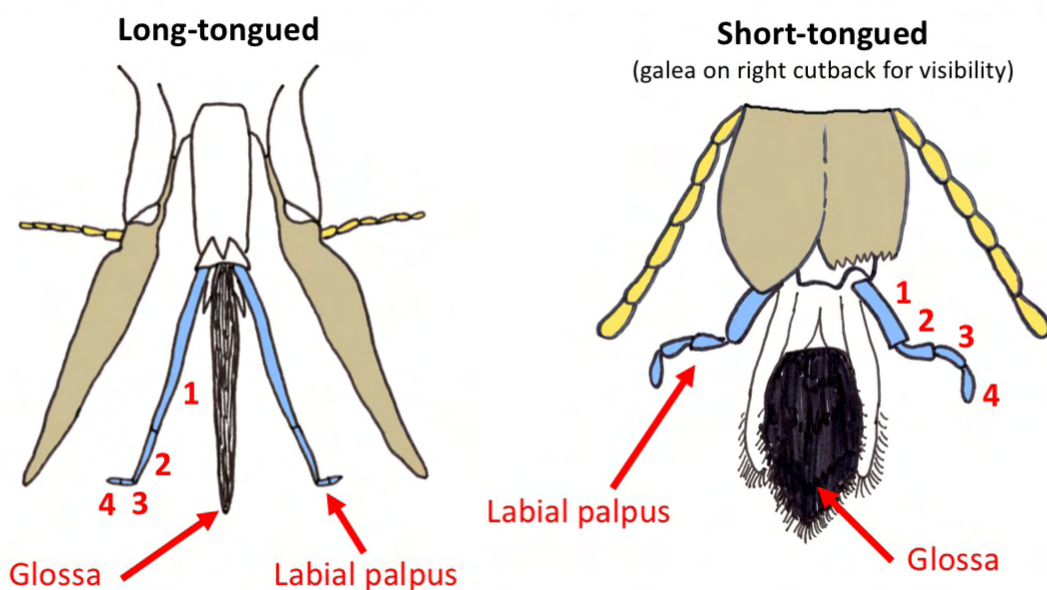


Mouthparts can be tricky

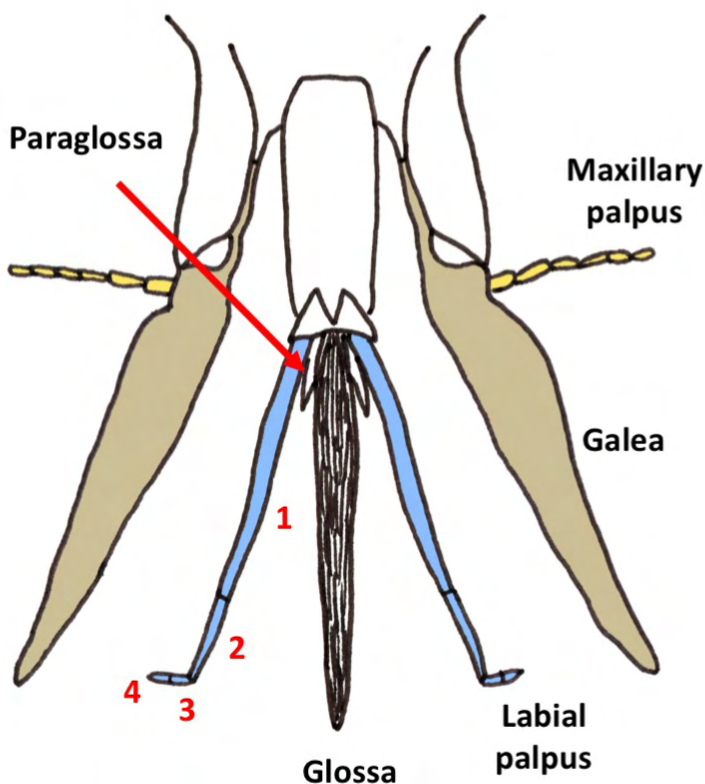
The family keys in this book rely on mouthpart characters in some couplets. Bee families are separated into two broad groups, the **short-tongued bees** and the **long-tongued bees**. These names reflect the relative lengths of the labial palpus, and to a lesser extent also the length of the glossa. In long-tongued bees the first two segments of the labial palpus are elongate, relative to the final two, and in short-tongued bees all segments are relatively similarly short. In the long-tongued bees the glossa is usually (but not always) relatively long, and in the short-tongued bees the glossa is usually (but not always) relatively short. The glossa is like a sponge, and it soaks up nectar when pushed out into the flower. In the long-tongued bees, the elongate labial palpus sit snugly along the sides of the glossa (in living bees), which, with the galea, form a sheath through which the glossa moves in and out like a pipe cleaner emerging from a drinking straw.

Unfortunately mouthparts are one of the more tricky parts to observe when inexperienced. Often when bees die their mouthparts are folded back under the head, and are obstructed from view by the mandibles. Even when mouthparts are visible, recognising key characters can be tricky without experience. Without good mouthpart visibility and high-powered magnification and light, these details are hard to see in most small- and medium-sized bees. With experience you will eventually be able to recognise the family that specimens belong to based on other characters, but to begin with you may be frustrated with some specimens in which mouthparts are hidden. If you have a number of specimens, and have sorted them to morphospecies first, you may be lucky and have some specimens of each morphospecies that have visible mouthparts. For tips on making mouthparts visible in fresh specimens see page 2.

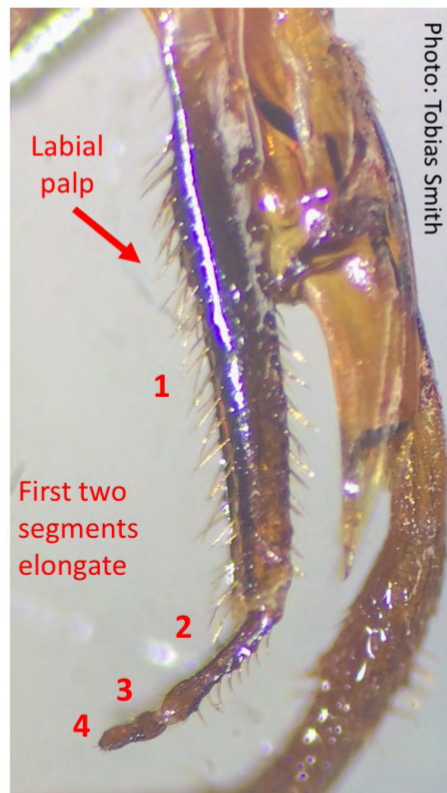


Line drawings by Tobias Smith (based on diagram by E.R.S. Hodges in Michener, McGinley & Danforth, 1994 (left) and diagram in Michener 2007 (right))

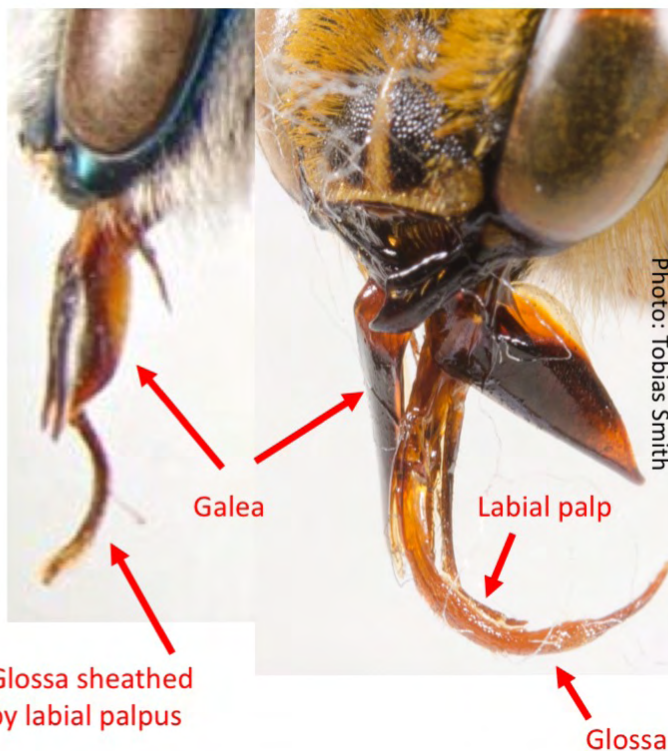
Long-tongued



Note: This is a large bee. In many specimens, the labial palpus will be much smaller, appearing less robust.

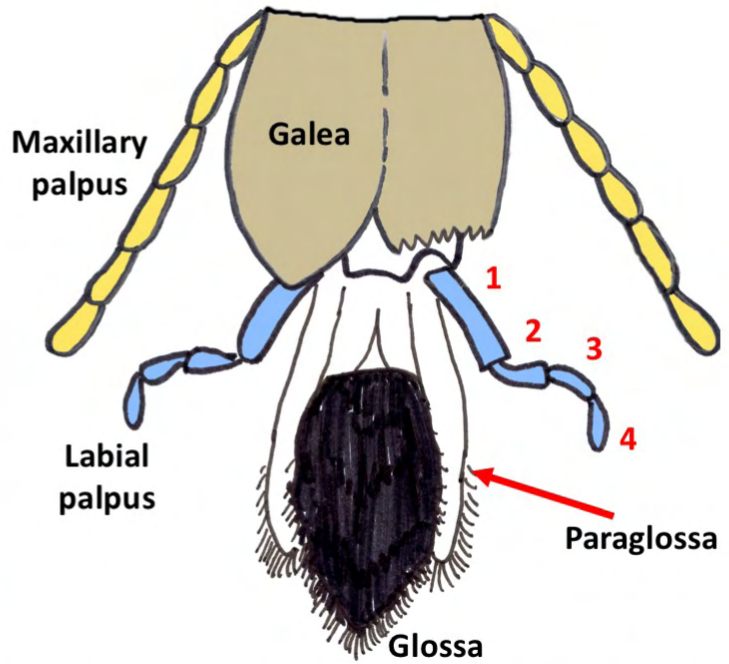
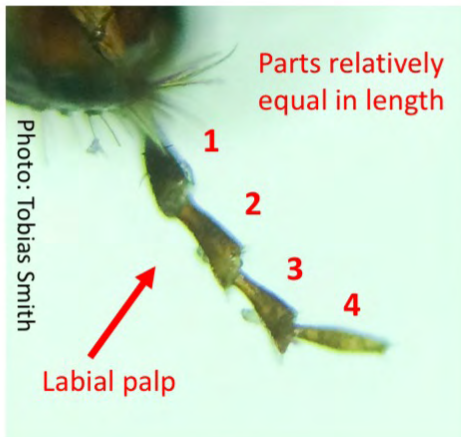


Note: In long-tongued bee specimens the galea are often close together and sheathed down over the labial palpus and glossa, making it tricky to see the segmentation of the labial palpus. In both long- and short-tongued bee specimens, dried nectar can stick the mouthparts to one another too, making it harder to identify each part clearly.

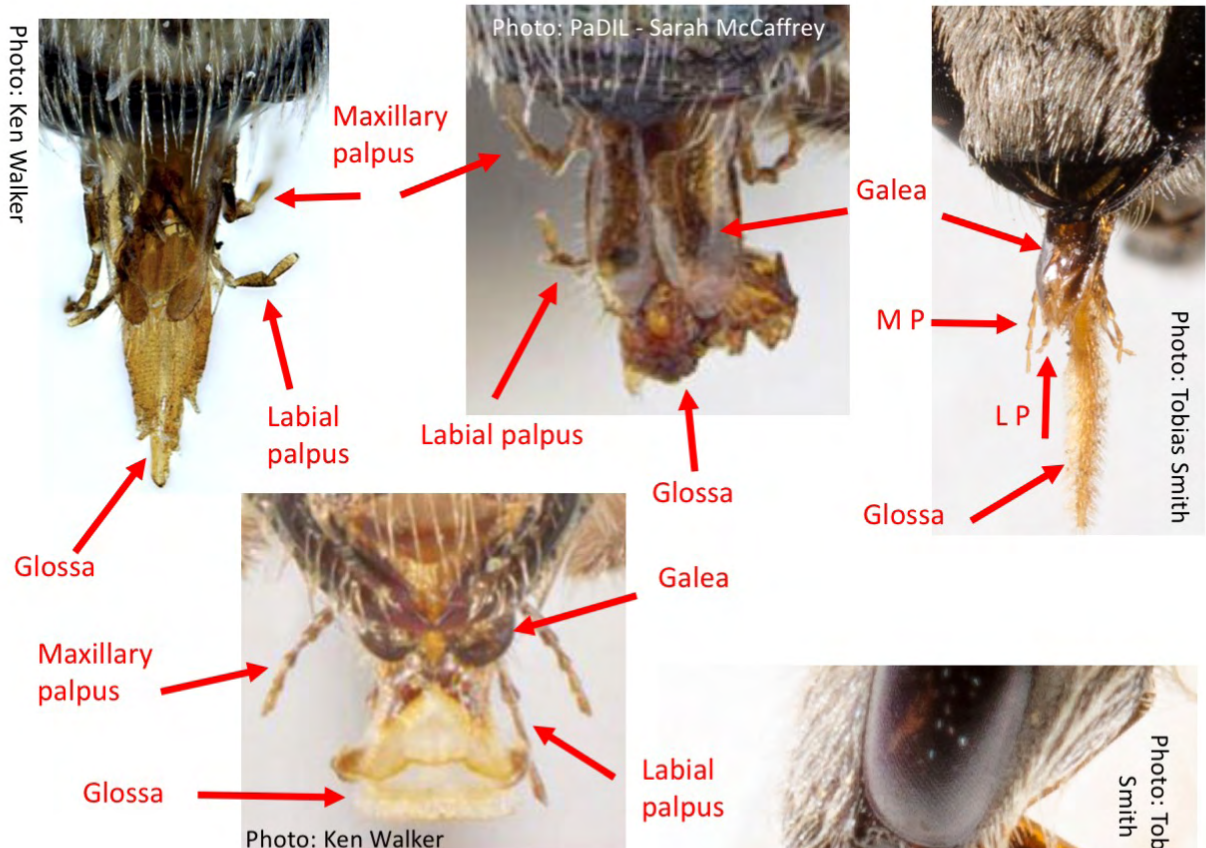


Line drawing by Tobias Smith (based on diagram by E.R.S. Hodges in Michener, McGinley & Danforth, 1994)

Short-tongued

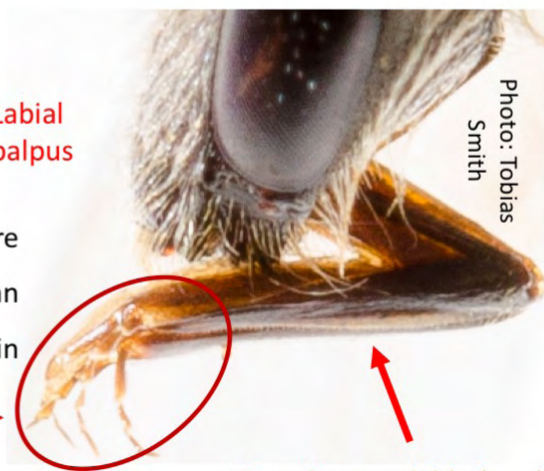


Note: Find at least one of the labial palps, being careful not to mistake one of the maxillary palps with it, and check the relative lengths of each of the four parts. If they are all fairly similar (although the first is sometimes a little longer than the rest), it is a short-tongued bee.



Note: Short-tongued bees have mouthparts that are hinged basally, and fold back under the head and can extend out (this is most commonly observed in Halictidae).

Glossa, labial palpus, galea, maxillary palpus



Hinged, extendable 'arm'

Line drawing by Tobias Smith (based on diagram in Michener 2007)