



Subject: Biology

Name:

Grade9 IB

Date:

1. What is a recognition feature for both of the plant phyla indicated?

	Filicinophyta	Angiospermophyta
A.	Produce seeds	Produce seeds
<b>B.</b>	Produce spores	Produce flowers
C.	No vascular tissue	Vascular tissue
D.	Vascular tissue	Produce spores

Markscheme

B

2. The plant in the diagram has vascular tissue and reproduces by spores.



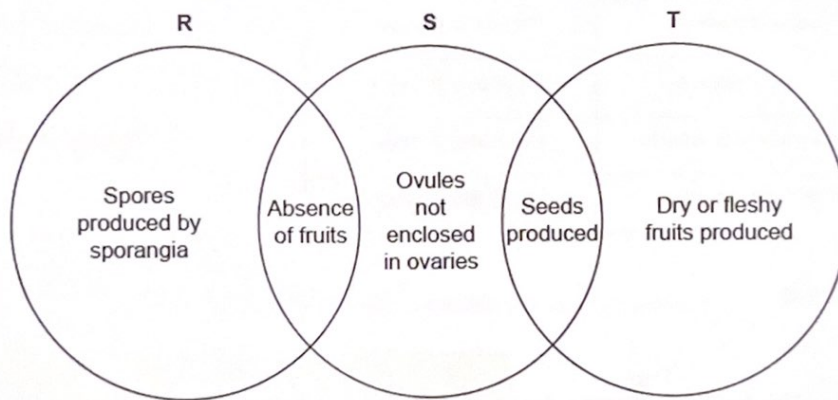
To which phylum does the plant belong?

- A. Bryophyta
- B. Filicinophyta
- C. Coniferophyta
- D. Angiospermophyta

**Markscheme**

B

3. The diagram shows features of three plant phyla.



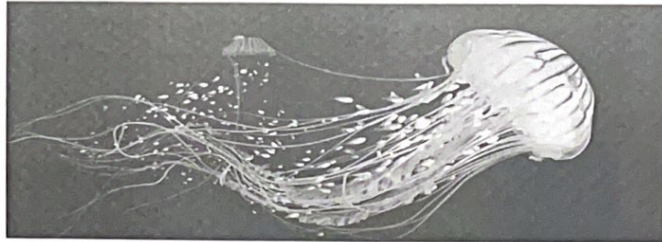
Which phyla are represented by R, S and T?

	R	S	T
A.	filicinophyta	bryophyta	coniferophyta
B.	bryophyta	angiospermophyta	coniferophyta
C.	bryophyta	filicinophyta	angiospermophyta
<input checked="" type="radio"/> D.	filicinophyta	coniferophyta	angiospermophyta

**Markscheme**

D

4. The image shows the northern sea nettle (*Chrysaora melanaster*).



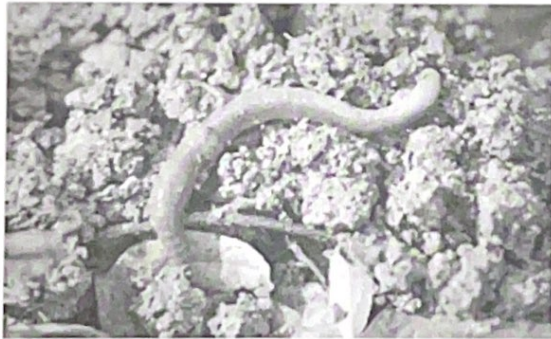
To which phylum does *C. melanaster* belong?

- A. Porifera
- B. Cnidaria
- C. Platyhelmintha
- D. Annelida

**Markscheme**

B

5. To which phylum does the earthworm *Lumbricus rubellus* belong?



- A. Annelida
- B. Cnidaria
- C. Platyhelmintha
- D. Arthropoda

### Markscheme

A

6. A locust is an arthropod. For invertebrate groups, which recognition feature is found only in arthropods?

- A. Bilateral symmetry
- B. Jointed appendages
- C. Wings
- D. Segmented body

### Markscheme

B

7. A dichotomous key can be used to distinguish four types of plant. Which of the plants could be a bryophyte?

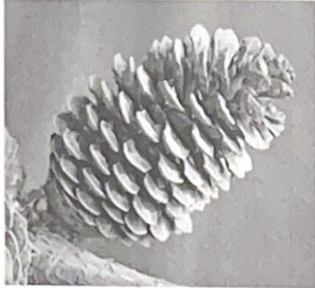
- 1. Vascular tissue present ..... go to 2  
Vascular tissue not present ..... Plant  A
- 2. Produces seeds ..... go to 3  
Does not produce seeds ..... Plant B.
- 3. Seeds found in cones ..... Plant C.  
Seeds found in fruit ..... Plant D.

### Markscheme

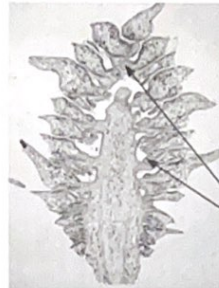
A

8. The images show a structure found on members of a phylum of green plants.

Whole structure



Structure sectioned longitudinally



Ovules containing female gametes

What is the name of the phylum to which the organisms belong?

- A. Coniferophyta
- B. Angiospermophyta
- C. Filicinophyta
- D. Bryophyta

### Markscheme

A

9. An animal has the following characteristics: bilateral symmetry, mouth but no anus, ribbon shape. Which phylum does the animal belong to?

- A. Mollusca
- B. Cnidaria
- C. Annelida
- D. Platyhelmintha

### Markscheme

D

10. Which organism is a member of the filicinophyta? (Note that these are not to scale)



A



B



C



D

### Markscheme

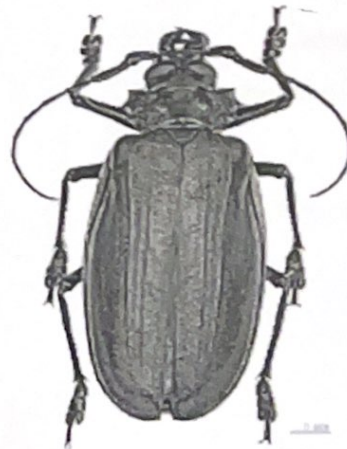
A

11. The image shows an organism belonging to the Kingdom Animalia. What feature does this organism have in common with all members of the phylum chordata?

- A. Legs and wings
- B. Mouth but no anus
- C. Bilateral symmetry
- D. Chitinous exoskeleton

### Markscheme

C



12. Which phyla have bilateral symmetry?

- A. annelida, arthropoda, platyhelmintha
- B. porifera, arthropoda, platyhelmintha
- C. cnidaria, porifera, mollusca
- D. porifera, annelida, mollusca

### Markscheme

A

13. Which is the hierarchy of taxa in order of decreasing numbers of species?

- A. domain, phylum, order, family
- B. phylum, order, family, class
- C. domain, phylum, order, class
- D. phylum, class, family, order

### Markscheme

A

14. Which is the hierarchy of taxa in order of increasing numbers of species?

- A. genus, family, order, class
- B. class, order, genus, family
- C. genus, family, class, order
- D. class, order, family, genus

### Markscheme

A

15. Which phylum shows radial symmetry?

- A. Annelida

- B. Cnidaria
- C. Platyhelmintha
- D. Porifera

**Markscheme**

B

**16a.** The diagram shows a leaf from *Dryopteris arguta*.



i) State the phylum of this plant.

.....  
.....

**Markscheme**

Filicinophyta/Filicinophytes/Pteridophytes

Reject "ferns"

**16b.** [2 marks]

ii) State **two** characteristics of plants from the phylum you stated in (a)(i).

.....  
.....  
.....



### Markscheme

a. have roots, stem and leaves

*All three, roots, stem and leaves required*

b. pinnate leaves/leaves divided «repeatedly» into leaflets

c. have vascular tissue/xylem and phloem

d. produce spores/sporangia

**OR**

no flowers/fruits/seeds

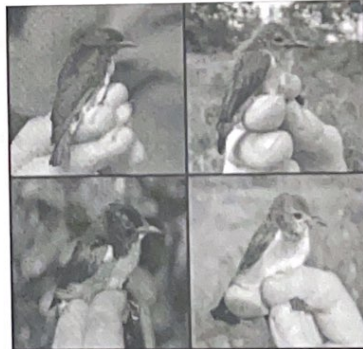
**[Max 2 Marks]**

17. [1 mark]

The scientific name of the Wakatobi flowerpecker is *Dicaeum kuehni*.

Which species is most closely related?

- A. *Amerila kuehni*
- B. Wakatobi white-eye
- C. *Kuehneon duchyense*
- D. *Dicaeum celebicum*



### Markscheme

D

1 Fig. 1.1 is a dichotomous key. It can be used to identify different types of tree by using their leaves.

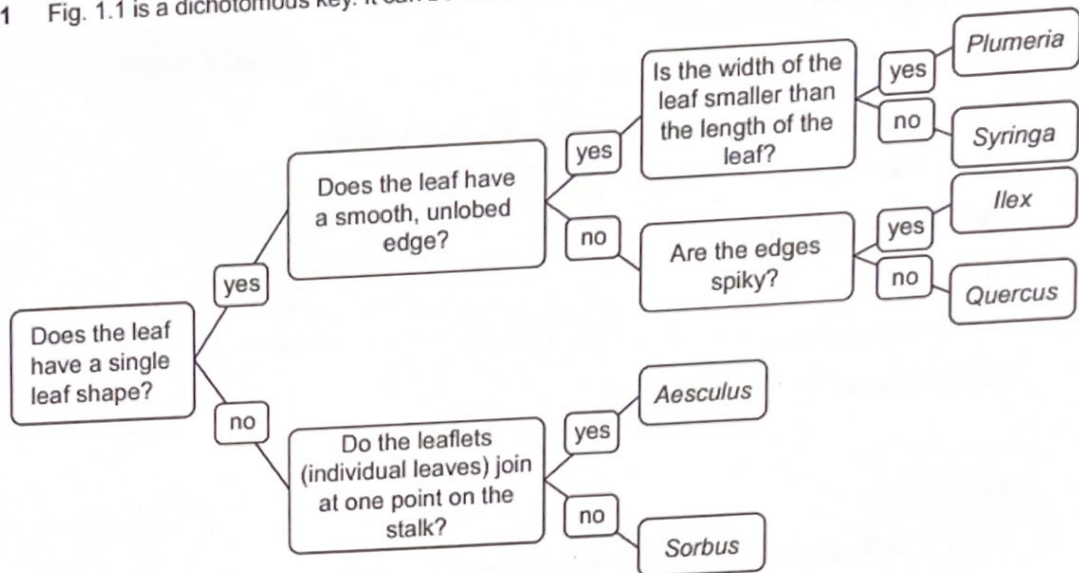


Fig. 1.2 shows leaves from six different trees.

Use the key in Fig. 1.1 to identify the six different types of tree.

Write the name of each tree on the lines in Fig. 1.2.



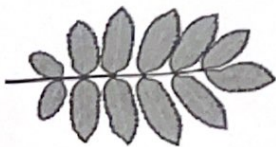
Ilex



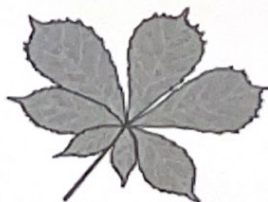
Quercus



Syringa



Sorbus



Aesculus



Plumeria

Fig. 1.2

- 1 Use the dichotomous key, Fig. 1.1, to identify the five vertebrate groups, A, B, C, D and E.  
Complete Table 1.1.

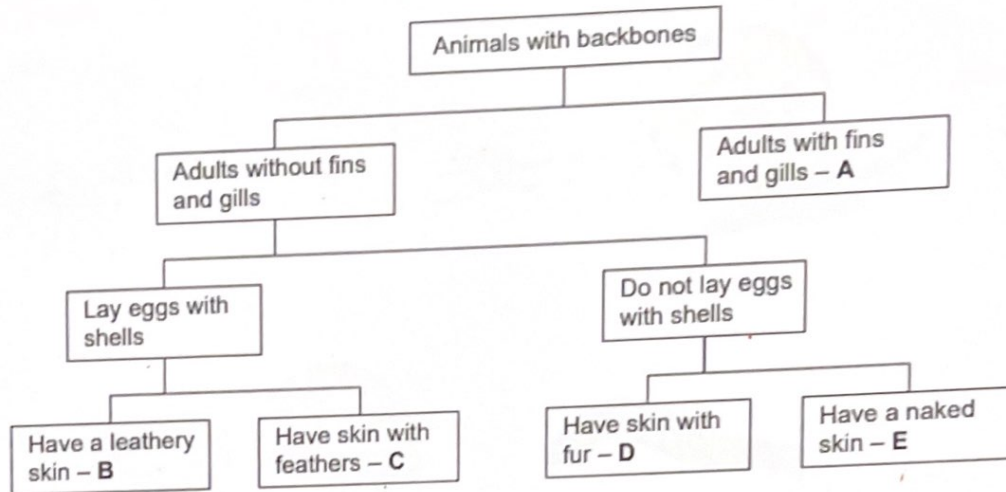


Fig. 1.1

Table 1.1

letter in key	name of vertebrate group
A	Fish
B	Reptile
C	Birds
D	mammals
E	amphibians

Fig. 1.1 shows five species of mollusc.

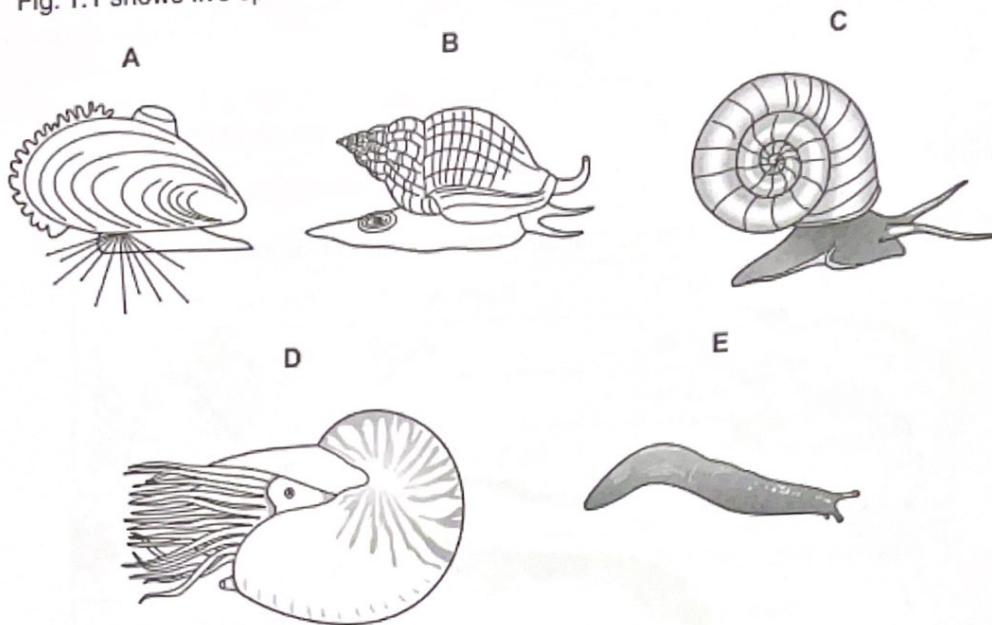


Fig. 1.1

Use the key to identify each species. Write the letter of each species (A to E) in the correct box beside the key.

Key

1 (a)	body is completely or partly covered in a shell	go to 2	
(b)	body is not completely covered or partly covered in a shell	<i>Limax flavus</i>	E
2 (a)	shell is attached to rocks by thin threads	<i>Mytilus edulis</i>	A
(b)	shell is not attached to rocks by thin threads	go to 3	
3 (a)	shell is a spire that comes to a point	<i>Buccinum undatum</i>	B
(b)	shell is not a spire that comes to a point	go to 4	
4 (a)	animal has tentacles	<i>Nautilus pompilius</i>	D
(b)	animal has 2 tentacles	<i>Planorbis planorbis</i>	C

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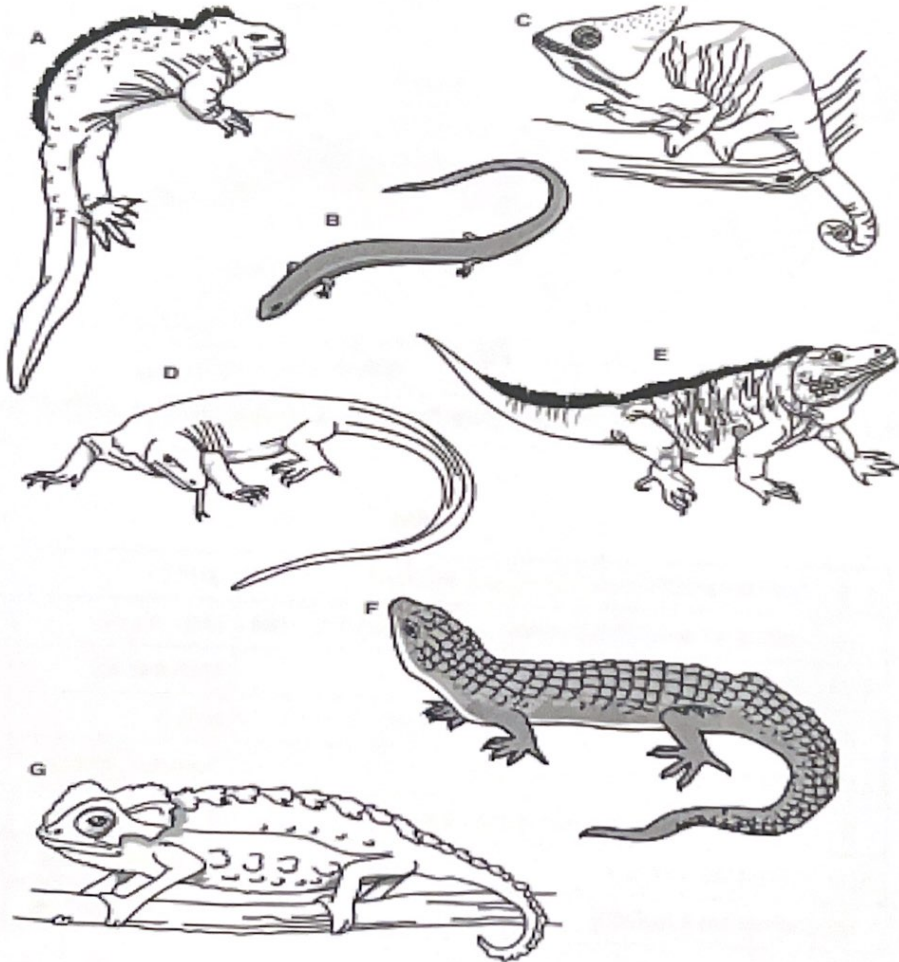
★ State **two** features that are shown by all molluscs.

1 .....

2 .....

Question :

The figure shows seven lizards that are at risk of becoming extinct.



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Use the key to identify each species. Write the letter of each species (A to G) in the correct box beside the key. One has been done for you.

key

1	(a) feet with three toes	go to 2	
	(b) feet with five toes	go to 3	
2	(a) has a collar or crest on head	go to 4	
	(b) has no collar or crest on head	<i>Chalcides minutus</i>	B
3	(a) spikes along back	go to 5	
	(b) no spikes along back	go to 6	
4	(a) ridges extend along back and tail	<i>Brookesia perarmata</i>	G
	(b) no ridges along back or tail	<i>Calumma parsonii</i>	C
5	(a) blunt, rounded head	<i>Amblyrhynchus cristatus</i>	A
	(b) elongated head	<i>Cyclura lewisi</i>	E
6	(a) large raised scales on skin	<i>Abronia graminea</i>	F
	(b) scales on skin are not large or raised	<i>Varanus komodoensis</i>	D

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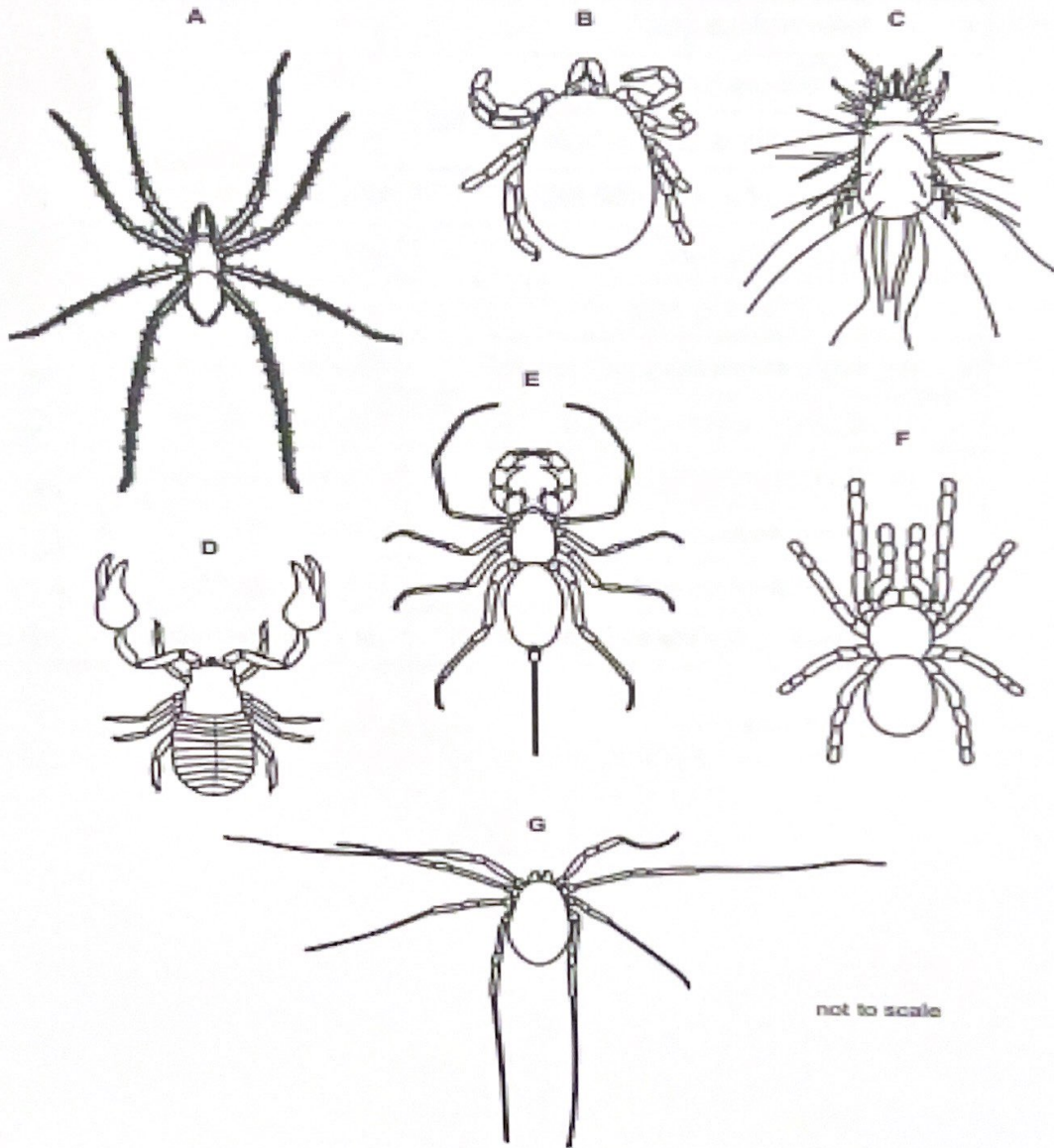
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Question

The figure shows seven species of arachnid.



not to scale

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Use the key to identify each species. Write the letter of each species (A to G) in the correct box beside the key. One has been done for you.

Key

1 (a)	Abdomen with a tail	<i>Abaliella dicranotarsalis</i>	E
(b)	Abdomen without a tail	go to 2	
2 (a)	Legs much longer than abdomen and cephalothorax	go to 3	
(b)	Legs not much longer than abdomen and cephalothorax	go to 4	
3 (a)	Hairs on the legs	<i>Tegenaria domestica</i>	A
(b)	No hairs on the legs	<i>Odielus spinosus</i>	G
4 (a)	Cephalothorax or abdomen segmented	<i>Chelifer tuberculatus</i>	D
(b)	Cephalothorax and abdomen not segmented	go to 5	
5 (a)	Abdomen and cephalothorax about the same size	<i>Poecilotheria regalis</i>	F
(b)	Abdomen larger than cephalothorax	go to 6	
6 (a)	Body covered in long hairs	<i>Tyroglyphus longior</i>	C
(b)	Body not covered in hairs	<i>Ixodes hexagonus</i>	B

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