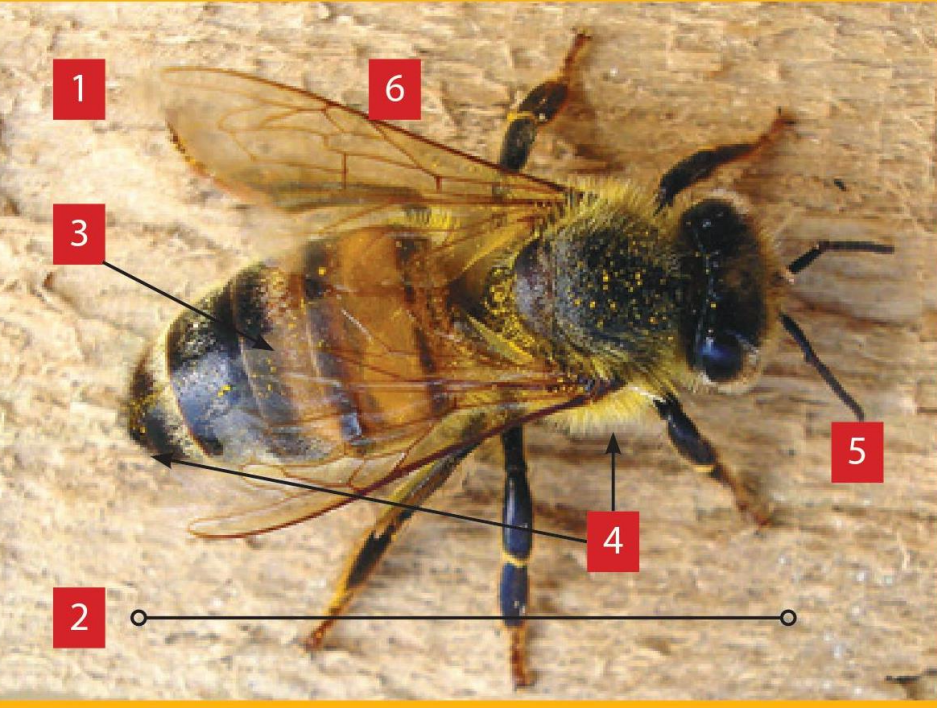
NSW GOVERNMENT | Department of Primary Industries

Basic guide to identifying bees and similar species

www.dpi.nsw.gov.au



European honey bee (*Apis mellifera*)

Honey bee

Presence in Australia:

European honey bees have been present in Australia for 190 years. They are widely established.

Distinguishing features:

1. Variable in colour but usually brownish with dull yellow and black banded abdomen
2. 13–16 mm in length
3. 2–3 visible yellow bands on abdomen
4. Fine visible hairs present over whole body
5. Antennae medium length, slightly longer than the head
6. Wing colour light brown

Have barbed stinger that remains in skin

Carry pollen on hind legs

Colonies build hives with parallel wax combs in enclosed spaces

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Phil Bendle, Taranaki Educational Resource: Research, Analysis and Information Network (T.E.R:R.A.I.N,), NZ

Teddy bear bee (*Amegilla bombiformis*)

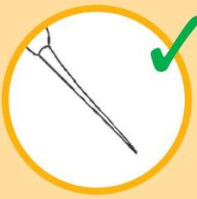
Native bee

Presence in Australia:

Teddy bear bees are native to Australia. They are widely distributed across eastern Australia, excluding Tasmania.

Distinguishing features:

1. Golden brown in colour
2. 15–20 mm in length, fatter than the European honey bee
3. 6–7 dark hairless bands on otherwise hairy abdomen
4. Dense golden brown hairs cover most of the body, including legs
5. Antennae medium length, slightly longer than the head
6. Wing colour dark brownish black



Have non-barbed stinger

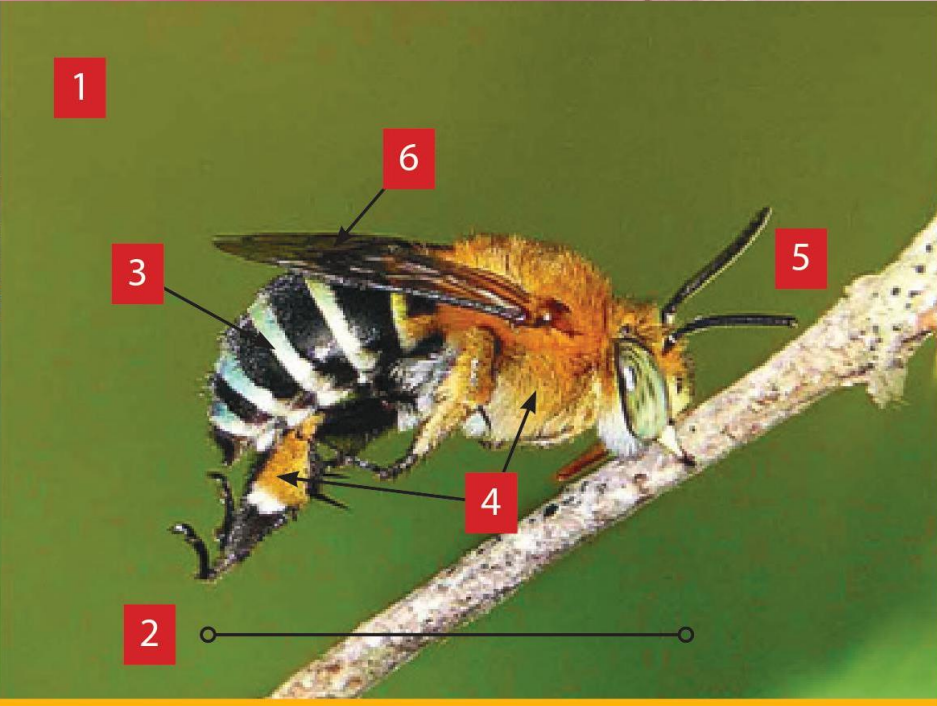
Carry pollen on hind legs

Do not build a hive. Solitary bees build individual nests underground

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Anne Dollin, Aussie Bee, Australia, www.aussiebee.com.au



Blue banded bee (*Amegilla cingulata*)

Native bee

Presence in Australia:

Blue banded bees are native to Australia. They can be found in all Australian states except Tasmania.

Distinguishing features:

1. Golden brown colouring with distinctive blue banding on the black abdomen
2. 10–12 mm in length
3. 4–5 bands alternating black and pale blue on the abdomen
4. Dense hairs cover most of the body, including legs
5. Antennae medium length, slightly longer than the head
6. Wing colour dark brownish black

Have non-barbed stinger

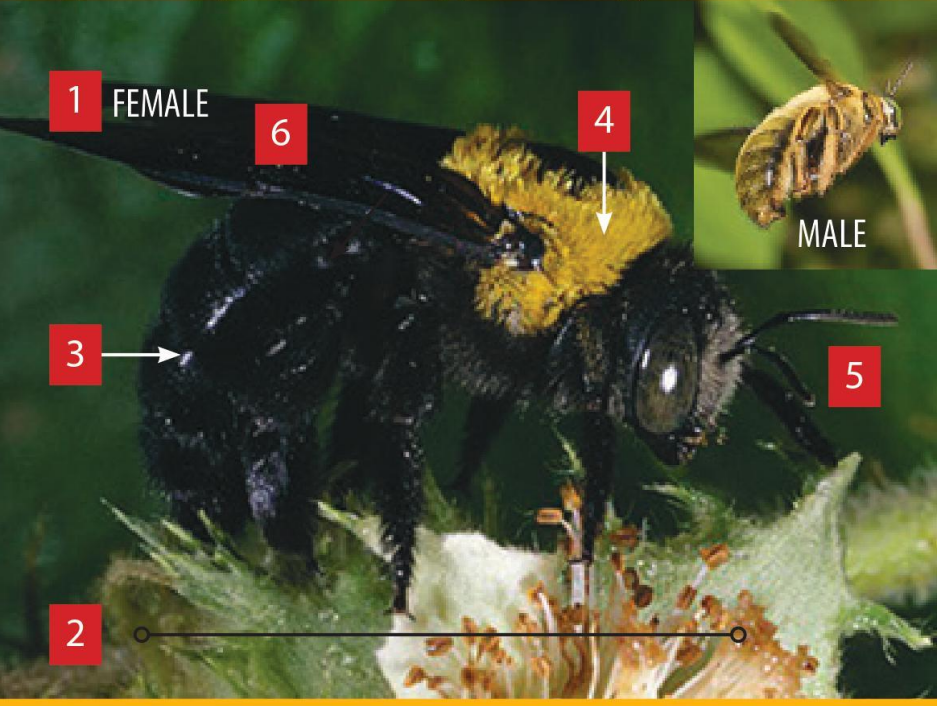
Carry pollen on hind legs

Do not build a hive. Solitary bees build individual nests underground

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Erica Siegel, Qld, Australia



Great carpenter bee (*Xylocopa aruana*)

Native bee

Presence in Australia:

Great carpenter bees are native to Australia. They can be found in all Australian states except Tasmania.

Distinguishing features:

1. **Female:** Body entirely black except for yellow thorax
   Male: Whole body pale brown
2. 19–25 mm in length
3. No distinct banding on abdomen
4. Female: dense yellow hair on thorax. Abdomen relatively hairless
5. Antennae medium length, slightly longer than the head
6. Wing colour dark brown to black

Have non-barbed stinger

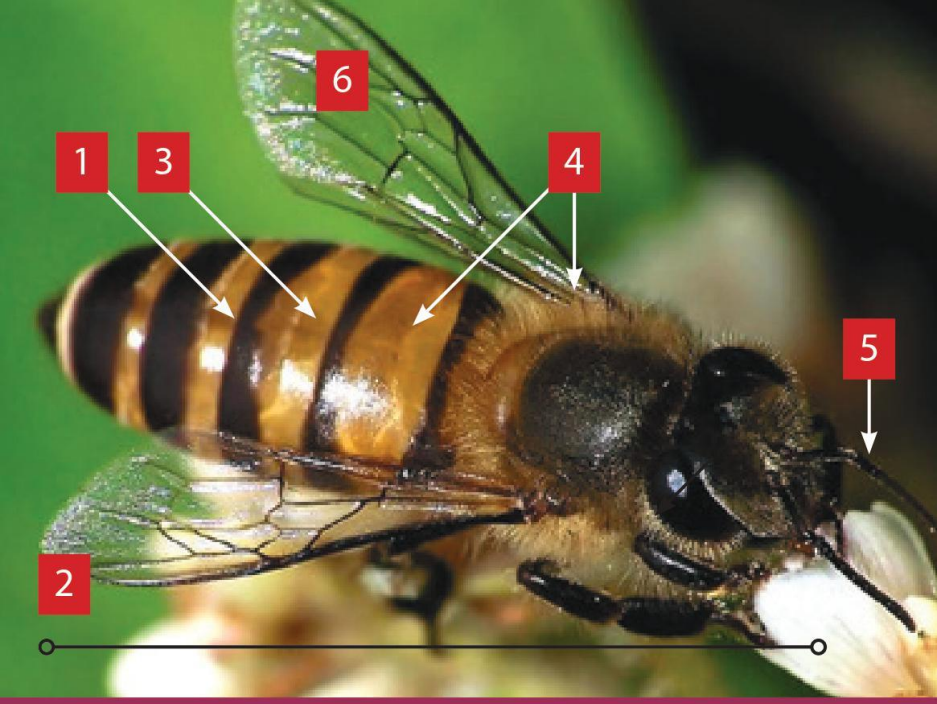
Carry pollen on hind legs

Do not build a hive. Solitary bees build individual nests in decaying wood

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

(Female) Image courtesy of The State of Queensland (Queensland Museum);
(Male) Image courtesy of Peter O, aussiebee.com.au



Asian honey bee (*Apis cerana*)

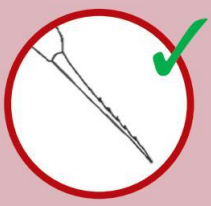
Exotic bee

Presence in Australia:

The Asian honey bee is established around Cairns in far north Queensland. If found outside of Queensland this bee must be reported to the **Exotic Plant Pest Hotline 1800 084 881**.

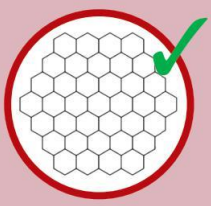
Distinguishing features:

1. Similar in colour to European honey bee but with more defined abdominal banding
2. 10–13 mm in length, smaller than European honey bee
3. 4–5 visible yellow bands on abdomen
4. Fine hairs on thorax, less visible on abdomen
5. Antennae medium length, slightly longer than the head
6. Wing colour clear with dark brown veining



Have barbed stinger that remains in skin

Carry pollen on hind legs

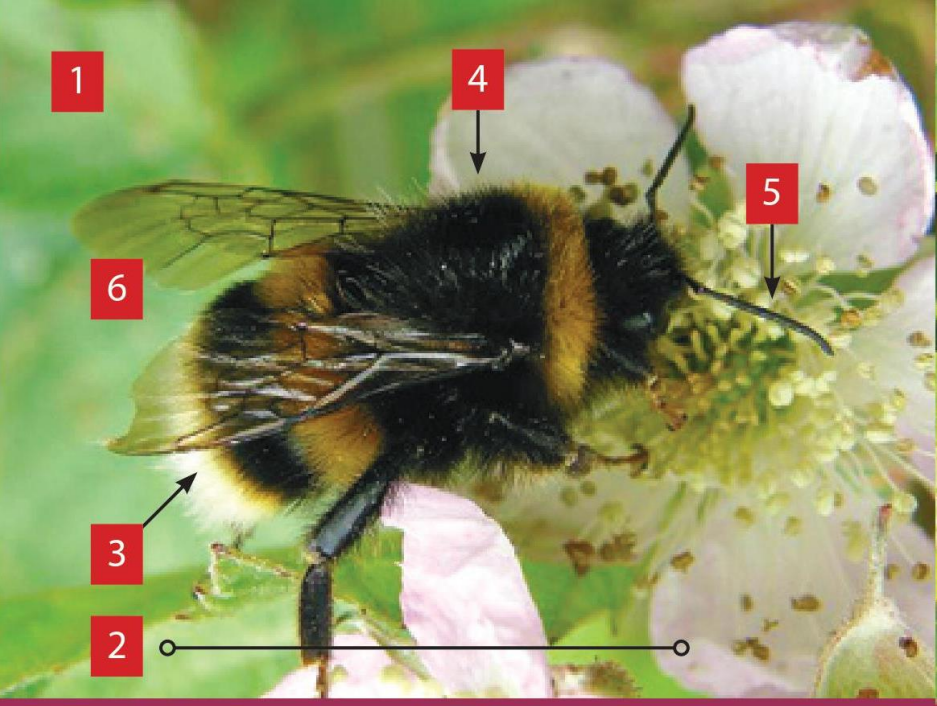


Colonies build hives with parallel wax combs in enclosed spaces

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Charles Lam, China, flickr.com



Bumblebees (*Bombus* species)

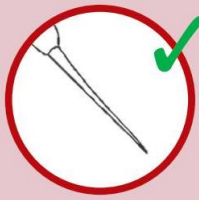
Exotic bee

Presence in Australia:

Only *Bombus terrestris* is established in Tasmania only. If found on mainland Australia this bee must be reported to the **Exotic Plant Pest Hotline 1800 084 881**.

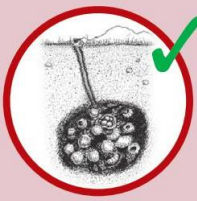
Distinguishing features:

1. Variable in colour but usually black with broad bright yellow or orange banding, varying with species
2. Workers 11–16 mm, queens up to 22 mm in length
3. End of abdomen is commonly white
4. Dense hair covering the whole body
5. Antennae medium length, slightly longer than the head
6. Wing colour variable from clear, to brown to grey



Have non-barbed stinger

Carry pollen on hind legs

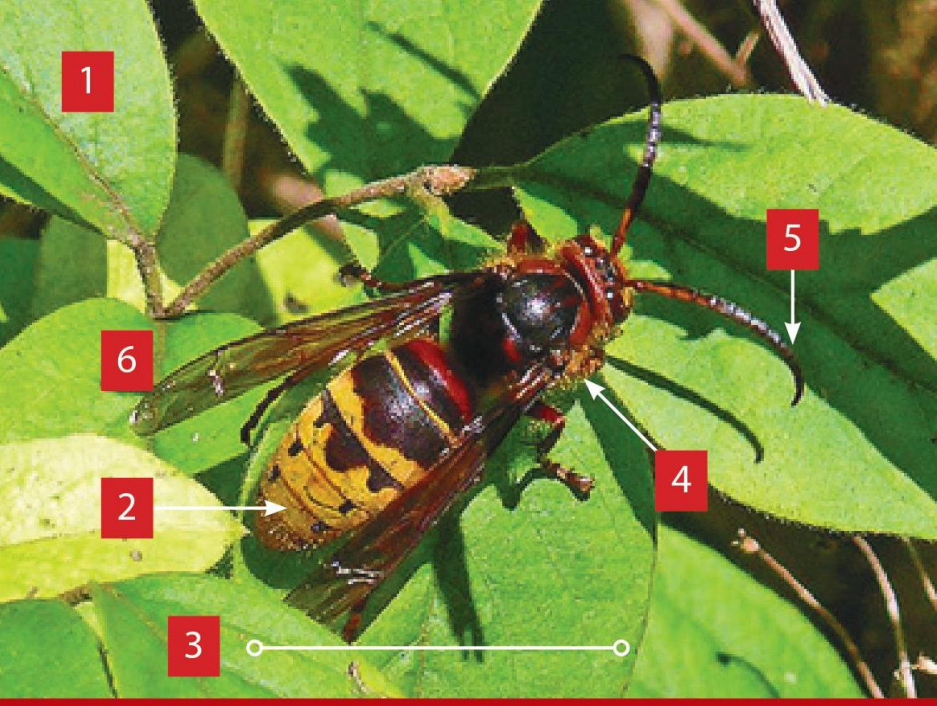


Colonies build nests underground using plant debris and wax

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Steven Falk, Exbury, Hampshire, UK



European hornet (*Vespa crabro*)

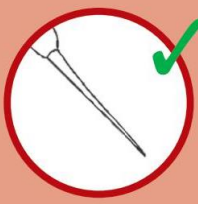
Exotic hornet

Presence in Australia:

Hornets are not present in Australia. If found in Australia this pest must be reported to the **Exotic Plant Pest Hotline 1800 084 881**.

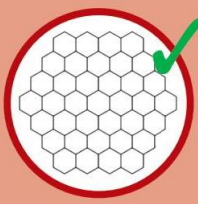
Distinguishing features:

1. The front half of body is reddish brown with black markings. The face and abdomen are yellow
2. The yellow abdomen has very thin black banding with two central triangular markings and three spots in a line down each side
3. Workers 18–23 mm, queens up to 35 mm in length
4. Fine hairs covering the whole body
5. Antennae are long, about half the body length
6. Wing colour reddish brown



Have non-barbed stinger

Do not carry pollen on hind legs

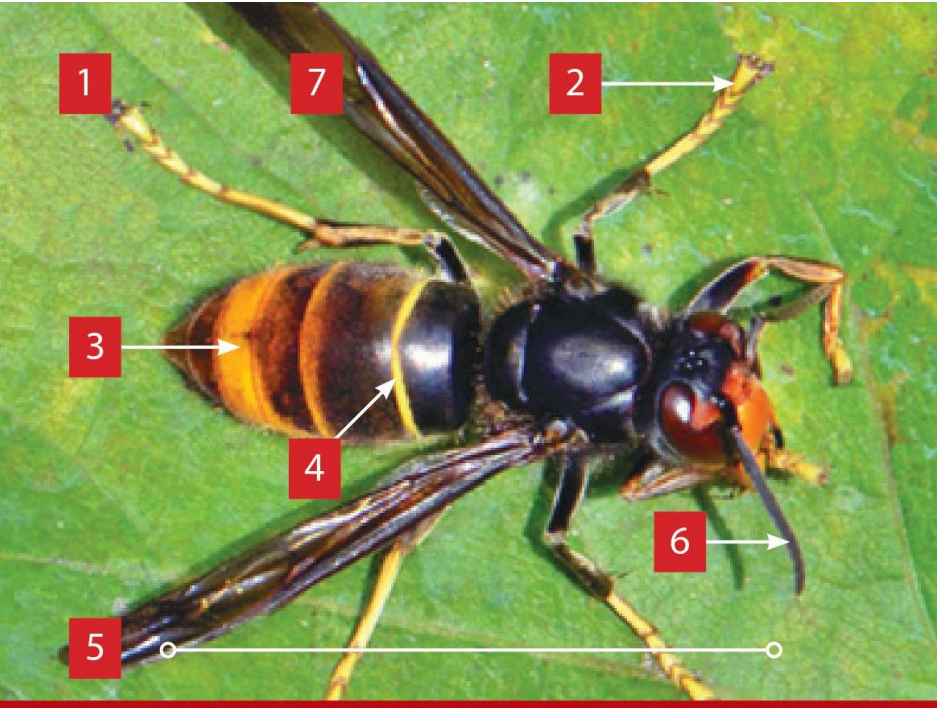


Colonies make intricate paper like nests with combs enclosed inside

Have two pairs of visible wings

Prey on large insects such as wasps, large moths, and bees

Image courtesy of Larry Meade, Fairfax County, Virginia, US, flickr.com



Asian hornet (*Vespa velutina*)

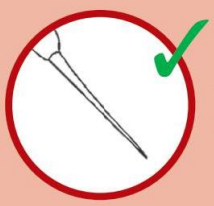
Exotic hornet

Presence in Australia:

Hornets are not present in Australia. If found in Australia this pest must be reported to the **Exotic Plant Pest Hotline 1800 084 881**.

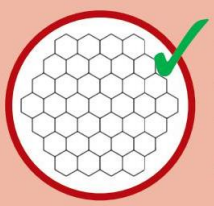
Distinguishing features:

1. Black body with orange colouring on the abdomen and face
2. Legs are black near the body and yellow near the feet
3. One broad and one thin orange band on the lower abdomen
4. Thin yellow band on the upper abdomen
5. Workers 17–24 mm, queens up to 32 mm in length
6. Antennae medium length
7. Wing colour dark brown



Have non-barbed stinger

Do not carry pollen on hind legs

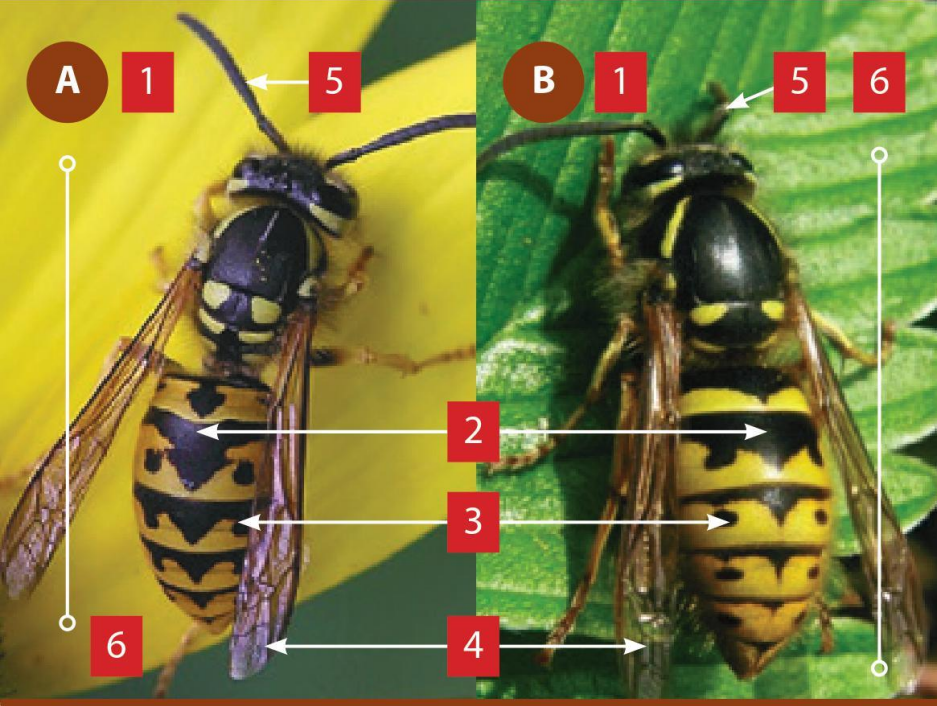


Colonies make intricate paper like nests with combs enclosed inside

Have two pairs of visible wings

Prey on large insects such as wasps, large moths, and bees

Image courtesy of Hall of Lebarthe-Inard, Lebartheinard.fr



European wasp (*Vespula germanica*) and English wasp (*Vespula vulgaris*)

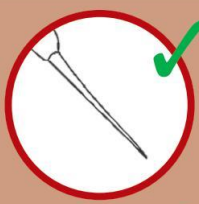
Wasps

Presence in Australia:

Both these *Vespula* wasps became established in Australia after being introduced from overseas. *Vespula germanica* [A] is now widely distributed across the country and *V. vulgaris* [B] is found in Victoria.

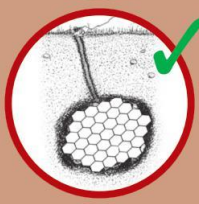
Distinguishing features:

1. Black colouring with yellow markings
2. 4–5 black bands on the abdomen with a central row of triangular markings
3. Two spots either side of each triangle on the abdomen, sometimes fused with black bands
4. Wing colour light brown
5. Medium length antennae, black in colour
6. Workers 12–17 mm, queens up to 20 mm in length



Have non-barbed stinger

Do not carry pollen on hind legs



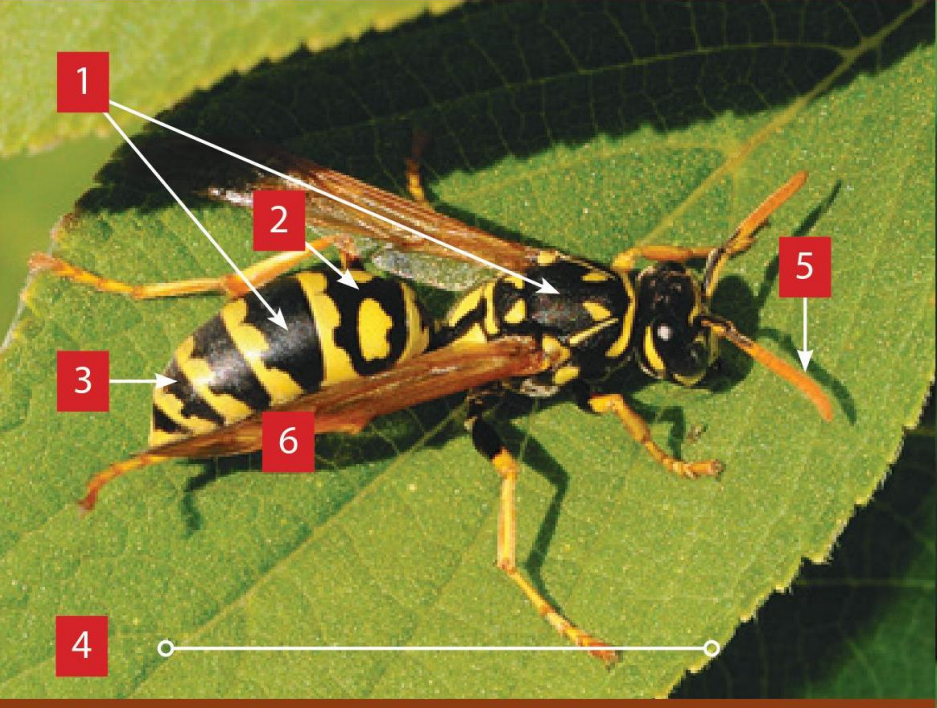
Colonies build nests underground using wood fibre

Have two pairs of visible wings

V. vulgaris feeds on pollen and nectar from flowering plants

V. germanica feeds on insects, fruit, carrion, garbage

Images: Left: *V. germanica* courtesy of Thomas Bentley, Illinois, US. Right: *V. vulgaris* courtesy of Steven Falk, Exbury, Hampshire, UK



European paper wasp (*Polistes dominulus*)

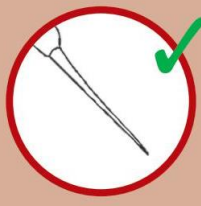
Wasp

Presence in Australia:

European paper wasps were introduced from overseas and have become established throughout the Perth metropolitan area in Western Australia.

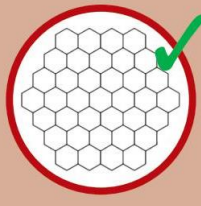
Distinguishing features:

1. Body colouring similar to *Vespula* wasps with slight differences in thorax and abdomen markings
2. 5–6 black bands on the abdomen with top two bands joined in the centre
3. Triangular markings and spots on the abdomen fused with banding, more so than *Vespula* wasps
4. 20–25 mm in length
5. Medium length antennae, orange in colour
6. Wing colour dull orange



Have non-barbed stinger

Do not carry pollen on hind legs

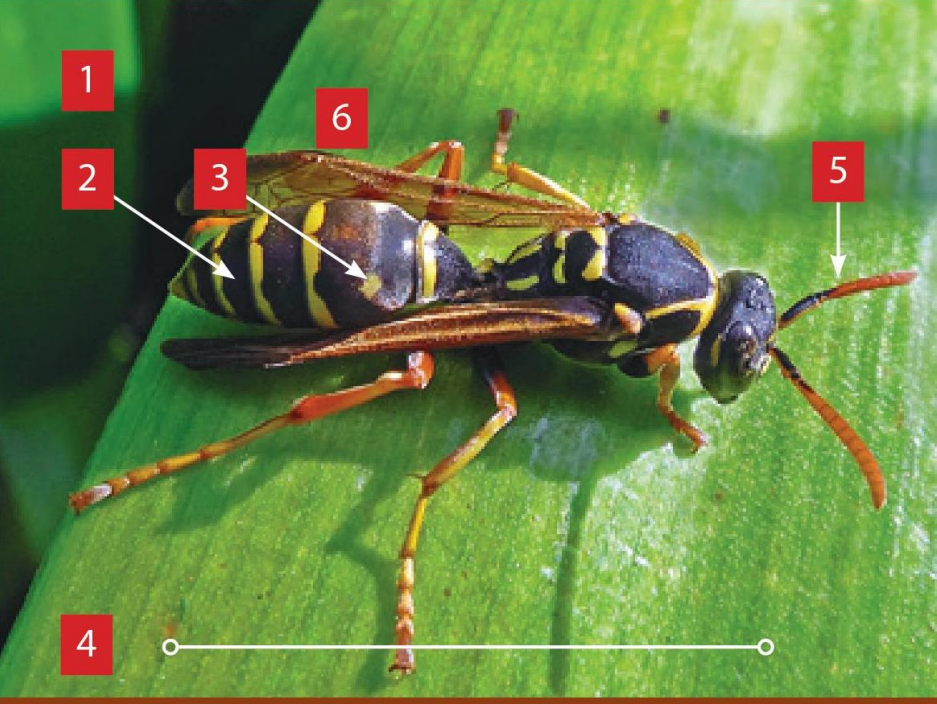


Colonies make intricate paper like nests with combs enclosed inside

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Kathy Keatley Garvey, University of California, Division of Agriculture and Natural Resources



Asian paper wasp (*Polistes chinensis*)

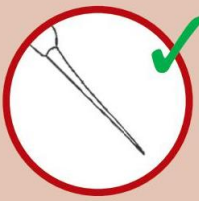
Wasp

Presence in Australia:

Asian paper wasps were introduced from overseas and have become established throughout New South Wales.

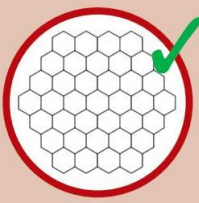
Distinguishing features:

1. Black in colour with yellow markings and orange legs
2. 3–4 yellow bands on the black abdomen with a small triangular indent in the centre
3. Two yellow spots either side of the upper abdomen
4. 13–25 mm in length
5. Antennae medium length, orange in colour
6. Wing colour dull orange



Have non-barbed stinger

Do not carry pollen on hind legs

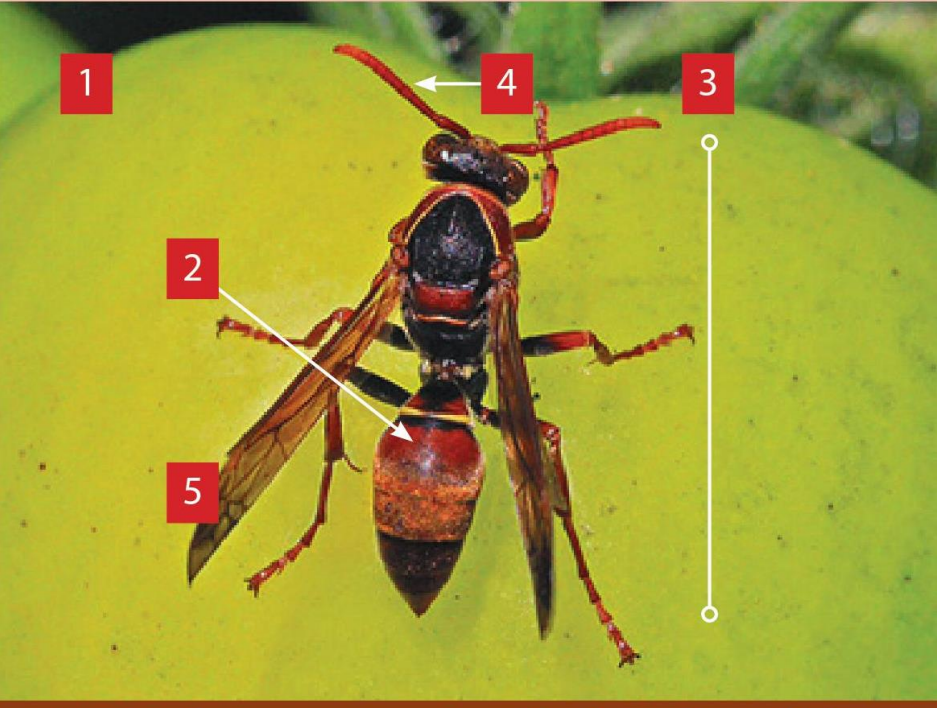


Small colonies build nests with cells in an inverted cup shape in trees and under eaves of houses

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Phil Bendle, Taranaki Educational Resource: Research, Analysis and Information Network (T.E.R:R.A.I.N,), NZ



Australian paper wasp (*Polistes humilis*)

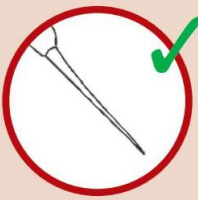
Native wasp

Presence in Australia:

Australian (or common) paper wasps are native to Australia. They are widely distributed.

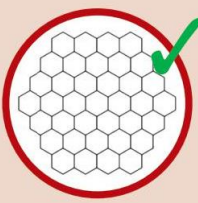
Distinguishing features:

1. Reddish brown and black colouring with distinct yellow markings on face, thorax and abdomen
2. Multi coloured abdominal banding includes reddish brown, tan, dark brownish black and yellow
3. 10–15 mm in length
4. Antennae medium length, reddish brown in colour
5. Wing colour reddish brown



Have non-barbed stinger

Do not carry pollen on hind legs

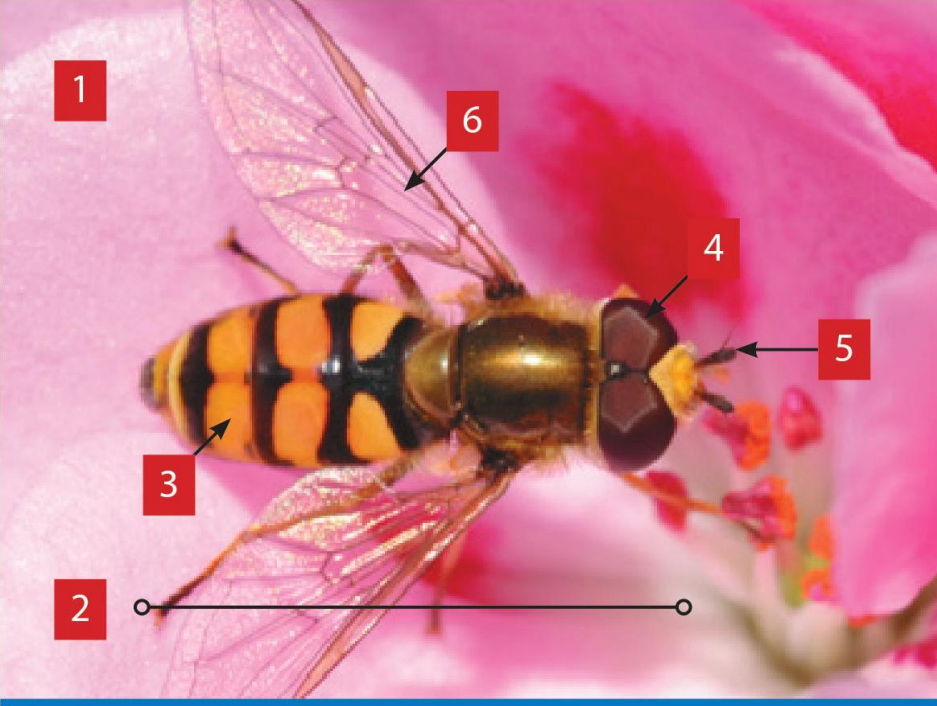


Small colonies build nests with cells in an inverted cup shape in trees and under eaves of houses

Have two pairs of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Jan Doak, Taranaki Educational Resource: Research, Analysis and Information Network (T.E.R:R.A.I.N,), NZ



Hoverflies (*Melangyna viridiceps* and *Simosyrphus grandicornis*)

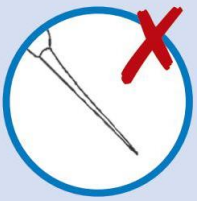
Bee lookalike

Presence in Australia:

These hoverflies are native to Australia and are widely distributed.

Distinguishing features:

1. Dark brown to black in colour with yellow banding
2. 8–10 mm in length
3. 3 broad yellow bands on abdomen. Break in the centre of the highest band (and often lower bands as well)
4. Eyes of male hoverflies fuse at the top of the head whereas eyes of honey bees are distinctly separate. Female hoverflies also have separated eyes but can be distinguished by other features
5. Very short antennae
6. Wing colour clear with brown veining



Do NOT have a stinger

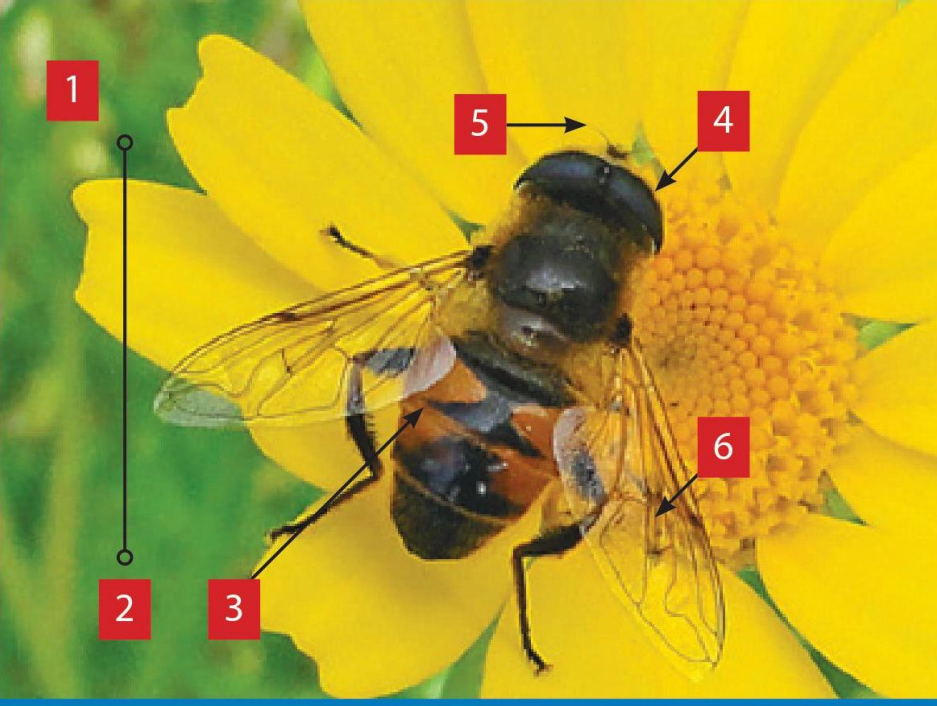
Do NOT carry pollen on hind legs

Do not live in colonies or build hives

Have one pair of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Thomas Bresson, Belfort, France, Wikipedia.org



Drone fly (*Eristalis tenax*)

Bee lookalike

Presence in Australia:

Drone flies are widely established across Australia.

Distinguishing features:

1. Colouring mimics the European honey bee *(Apis mellifera)*
2. 13–15 mm in length
3. Banding mimics that of the European honey bee but yellow bands are broken in the centre
4. Eyes of male drone flies fuse at the top of the head whereas eyes of honey bees are distinctly separate. Female drone flies also have separated eyes but can be distinguished by other features
5. Very short antennae
6. Wing colour clear with brown veining

Do NOT have a stinger

Do NOT carry pollen on hind legs

Do not live in colonies or build hives

Have one pair of visible wings

Feed on pollen and nectar from flowering plants

Image courtesy of Phil Bendle, Taranaki Educational Resource: Research, Analysis and Information Network (T.E.R:R.A.I.N,), NZ

Report suspect exotic bees and bee pests to the Exotic Plant Pest Hotline

Email photos and questions to **biosecurity@dpi.nsw.gov.au**

www.dpi.nsw.gov.au/content/biosecurity/plant

Further resources

Websites

BeeAware
http://beeaware.org.au

Plant Health Australia
www.planthealthaustralia.com.au

Publications

Biosecurity Manual for Beekeepers
Plant Health Australia

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