National
BIODIVERSITY
DATA CENTRE

Documenting Ireland's Wildlife

Distinguishing between
B. lucorum and *B. terrestris*

Thanks to all those who have generously allowed their photographs
to be used in this guide

Photographs will first appear unlabeled so that you have the
option to test your identification if you wish

Queen

©Ralph Sheppard

Bombus terrestris: One band on the thorax. Bands are orange-yellow and the tail is off-white or buff. This queen has an exceptionally buff tail.

©Ralph Sheppard

Queen

©Patrick McGurn

Bombus terrestris: One band on the thorax (difficult to see here). Bands are orange-yellow and the tail is off-white or buff.

©Patrick McGurn

Queen

©Fiona Johnson

Bombus lucorum: One band on the thorax. Bands are lemon yellow and the tail is a clean white.

©Fiona Johnson

Queen

©Catherine Drea

Bombus lucorum: One band on the thorax. Bands are lemon yellow and the tail is a clean white.

©Catherine Drea

It can be difficult to distinguish these two species. The best approach is to decide if it's *B. lucorum* (must have a <u>clean white tail</u> and lemon yellow bands). If it doesn't then it's *B. terrestris*.

©Patrick McGurn

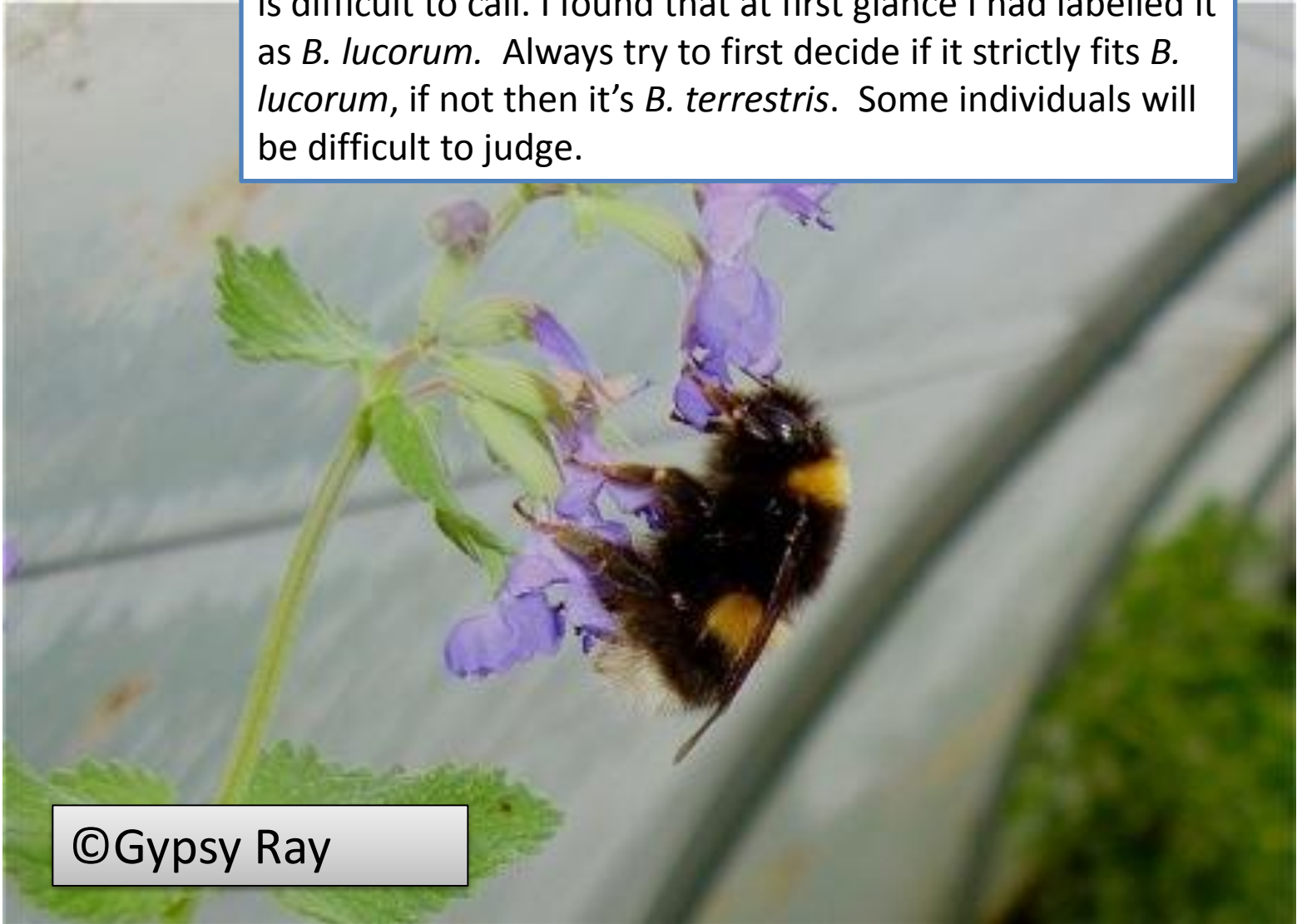©Patrick McGurn

Bombus lucorum   ***Bombus terrestris***

Queen

©Gypsy Ray

Bombus terrestris: One band on the thorax. From the photograph I don't think the tail is a clean white. This one is difficult to call. I found that at first glance I had labelled it as *B. lucorum.* Always try to first decide if it strictly fits *B. lucorum*, if not then it's *B. terrestris*. Some individuals will be difficult to judge.
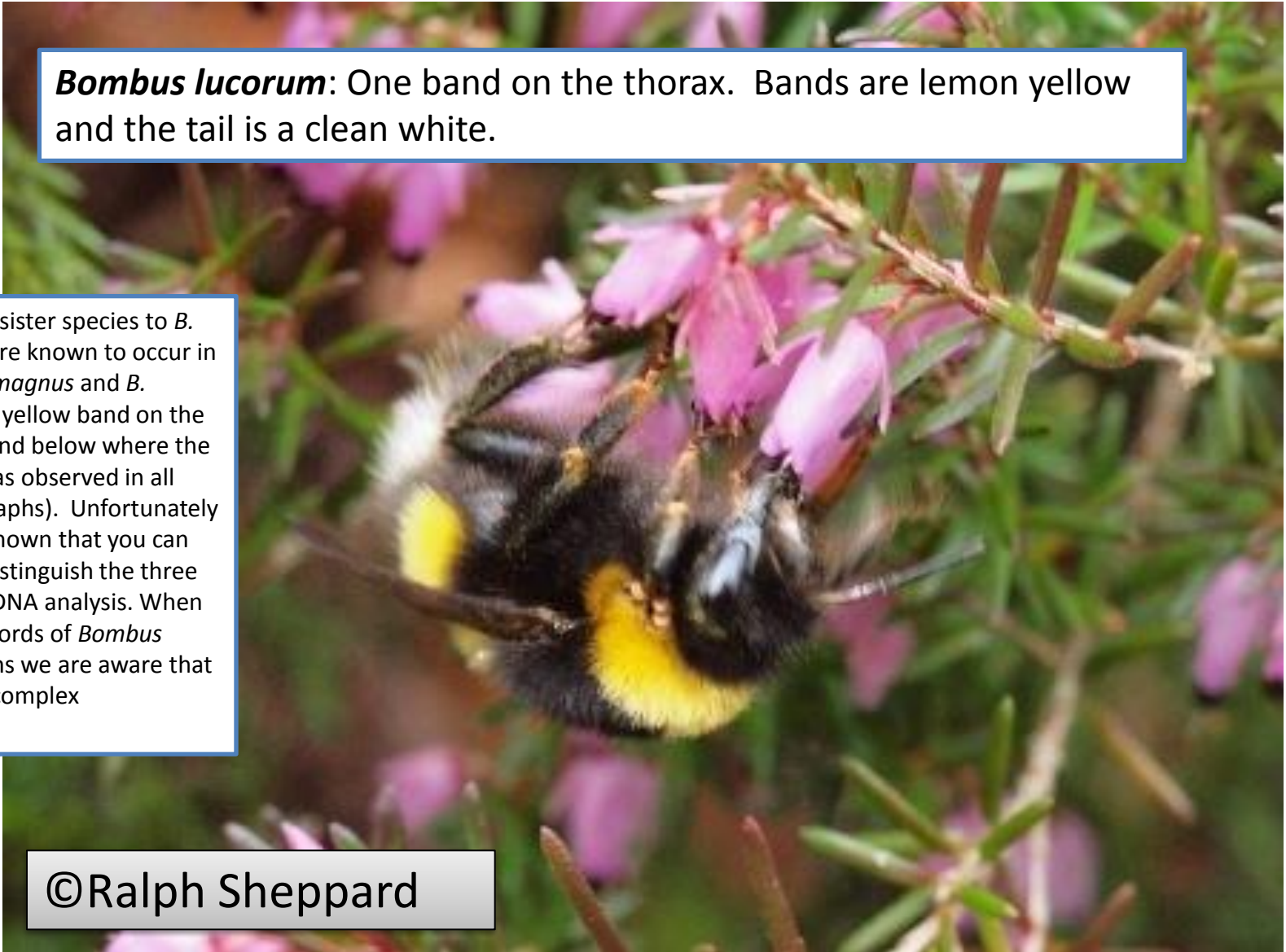
©Gypsy Ray

Queen

©Ralph Sheppard

Bombus lucorum: One band on the thorax. Bands are lemon yellow and the tail is a clean white.

There are two sister species to *B. lucorum* that are known to occur in Ireland. In *B. magnus* and *B. cryptarum* the yellow band on the collar can extend below where the wings attach (as observed in all these photographs). Unfortunately studies have shown that you can only reliably distinguish the three species using DNA analysis. When we receive records of *Bombus lucorum* queens we are aware that it is a species complex

©Ralph Sheppard

SIZE

Queens are much larger than workers or males which are of a similar size to each other. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

©Ralph Sheppard

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Queens: up to 2cm long (broad bean sized), thorax is more than a 1cm broad

Workers and males can be up to 1.5cm but are smaller overall and the thorax is less than 1cm broad
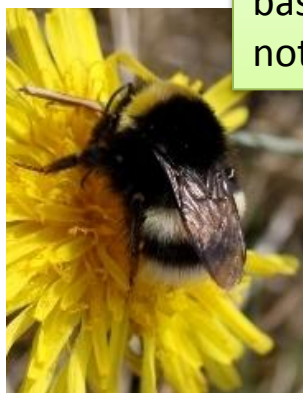
QUEEN	WORKER	MALE

B. terrestris

B. lucorum

Cannot be reliably distinguished on sight regardless of the band colour. Record as *B. lucorum* agg. A pollen basket or a sting would indicate it's not a male.

© Bryan Pinchen

Queens can be distinguished

B. lucorum males can be distinguished by the yellow hairs on their face

Worker

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

©John Breen

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Bombus lucorum agg: This worker has one yellow band on thorax and a white tail. Unless it's a queen (would be larger) you cannot reliably distinguish *B. lucorum* from *B. terrestris.*

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

©John Breen

Worker or male

©Aoife O'Rourke

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

Bombus lucorum agg: This individual has one yellow band on thorax and a white tail. Unless it's a queen (would be larger) you cannot reliably distinguish *B. lucorum* from *B. terrestris.*

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

©Aoife O'Rourke

Worker

©Paul Spain

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

Bombus lucorum agg: This worker is a little unusual at first glance but you can see the fringe of long hairs on the hind leg which means its not a cuckoo bee.

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

©Paul Spain

Worker

©Michael O'Donnell

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

Bombus lucorum agg: This worker shows very unusual fading. It does have a white tail and one band on the thorax which means it can't be anything other than B. lucorum agg. It turned up a few times along the east coast in 2011.

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.
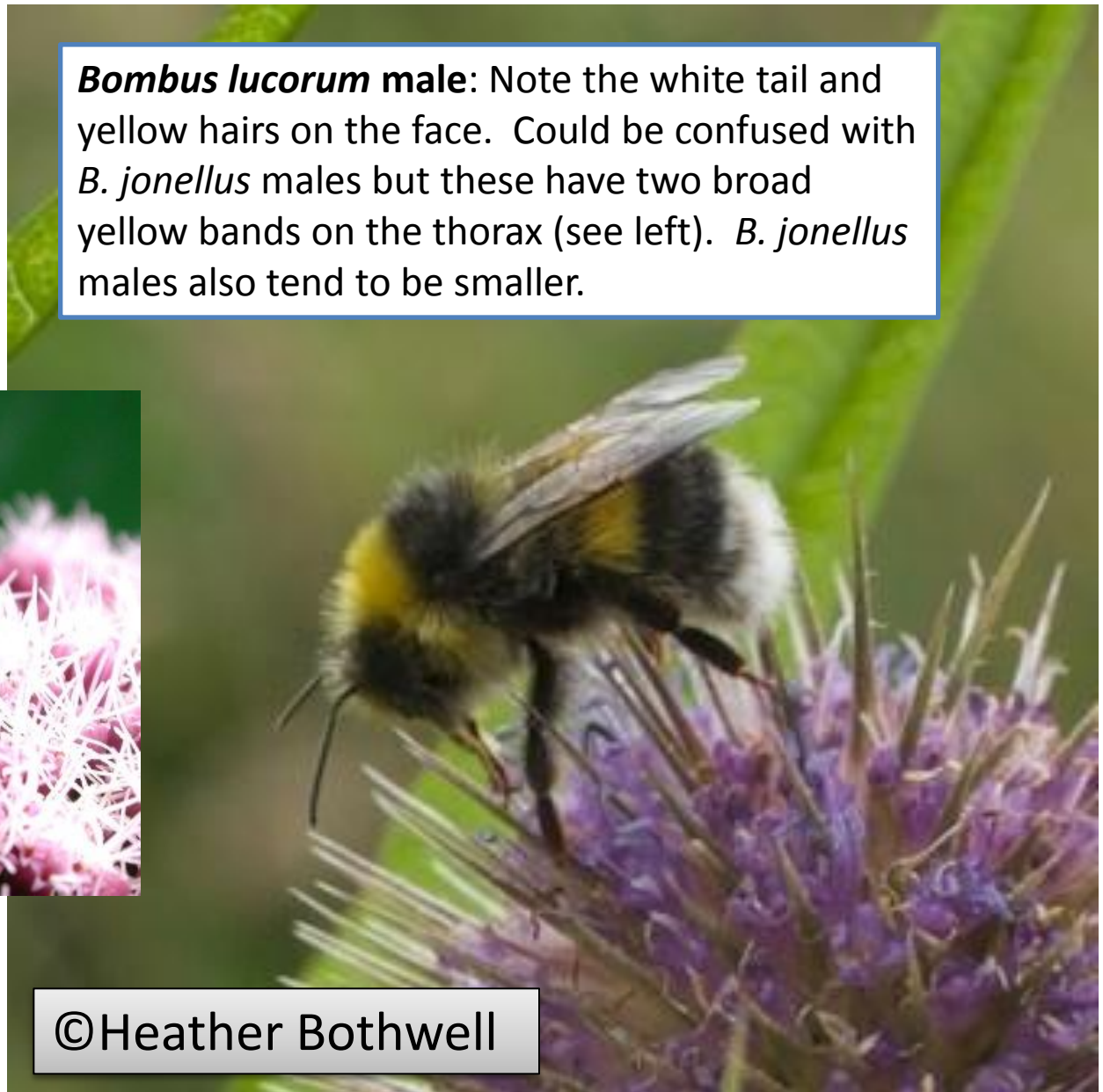
©Michael O'Donnell

Worker

©Paul Spain

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

Bombus lucorum agg: This worker has one yellow band on thorax and a white tail. Unless it's a queen (would be larger) you cannot reliably distinguish *B. lucorum* from *B. terrestris.*

With only a photograph, it is difficult to get a perspective of the size of workers in comparison to the queens. Queens are noticeably large (particularly *B. terrestris*) and are only observed occasionally outside spring.

©Paul Spain

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***Bombus lucorum* male**: Note the white tail and yellow hairs on the face. Could be confused with *B. jonellus* males but these have two broad yellow bands on the thorax (see left). *B. jonellus* males also tend to be smaller.
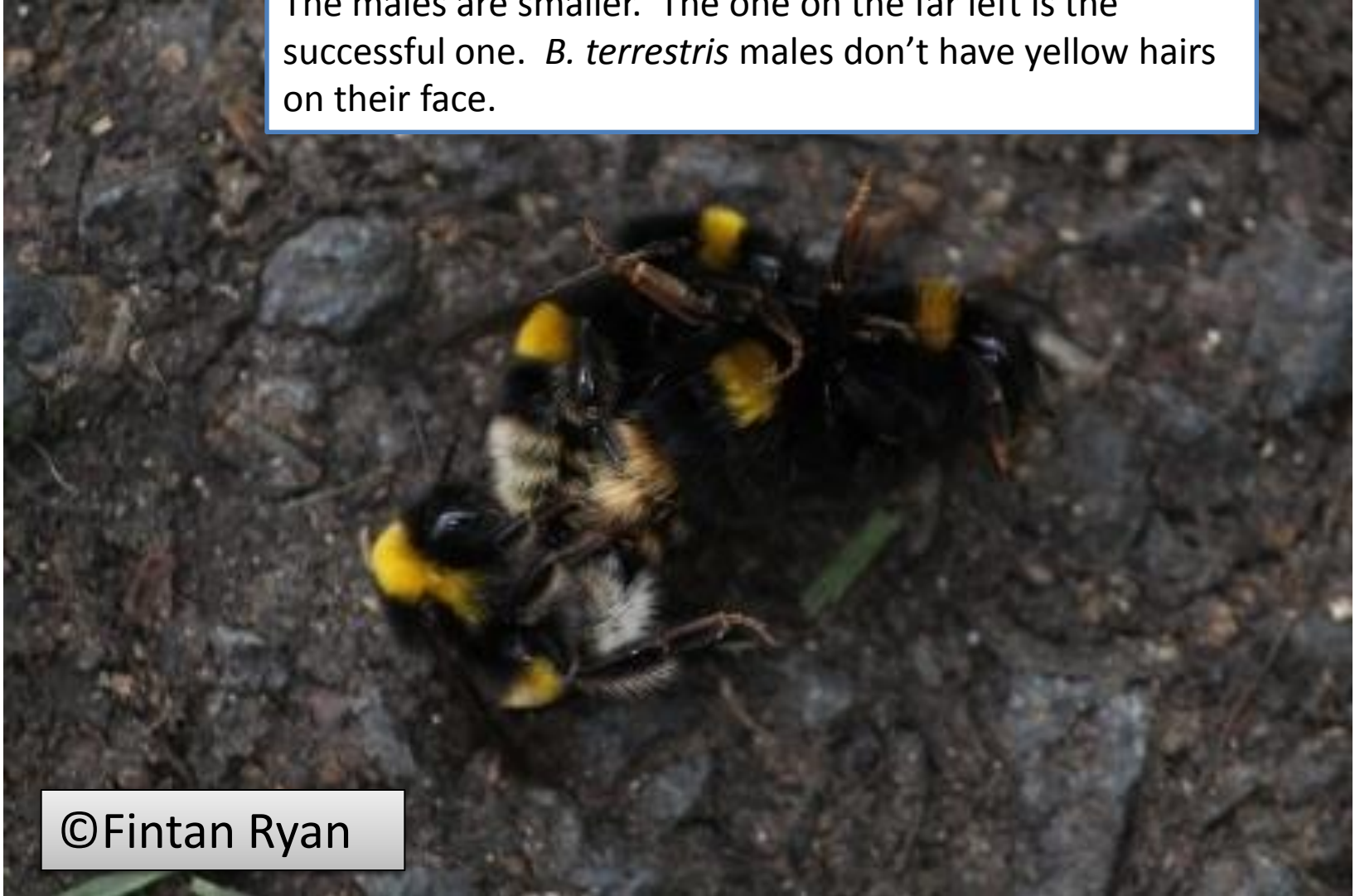
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***Bombus terrestris* queen and male(s?)**: You can see the queen on the right (orange-yellow bands and buff tail). The males are smaller. The one on the far left is the successful one. *B. terrestris* males don't have yellow hairs on their face.

©Fintan Ryan