Family (Females and Males) – Couplet 1

- Long-tongued bees, first two segments of labial palpus elongate, flattened …2
- Short-tongued bees, labial palpus with the four segments similar to one another, glossa short, apex broadly rounded …3

See pages 9–11 for more information on mouthparts

Long-tongued

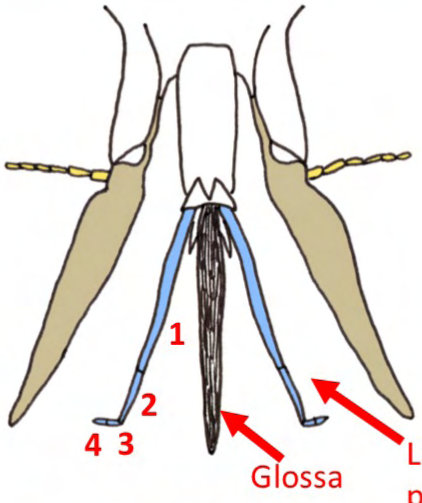



Photo: PaDIL - Sarah McCaffrey


Photo: PaDIL - Caroline Harding


Photo: PaDIL - Sarah McCaffrey

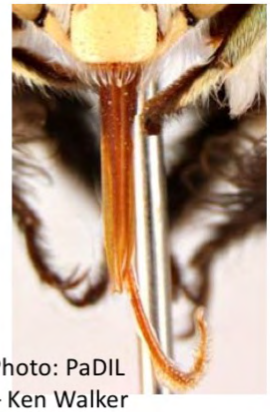


Photo: PaDIL – Ken Walker


Photo: PaDIL - Caroline Harding

Short-tongued


Photo: PaDIL – Ken Walker

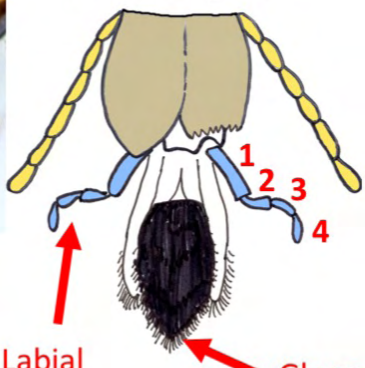
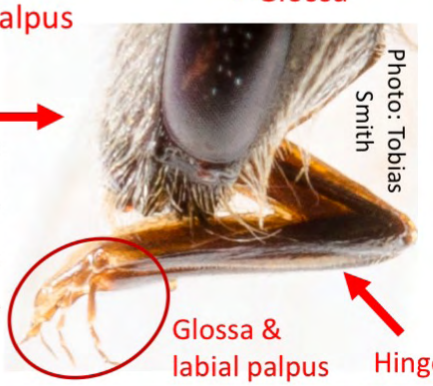


Photo: PaDIL - Sarah McCaffrey


Photo:s PaDIL - Sarah McCaffrey


Photo: PaDIL – Ken Walker



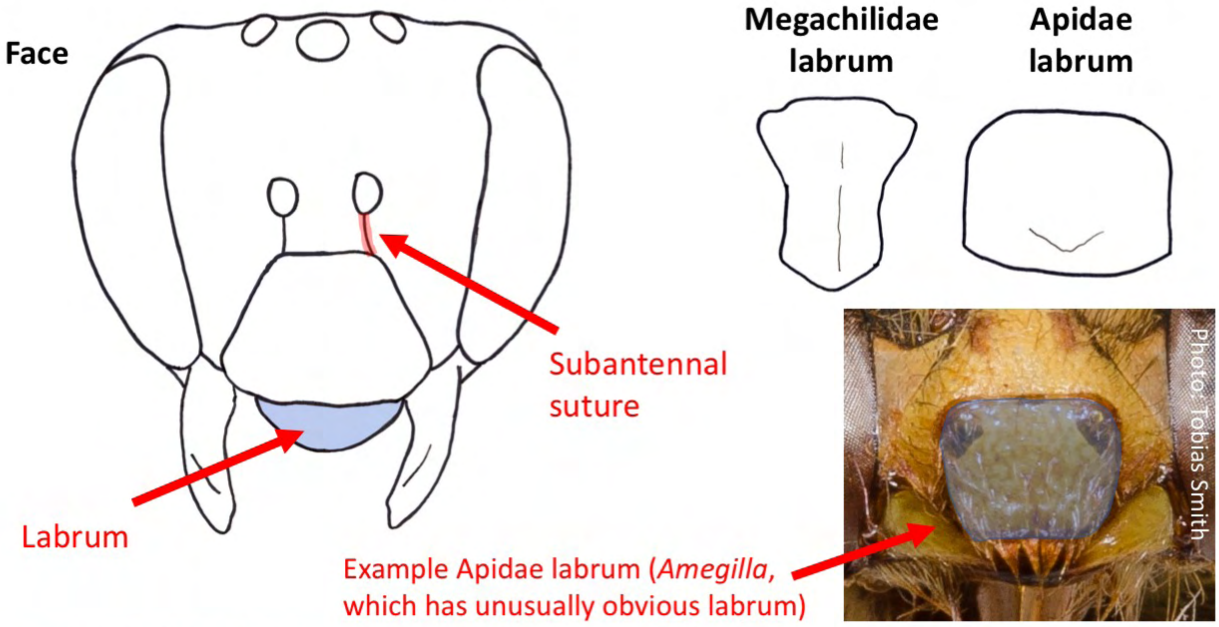
Note: Short-tongued bees have mouthparts that are hinged basally, and fold back under the head and can extend out (this is most commonly observed in Halictidae).

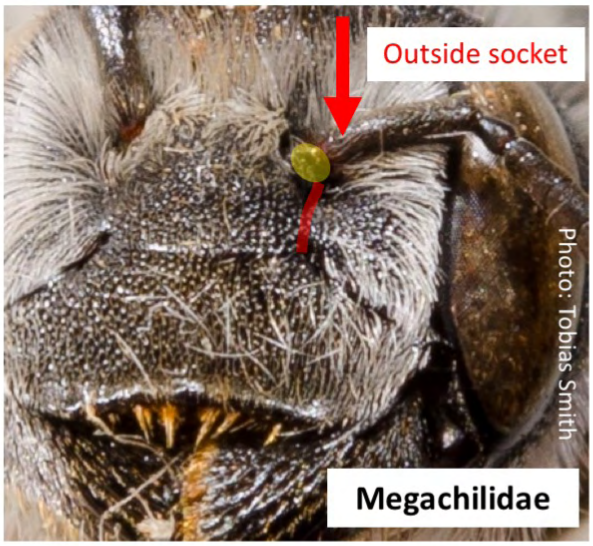
Line drawings by Tobias Smith (based on diagram by E.R.S. Hodges in Michener, McGinley & Danforth, 1994 (long tongue) and diagram in Michener 2007 (short tongue))

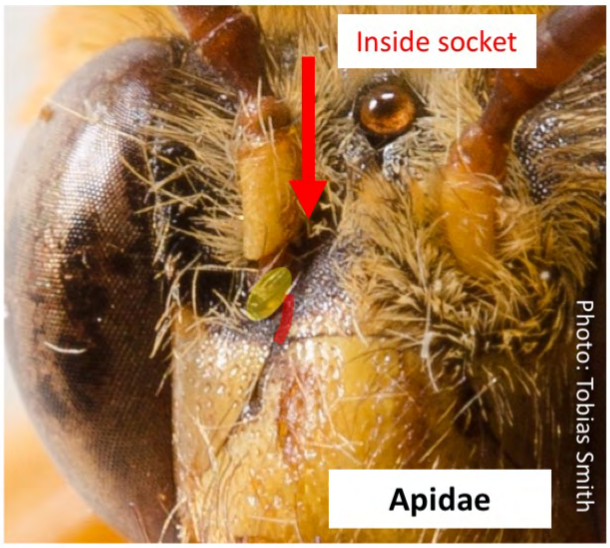
Family (Females and Males) – Couplet 2 (1)

- Labrum longer than broad; subantennal suture directed towards outer margin of antennal socket **...Megachilidae** (page 99)
- Labrum broader than long; subantennal suture directed towards inner margin of antennal socket **...Apidae** (page 33)

Note: The labrum can often be tricky to see as it is often tucked backwards below the clypeus and blocked from view by the mandibles. This is particularly so in many species of the Megachilidae. In fresh specimens you can manipulate this, but in dry specimens you will likely break parts if you try. Look from underneath.







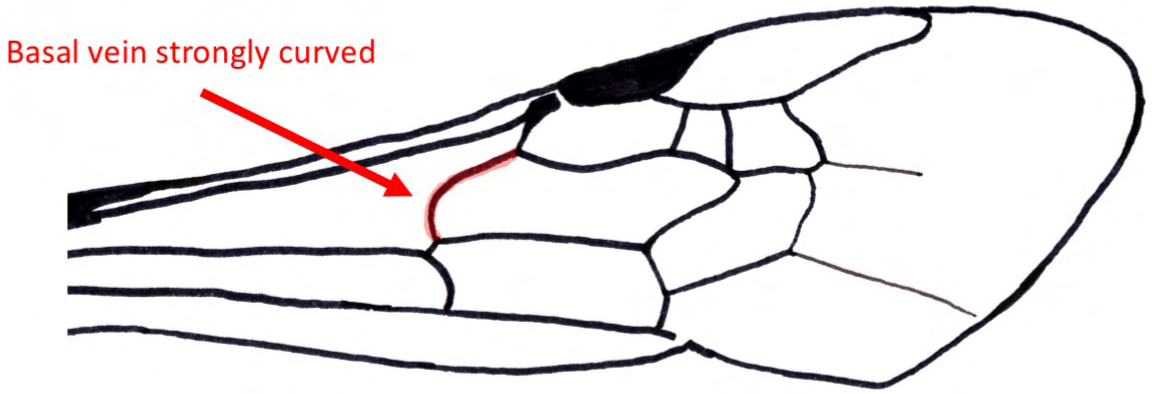
Note: The subantennal sutures and the labrum are often covered in hairs in these two families. You will have to scratch the hairs away to see properly. Use the pointy end of an entomology pin to carefully scrape the hairs away. In dried specimens they scrape off easily. To see the subantennal sutures use bright light, and shadow, to your advantage.

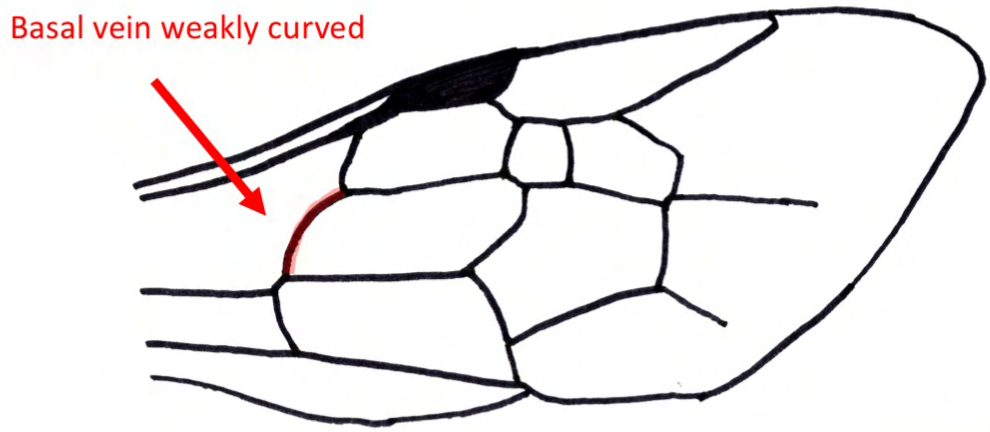
Line drawings by Tobias Smith

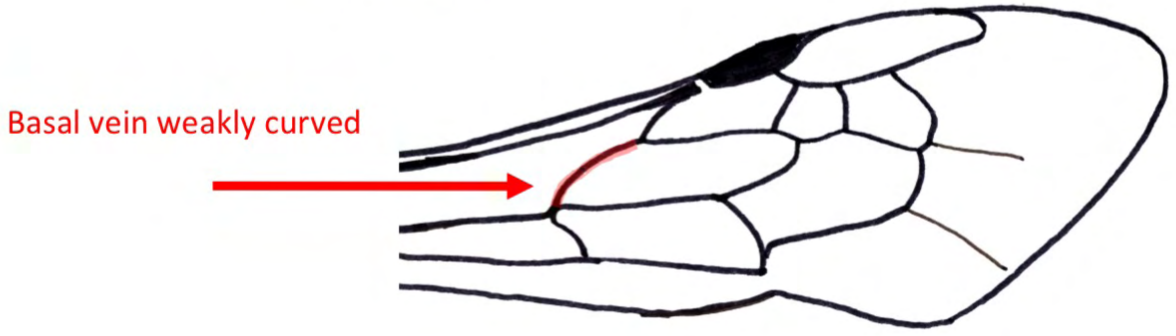
Family (Females and Males) – Couplet 3 (1)

- Basal vein strongly curved ...**Halictidae** (page 87)
- Basal vein straight or only weakly curved ...**4**

Forewing diagrams



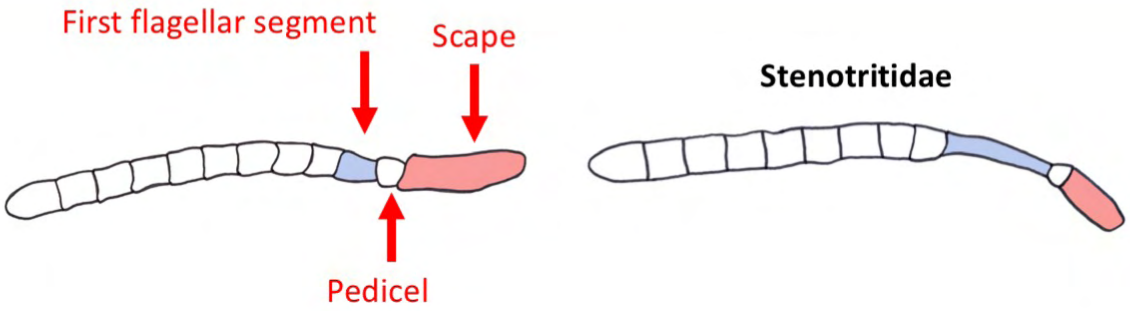


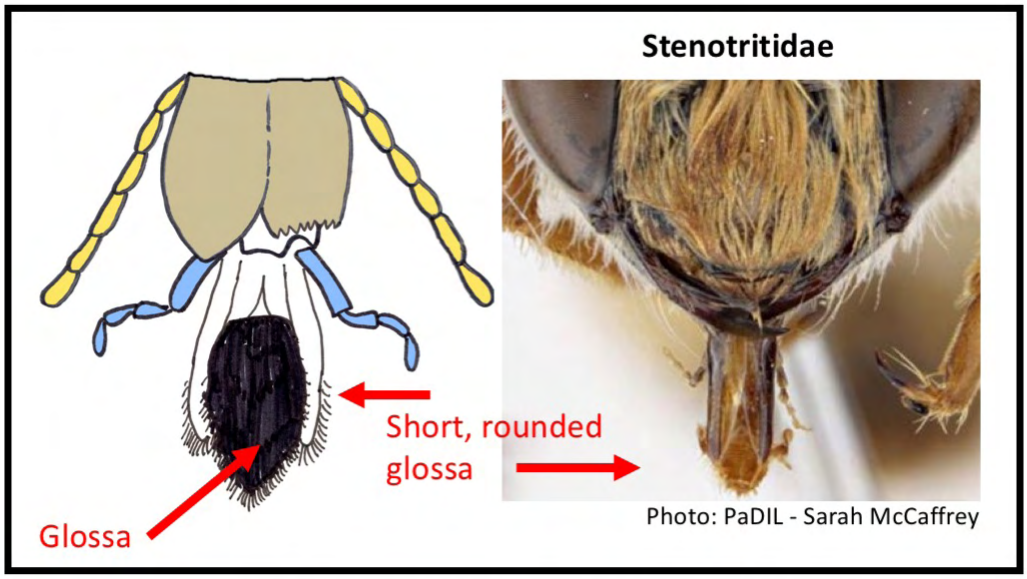


Line drawings by Tobias Smith (based on diagrams in Michener 1965)

Family (Females and Males) – Couplet 4 (3)

- First flagellar segment longer than scape on antennae; apex of glossa bluntly rounded **…Stenotritidae** (page 105)
- First flagellar segment not longer than scape on antennae; apex of glossa broad to bilobed (except pointed in males of three genera) **…5 (Colletidae)**





See pages 9–11 for more information on mouthparts

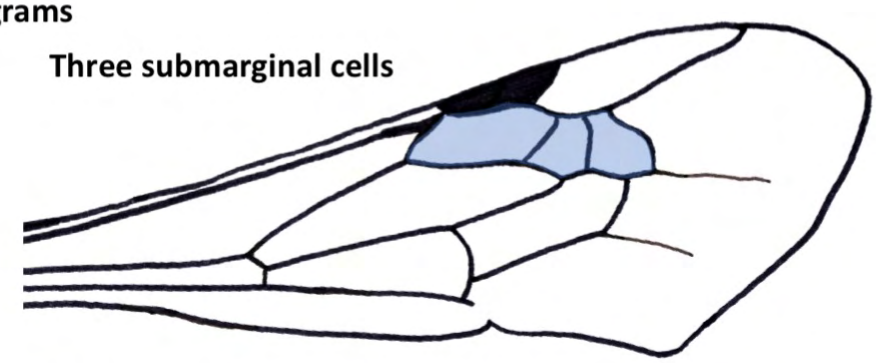
Line drawings by Tobias Smith (mouthparts based on diagram in Michener 2007)

Family (Females and Males) – Couplet 5 (4) – Colletidae subfamilies

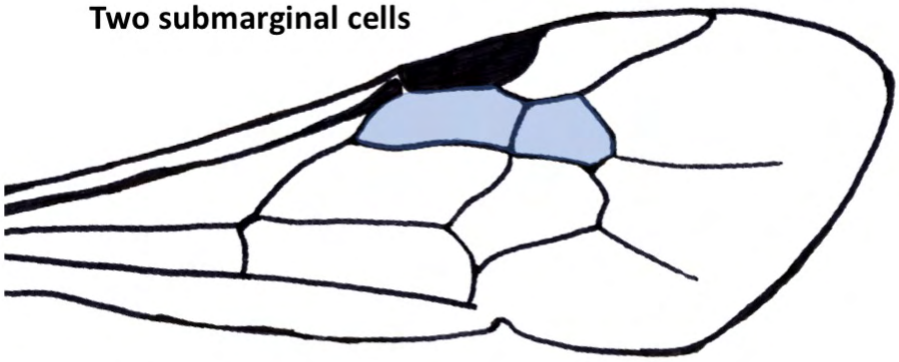
- With three submarginal cells or, if with two, second about as long as first; relatively hairy bees **...Colletinae** (page 48)
- With one or two submarginal cells, second usually much shorter than first (except equal lengths in *Hyleoides,* page 74, and a few uncommon species of *Palaeorhiza,* page 82); relatively bare or short-haired bees **...6**

Forewing diagrams

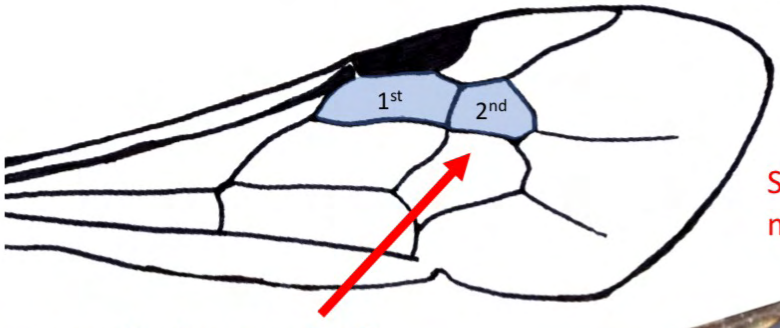
Three submarginal cells



Two submarginal cells



If two submarginal cells, check relative lengths



Second submarginal cell obviously smaller than first

Submarginal cells similar length, measured on bottom side

Photo: PaDIL - Sarah McCaffrey

Photo: PaDIL - Sarah McCaffrey

Hyleoides

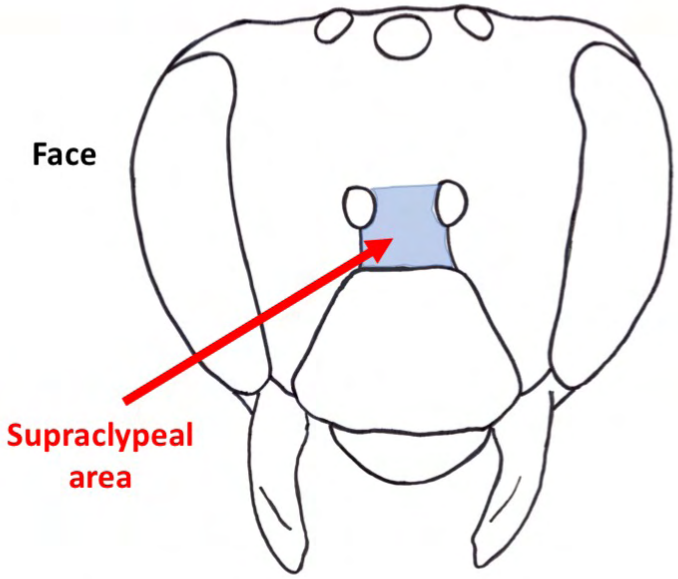
Hyleoides forewing usually dark/shaded in cells close to the upper margin, compared with clear lower cells

Line drawings by Tobias Smith (based on diagrams in Michener 1965)

Family (Females and Males) – Couplet 6 (5) – Colletidae subfamilies

- Supraclypeal area elevated abruptly above level of antennal sockets; front surface of T1 of metasoma usually lacking longitudinal median groove or ridge
  …Hylaeinae (page 73)

- Supraclypeal area sloping up from level of antennal sockets; front surface of T1 of metasoma with longitudinal median groove or ridge **…Euryglossinae** (page 57)



No longitudinal groove on front of T1

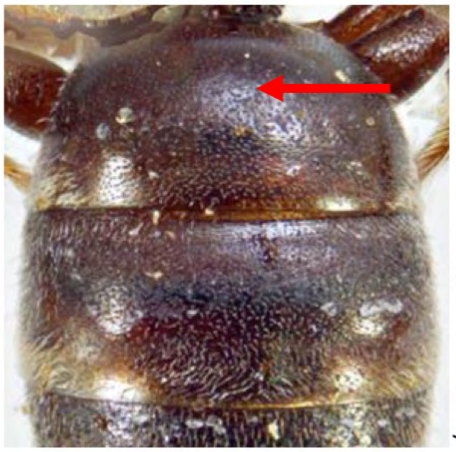


Photo: PaDIL – Sarah McCaffrey

Abruptly elevated supraclypeal area

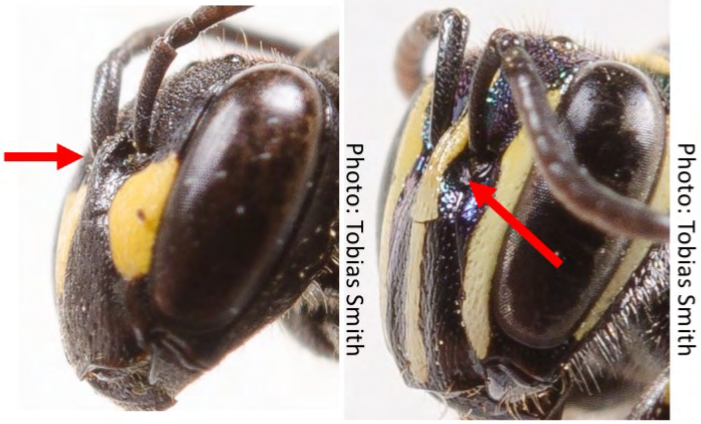


Photo: Tobias Smith

Photo: Tobias Smith

Longitudinal groove on front of T1

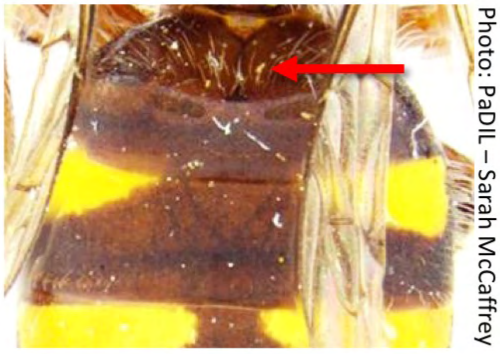


Photo: PaDIL – Sarah McCaffrey

Not abruptly elevated

Photo: Tobias Smith

Photo: Tobias Smith

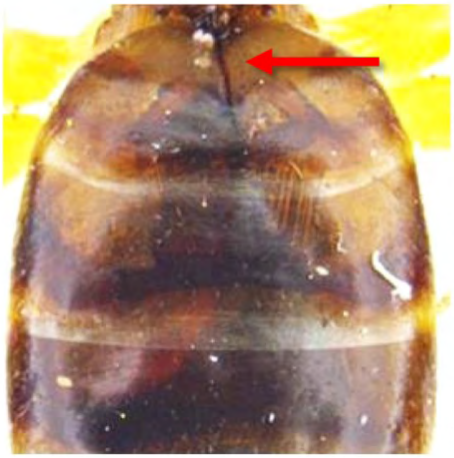


Photo: PaDIL – Sarah McCaffrey

Line drawing by Tobias Smith