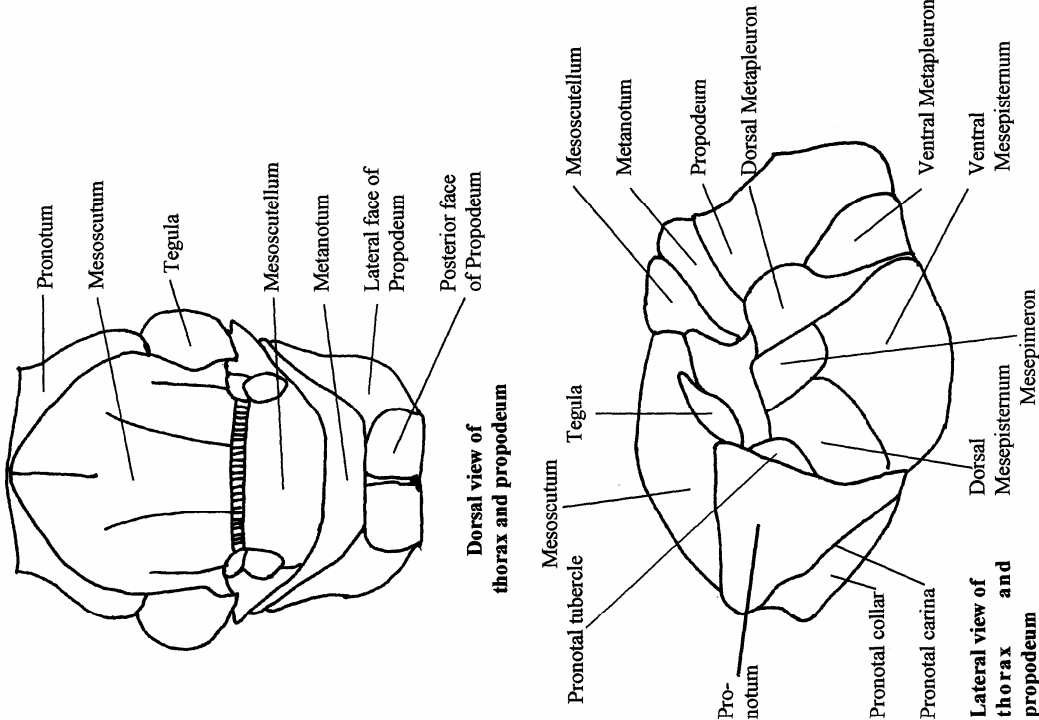
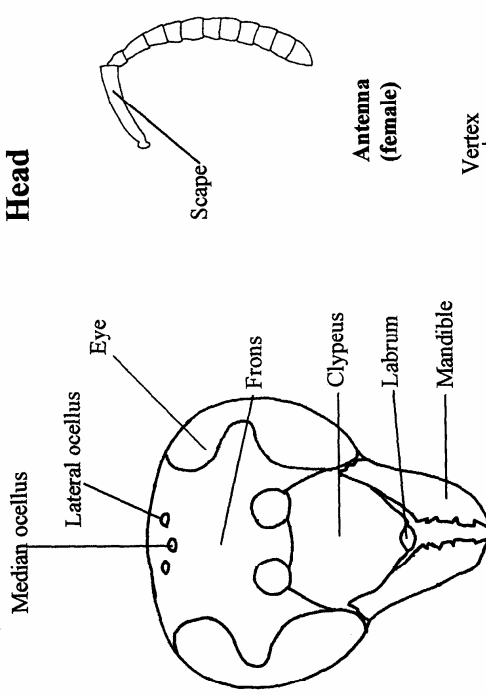


**Thorax and Propodeum**



Before presenting the new key it is necessary to give some information about the morphology of the adults. The first segment of the abdomen has become closely associated with the thorax, where it is called the propodeum. The rest of the abdomen, called the gaster, is separated from the propodeum by the waist. As such, the adult body consists of the head, thorax with propodeum and the gaster. Females have six visible segments to the gaster and twelve segments to the antenna including the scape. Males have seven visible segments to the gaster and thirteen segments to the antenna including the scape.

## Head

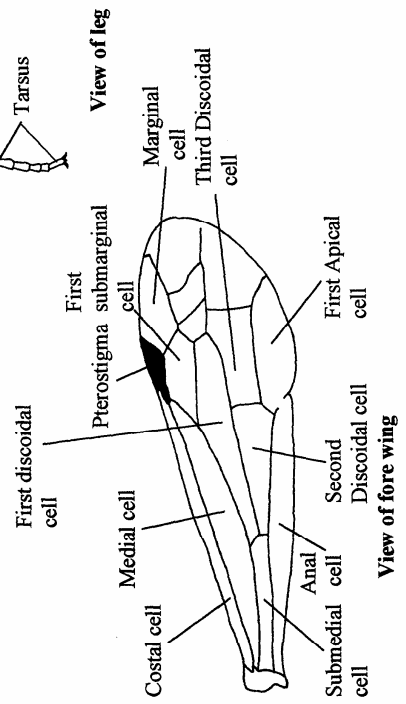
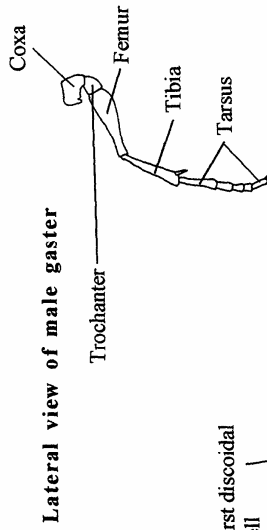
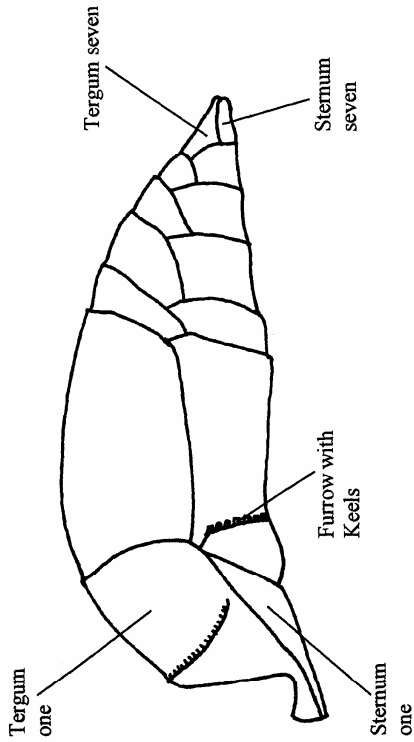


Frontal view head

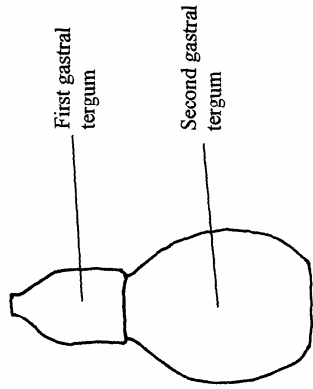
General illustrations of the head, thorax, propodeum, leg, wing and gaster based on *Ancistrocerus*

Lateral view head

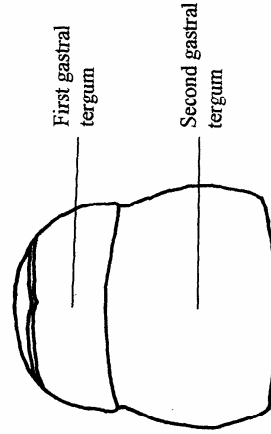
## Gaster, Leg and Wing



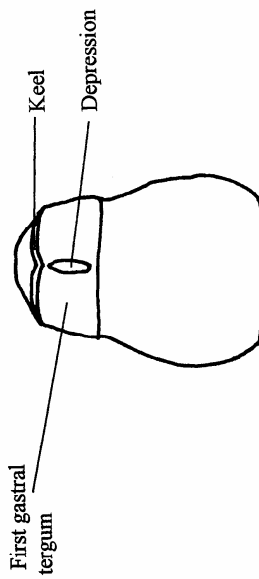
1. First gastral tergum petiolated, i.e. petiolated posteriorly so that it is about half as wide as the second gastral segment. **Eumenes coarctatus**



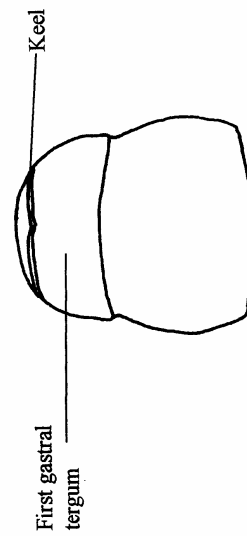
- First gastral tergum non-petiolated, and nearly as wide as the second gastral tergum. **2**



- 2. The first gastral tergum with a transverse keel just posterior to the anterior slope.
  - 3. - The first gastral tergum without a keel just posterior to the anterior slope.
  - 15. 3. First gastral tergum with a central anterior-posterior linear depression.
- Symmorphus 4.**



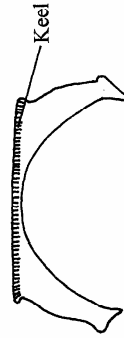
- First gastral tergum without a central anterior-posterior linear depression.
- Ancistrocerus 7.**



- 4. Lateral anterior pronotal angles pointed and projecting forwards.
- Symmorphus gracilis**



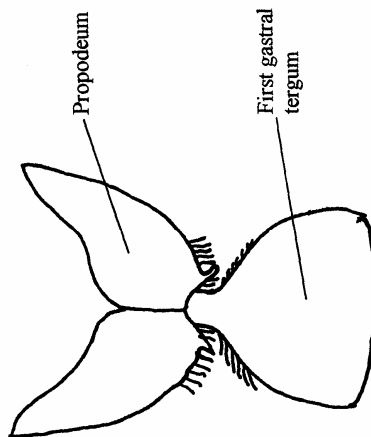
- Lateral anterior pronotal angles rounded, or if pointed, projecting laterally.
- 5.**



- 5. The punctures on the area in front of the ocelli separated by flat surfaces.
- (Hair characteristics as for **Symmorphus bifasciatus**).
- Symmorphus connexus**

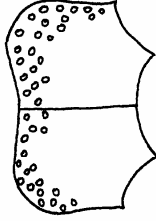
- The punctures on the area in front of the ocelli so close together that they are separated only by ridges
- 6.**

6. Hairs on the sloping face of the first gastral tergum long, as long as the hairs on the propodeum (left of diagram). Generally hair on the head, thorax and propodeum long. The hair on the mesoscutum as long as the width of the antennal scape.  
**Symmorphus crassicornis**



- Hairs on the sloping anterior face of the first gastral tergum short, shorter than the hairs on the propodeum (right of diagram). Generally hair on the head, thorax and propodeum short. The hair on the mesoscutum shorter than the width of the antennal scape.  
**Symmorphus bifasciatus**

7. Posterior face (diagram below) and lateral faces of the propodeum in part without surface structures, these parts smooth. **Ancistrocerus antiope**



- Posterior and lateral faces of the propodeum with surface structures, so not smooth. **8.**

8. Surface of the second gastral sternum concave or flat posterior to the keeled furrow. Surface of the second gastral sternum does not abruptly slope into the keeled furrow. (View gaster ventrally to see these characters). Keels in the furrow about 1.5 times longer than the distance between them (except for **A. quadratus** where about twice as long as the distance between them. The central keels and most of the lateral keels of similar length (less clear for **A. quadratus**)). **9.**

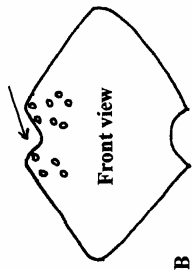


- Surface of the second gastral sternum either convex posterior to the keeled furrow or the surface of the second gastral sternum abruptly slopes into the keeled furrow. (View gaster ventrally to see these characters). Keels in the furrow at least twice as long as the distance between them. The longest keels are the central ones. **11.**

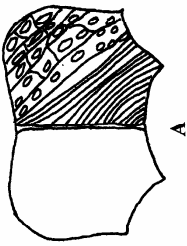


9. Posterior face of the propodeum with many diagonal narrow ridges close to each other (A). Keel of the first gastral tergum with a deep central notch (B, arrow). Yellow band on the first gastral tergum often gradually widened towards the sides (C).

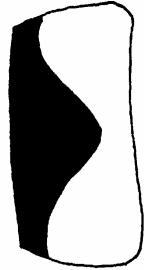
**Ancistrocerus parietum**



B



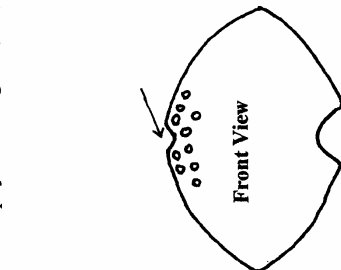
A



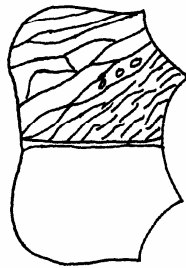
C

- Posterior face of the propodeum without many diagonal narrow ridges. If ridges are visible they are fewer in number and widely separated (A). Keel of the first gastral tergum often without a central notch, but if a notch is present, it is shallow (B, arrow). Yellow band on the first gastral tergum often abruptly or rectangularly expanded at the sides (C)

10.



B



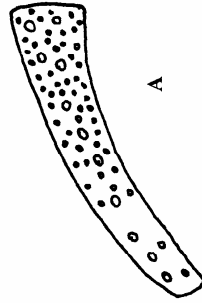
A



C

10. Antennal scape covered in large punctures, but with small punctures restricted to the apical part of the scape (A). Surface of the second gastral sternum concave posterior to the keeled furrow. (View gaster ventrally to see this character). Central and lateral keels (except extreme edge) in the furrow of similar length (couplet 8).

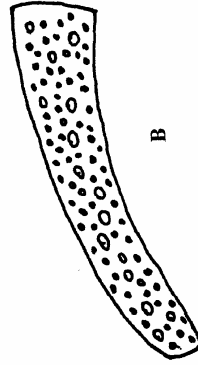
**Ancistrocerus gazella**



A

Antennal scape covered entirely in large and small punctures (B). Surface of the second gastral sternum flat posterior to the keeled furrow. (View gaster ventrally to see this character). Central keels in the furrow longer than the lateral keels (couplet 8).

**Ancistrocerus quadratus**



B

11. Weakly convex surface of the second gastral sternum gradually merges into the keeled furrow. (View gaster ventrally to see this character).

12.

- Surface of the second gastral sternum abruptly meets the keeled furrow, giving rise to a 'ridge-like' structure.

13.

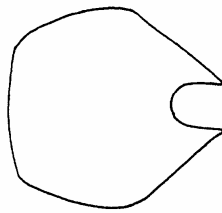
12. Yellow band or spot on each of the anterior three or four gastral terga. Gaster relatively more elongate, the first gastral tergum more than half as long as wide, when measured from the anterior keel to the posterior margin of the tergum, and its greatest width. **Ancistrocerus trifasciatus**

- Yellow band or spot on each of the anterior six gastral terga. Gaster relatively less elongate, the first gastral tergum about half as long as wide, when measured from the anterior keel to the posterior margin of the tergum, and its greatest width. **Ancistrocerus parietinus**

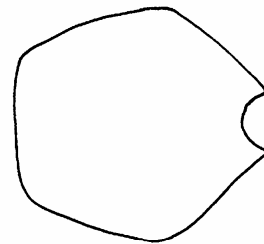
13. Surface of the second gastral sternum behind the "ridge" concave. (View gaster ventrally to see this character) (Yellow band or spot on each of the anterior five or six gastral terga). (The anterior margin of the clypeus of the male with a half-circular notch). **Ancistrocerus nigricornis**

- Surface of the second gastral sternum behind the "ridge" weakly convex or flat. (View the gaster ventrally to see this character). 14.

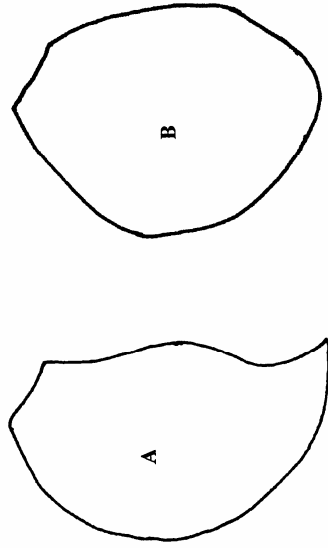
14. Yellow band or spot on each of the anterior five or six gastral terga. The anterior margin of the clypeus of the male with a notch deeper than a half-circle. **Ancistrocerus oviventris**



- Yellow band or spot on each of the anterior three or four gastral terga. The anterior margin of the clypeus of the male less deep, like a half-circle. **Ancistrocerus scoticus**



15. Tegula pointed posteriorly (A, left tegula)  
- Tegula rounded posteriorly (B, left tegula)



16. Thorax and propodeum elongate, being nearly twice as long as wide. The large punctures on the mesoscutum are separated by flat areas covered in micropunctures. No red marks present on the first gastral tergum. **Microdynerus exilis**



Thorax and propodeum only a little longer than wide. The large punctures on the mesoscutum are separated by ridges, either with or without micropunctures. Red mark may or may not be present on the first gastral tergum. Mandible with a different arrangement of teeth in both sexes.

17

17. First gastral tergum with red marks. Head of female with a depressed area behind the ocelli extending laterally to the lateral margins of the posterior ocelli. Male with the anterior margin of the clypeus deeply notched, like a half-circle in shape (A). Mandible of the female with five distinct teeth (B). Mandible of the male with three teeth, the second tooth apically truncate, and a deep rectangular notch between the second and third teeth (C).



**Pseudepipona herrichii**

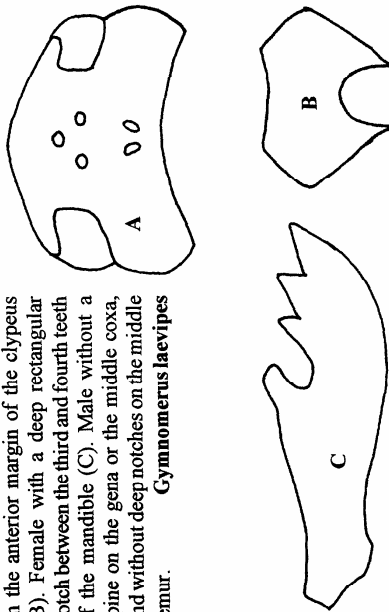
- First gastral tergum without red marks. The head of female with a depressed area behind the ocelli extending laterally beyond the lateral margins of the posterior ocelli. Male with the anterior margin of clypeus shallowly notched, less than a half-circle (A). Mandible in both sexes with four teeth, but the fourth tooth is double pointed (B).



**Euodynerus quadrifasciatus**

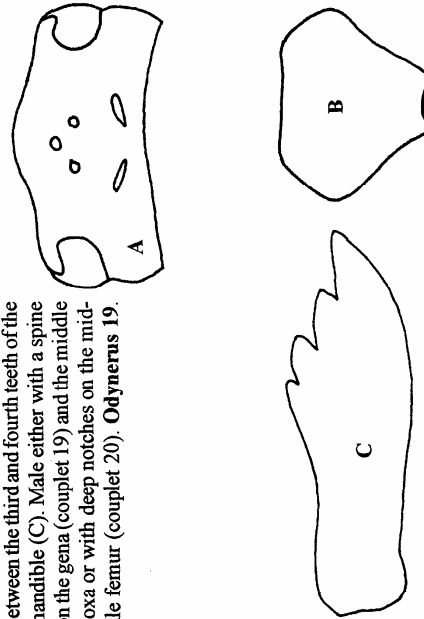
18. Distance between the posterior ocelli less than twice the distance from the posterior ocelli to the back of the head (A). On the mesoscutum there are no ridges between the closely-set punctures. Female with a deep notch on the anterior margin of the clypeus (B). Female with a deep rectangular notch between the third and fourth teeth of the mandible (C). Male without a spine on the gena or the middle coxa, and without deep notches on the middle femur.

**Gymnomenus laevipes**



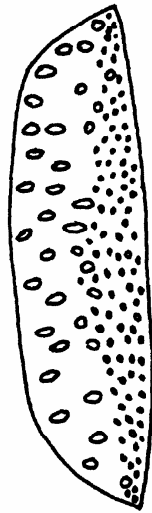
- Distance between the posterior ocelli at most twice the distance from the posterior ocelli to the back of the head (A). On the mesoscutum ridges separate the closely-set punctures. Female with a shallow notch on the anterior margin of the clypeus (B). Female without a deep rectangular notch between the third and fourth teeth of the mandible (C). Male either with a spine on the gena (couplet 19) and the middle coxa or with deep notches on the middle femur (couplet 20).

**Odynerus 19.**

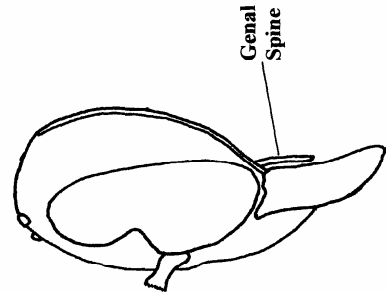
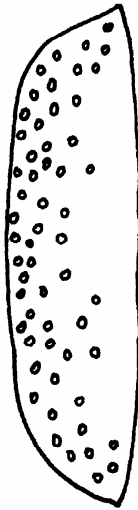




19. Female with posterior surface of the metanotum covered with small punctures; metanotum black. Male with the middle femur having two deep notches and three projections (couplet 20); no spine present on the gena and middle coxa.



- Female with posterior surface of the metanotum without punctures; metanotum with an anterior yellow band. Male with the middle femur without deep notches and projections; spine present on the gena and middle coxa.



20. Female with the head, thorax and propodeum covered with black hair. Male with the central projection on the middle femur truncate (A).

**Odynerus spinipes**



- Female with the head, thorax and propodeum covered with pale hair. Male with the central projection on the middle femur bluntly pointed (B).

**Odynerus melanocephalus**



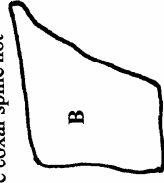
21. Female with the central fine punctures on the second gastral sternum close together so that the distance between the punctures is more-or-less equal to the diameter of the punctures. Male with the middle coxal spine parallel-sided so that it appears longer (A).

**Odynerus reniformis**

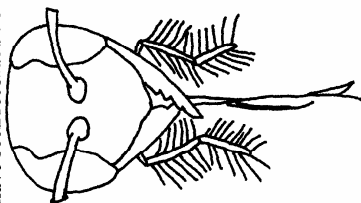


- Female with the central fine punctures on the second gastral sternum widely separated so that the distance between the punctures is greater than the diameter of the punctures. Male with the middle coxal spine not parallel-sided so that it appears shorter (B).

**Odynerus similimus**

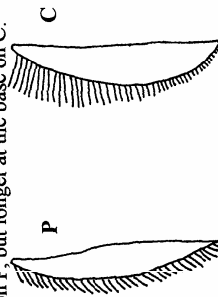


Three other species of potter and mason wasps have been recorded from the British Isles: *Pterocheilus phaleratus* (Panzer) from the Channel Islands (Richards, 1978), *Eumenes papillarius* (Christ) from South Yorkshire (Guichard, 1991) and York, and *Rhychium oculatum* (Fabricius), one vagrant record from Nottingham (Archer, 1998).



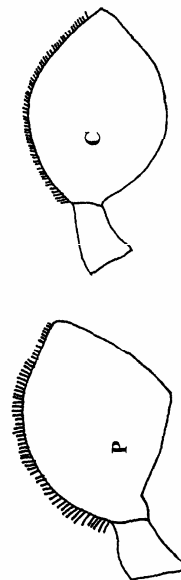
*P. phaleratus* can be recognised by the presence of long conspicuous bristles on the apical segments of the labial palps.

*E. papillarius* (P) can be distinguished from *E. coarctatus* (C) as follows. Hairs on the clypeus short and even on P, but longer at the base on C.



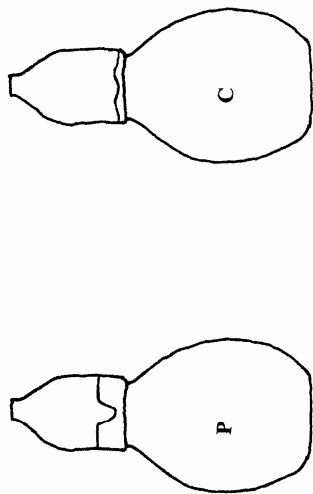
Lateral view of the clypeus

Erect hair on the second gastral tergum longer, particularly basally, on P, but shorter and even on C.



Lateral view of the second gastral tergum

Yellow apical margin of the petiole broad and centrally deeply notched on P, but narrow and shallowly notched on C.



*R. oculatum* can be recognised by the smooth, almost without punctures, posterior part of the mesoscutum and the mesoscutellum. Head, thorax, propodeum and gaster have a brownish colouration.