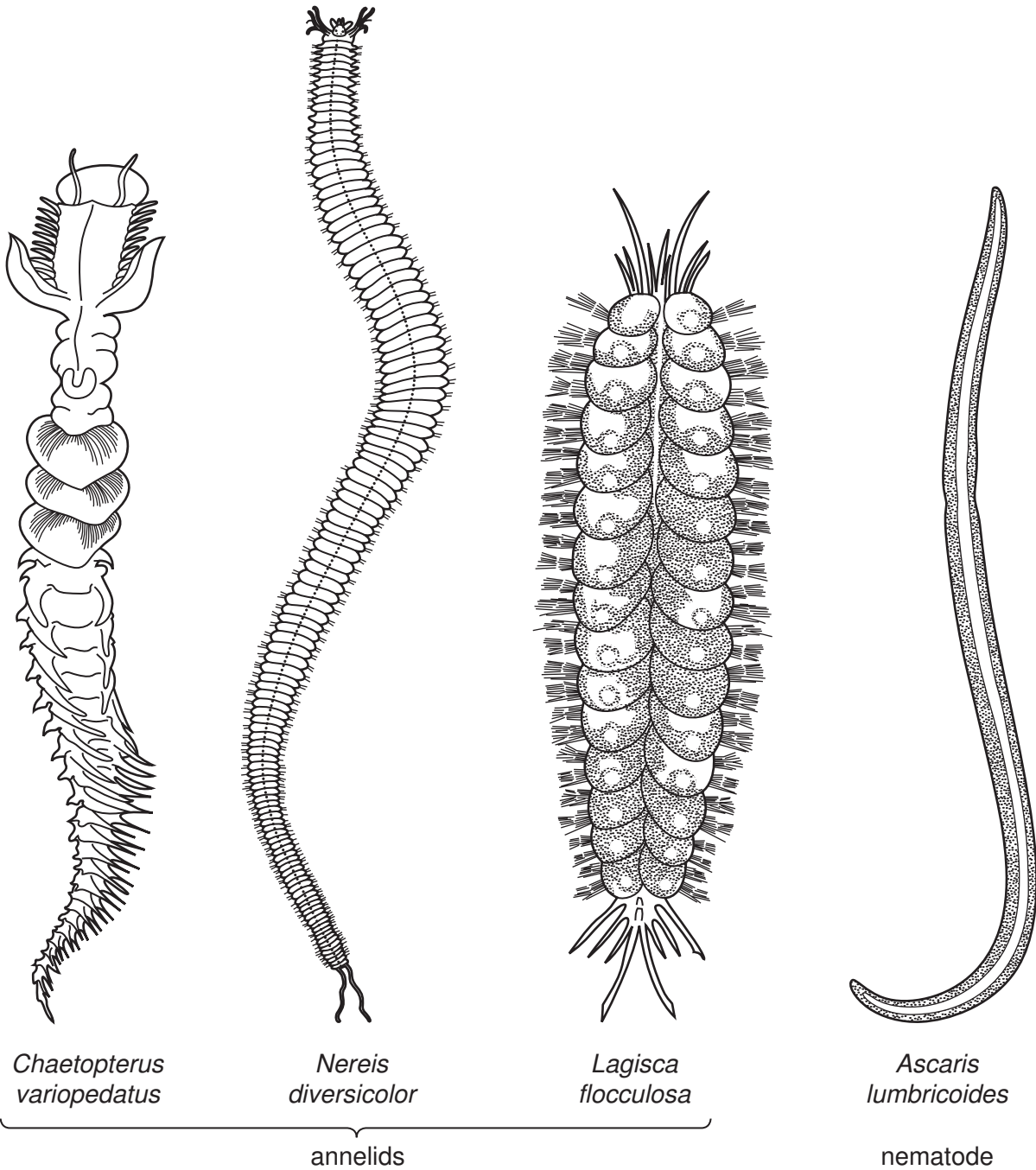


BINOMIAL SYSTEM

1 Fig. 1.1 shows three annelid species and *Ascaris lumbricoides*, a species of nematode.



not drawn to scale

(b) Organisms are given two names, e.g. *Nereis diversicolor*.

State what is meant by the first name.

..... [1]

MARKING SCHEME:

genus / generic (name) ;	[1]	A 'genus part of species name'
--------------------------	-----	--------------------------------

Expert solution:

First name refers to the genus [or] The first name refers to the generic name

2 All commercial breeds of sheep belong to the species *Ovis aries*.

(a) Define the term *species*.

.....

.....

.....

.....

..... [2]

MARKING SCHEME:

(group of) organisms that can reproduce ; to produce fertile offspring ;	2	
---	---	--

Expert solution:

Species is a group of organisms that can reproduce to produce fertile offspring

- 3 Fig. 6.1 shows some of the many different varieties of potato, *Solanum tuberosum*, that are cultivated across the world for food.



Fig. 6.1

All varieties of *S. tuberosum* are classified as the same species.

- (a) Define the term *species*.

.....

.....

..... [2]

MARKING SCHEME:

(group of) organisms that can reproduce ; produce fertile offspring ;	2	
--	---	--

Expert solution:

Species is a group of organisms that can reproduce to produce fertile offspring

- 3 Sickle-cell anaemia is most common in areas of the world where the infectious disease malaria is found.

Some species of the genus *Plasmodium* cause malaria in humans.

- (i) Define the term *species*.

.....

.....

.....

.....

..... [2]

MARKING SCHEME:

(group of) organisms that can reproduce ; to produce fertile offspring ;	2	
---	---	--

Expert solution:

Species is a group of organisms that can reproduce to produce fertile offspring

- 4 Fig. 6.1 shows the Calayan rail, *Gallirallus calayanensis*, a flightless bird that inhabits Calayan Island in the Philippines. This species of bird was discovered in 2004.

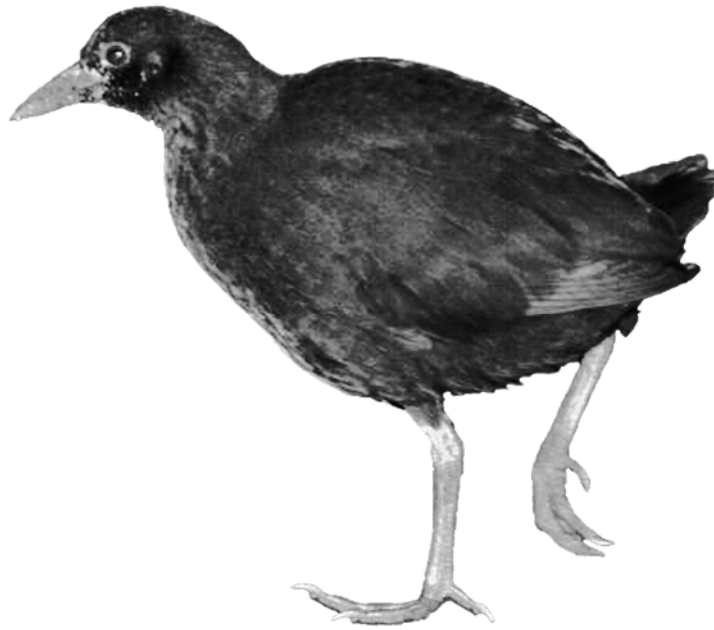


Fig. 6.1

- (a)** State the name of the genus of the Calayan rail.

..... [1]

MARKING SCHEME:

(a)	<i>Gallirallus</i> ;	[1]	R <i>Gallirallus calayanensis</i>
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Expert solution:

The genus of the Calayan rail is *Gallirallus*

5 (a) The ant-mimic jumping spider, *Myrmarachne formicaria*, is shown in Fig. 1.1.

The common name of this species describes its behaviour. It is an arachnid that tricks its prey because it looks like the insects that it eats.



Fig. 1.1

(i) Suggest which trophic level in a food chain *M. formicaria* could belong to.

..... [1]

(ii) State the genus of the spider shown in Fig. 1.1.

..... [1]

(iii) Some keys use paired choices of features to identify species such as the ant-mimic jumping spider.

State the name of this type of key.

..... [1]

? 3D=;@9 E5: 7? 7

1(a)(i)	(level) 3 / tertiary / secondary <u>consumer</u> ;	1
1(a)(ii)	<i>Myrmarachne</i> ;	1
1(a)(iii)	dichotomous (key) ;	1

Expert solution:

(a)(i) *M. formicaria* belongs to the tertiary level.

(a)(ii) *Myrmarachne* is the genus of the spider

(a)(iii) It is the dichotomous key