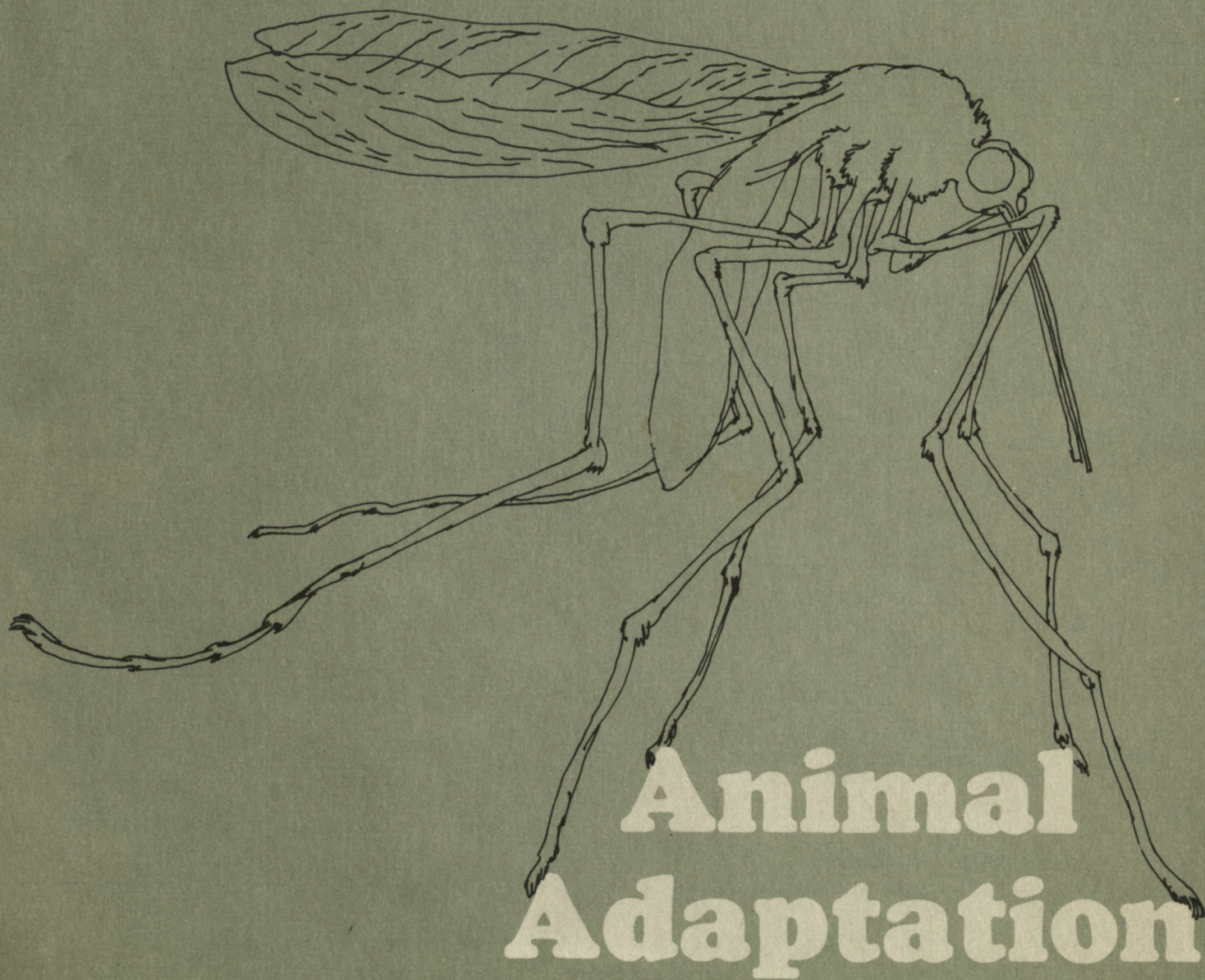




Animal Adaptation

Man: A Course of Study

Developed by Education Development Center, Inc., under grants from the National Science Foundation.

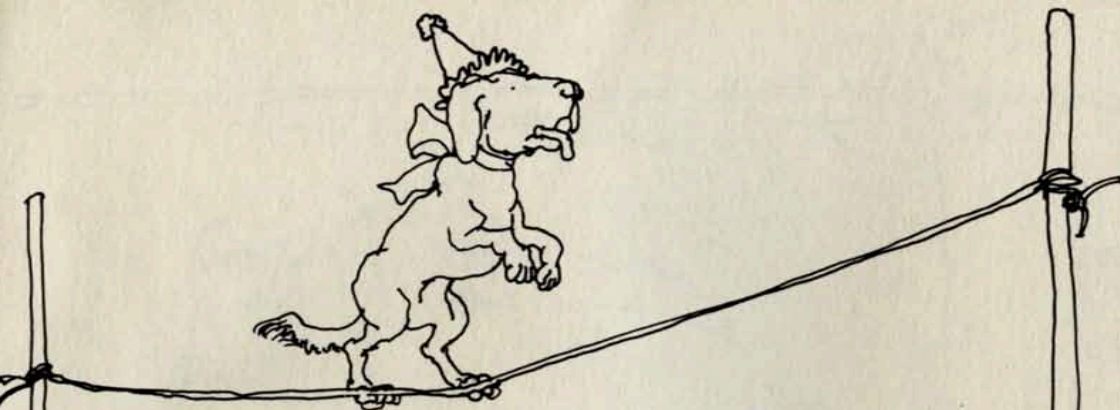
First commercial edition 1970

Disseminated and produced by Curriculum Development Associates, Inc., Suite 414, 1211 Connecticut Avenue, Washington, D.C. 20036.

Except for the rights to material reserved by others, the publisher and the copyright owner hereby grant permission to domestic persons of the United States and Canada for use of this work in whole or in part without charge in the English language in the United States and Canada after December 31, 1975, provided that written notice is made to Education Development Center and that publications incorporating materials covered by these copyrights contain the original copyright notice and a statement that the publication is not endorsed by the original copyright owner. For conditions of use and permission to use materials contained herein for foreign publication or publications in other than the English language, apply to the copyright owner.

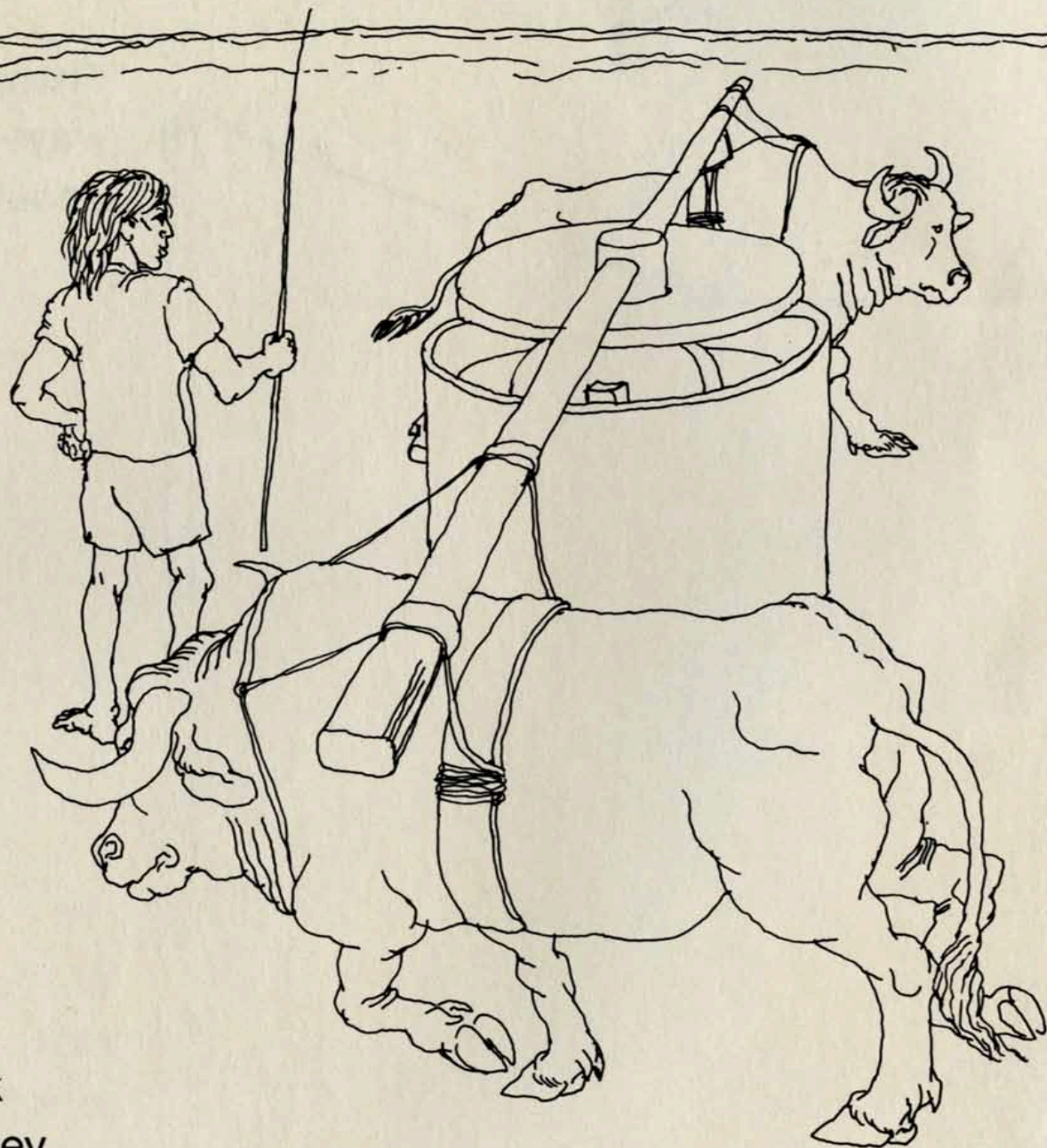
Animal Adaptation

Illustrated by Arielle Mather

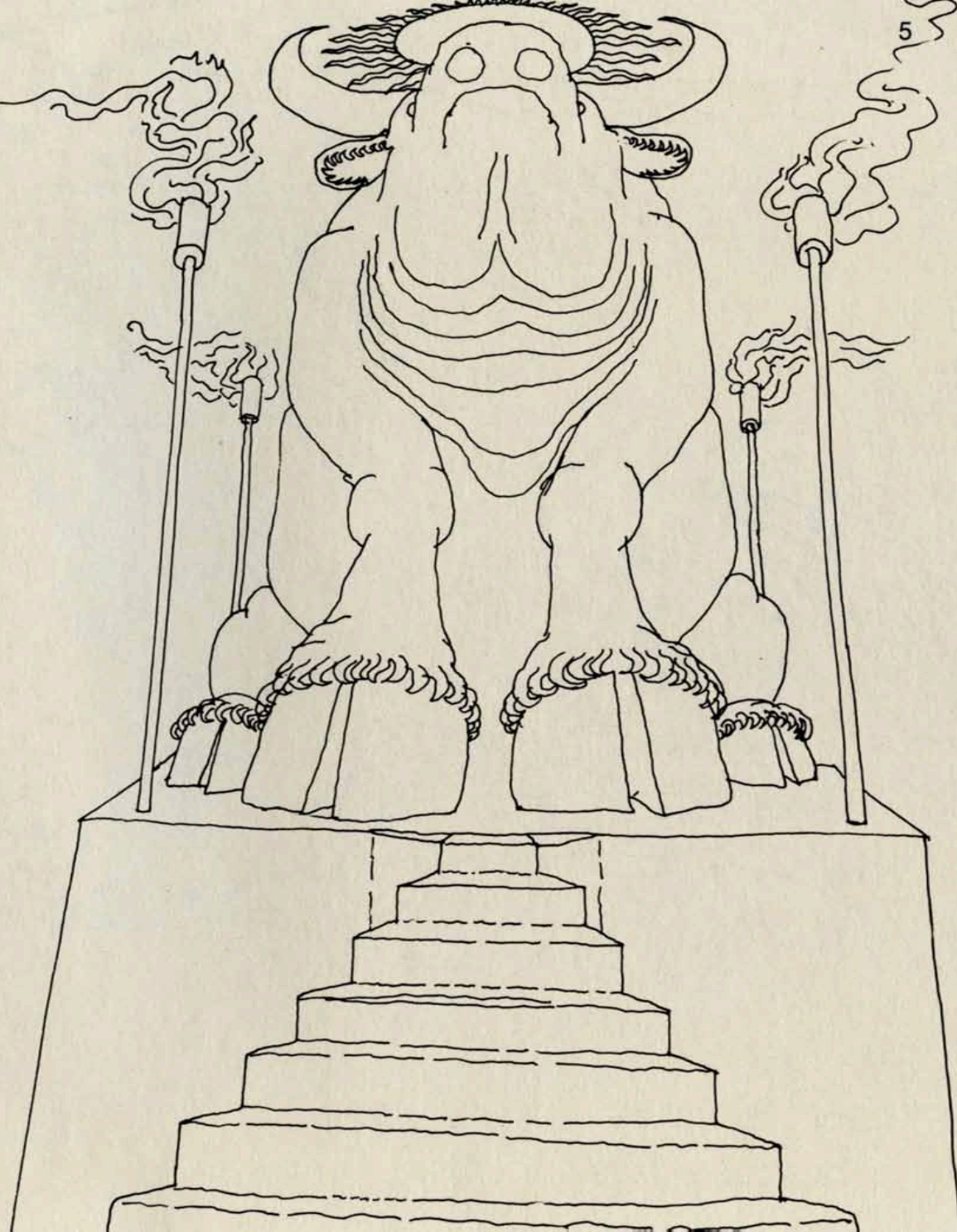


**There are many
ways to think
about animals.**

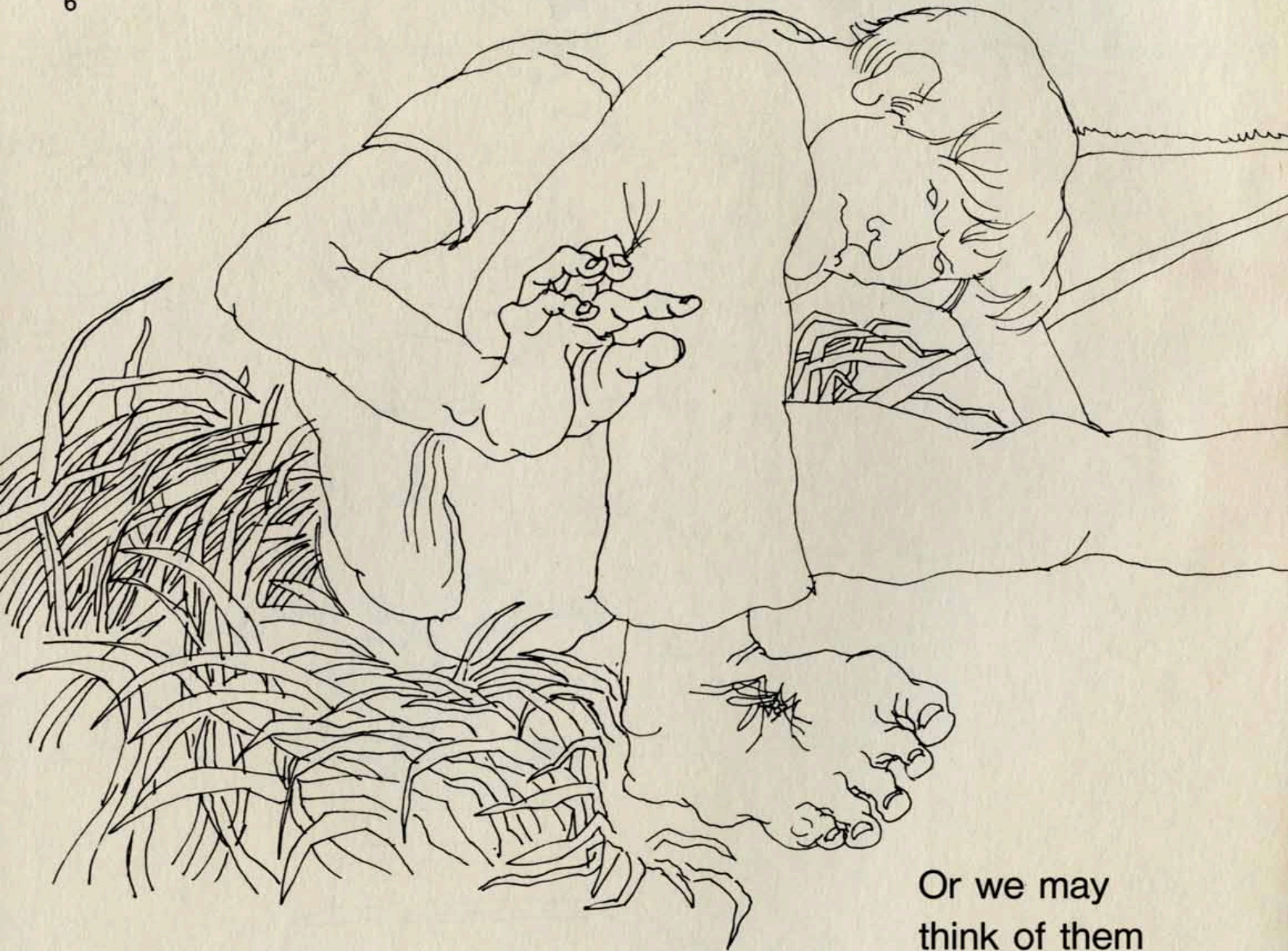
We can
make them
look human
and act
like humans.



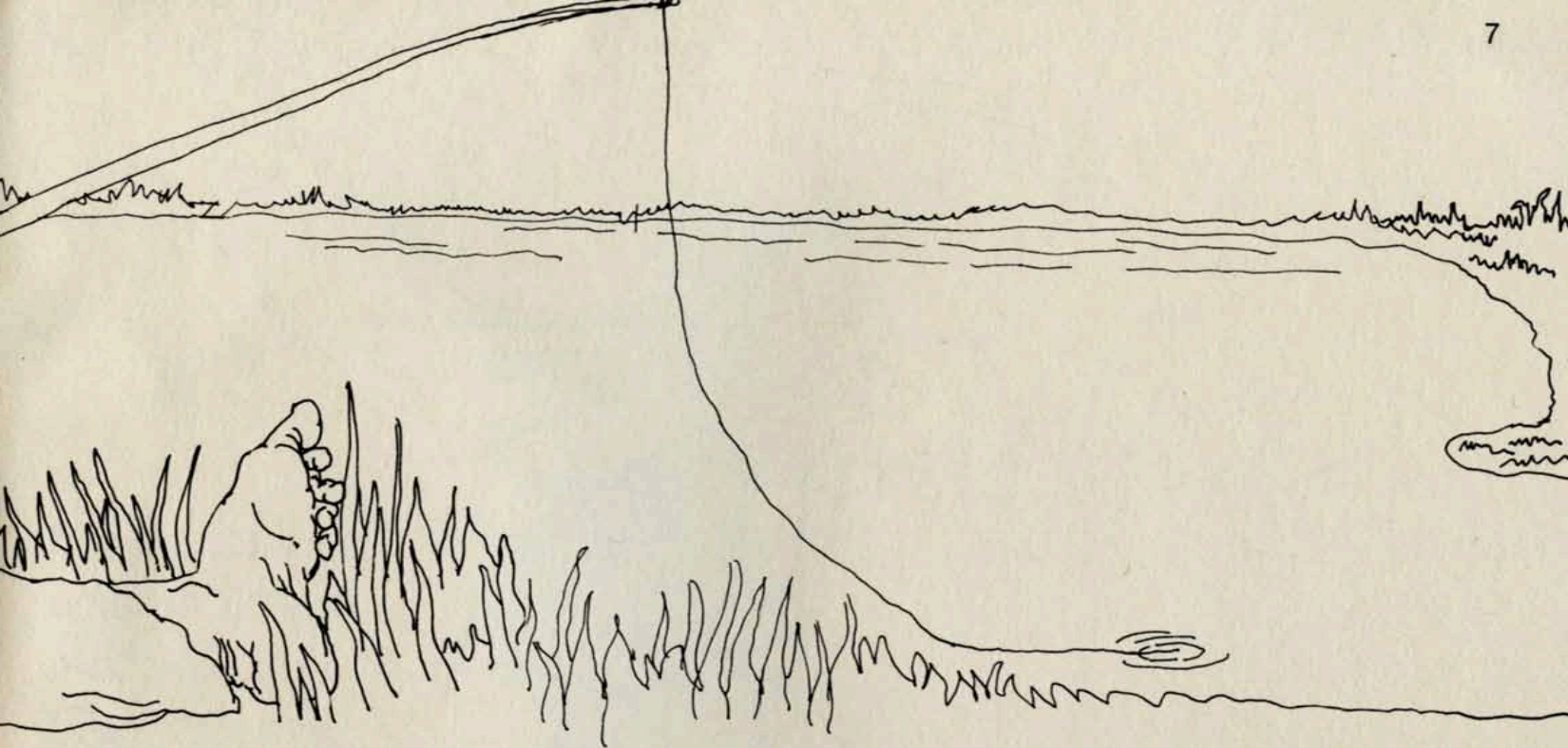
We can think
about how they
serve our needs.



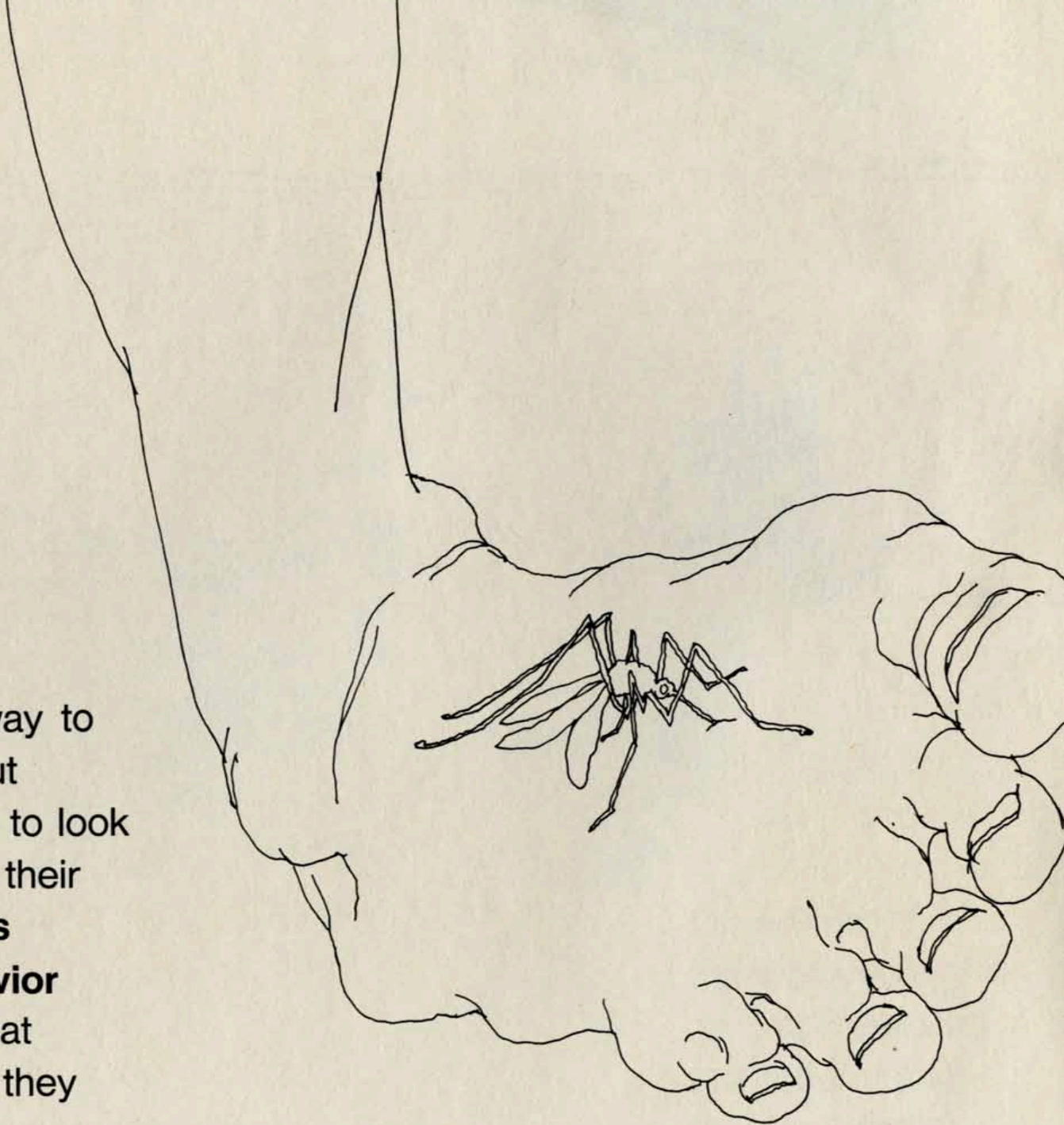
We may imagine
that they have
great powers.



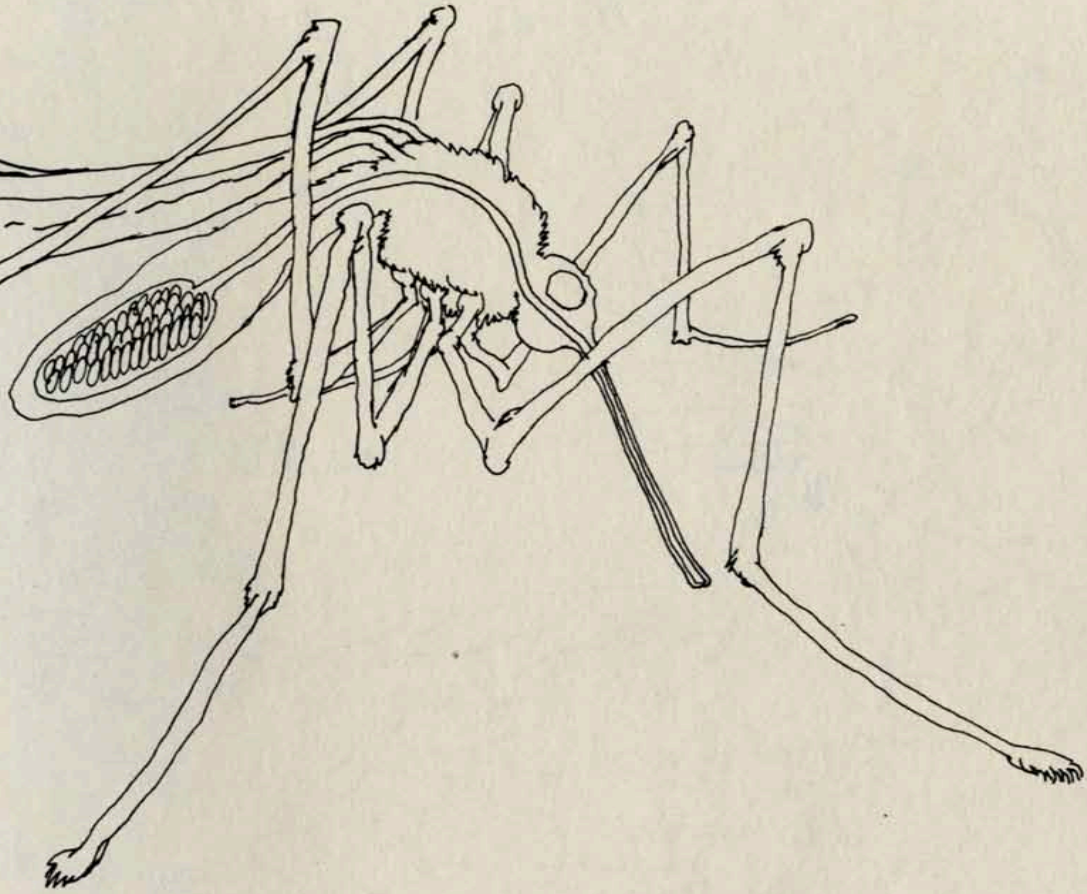
Or we may
think of them
as pests which
are around just
to annoy us.



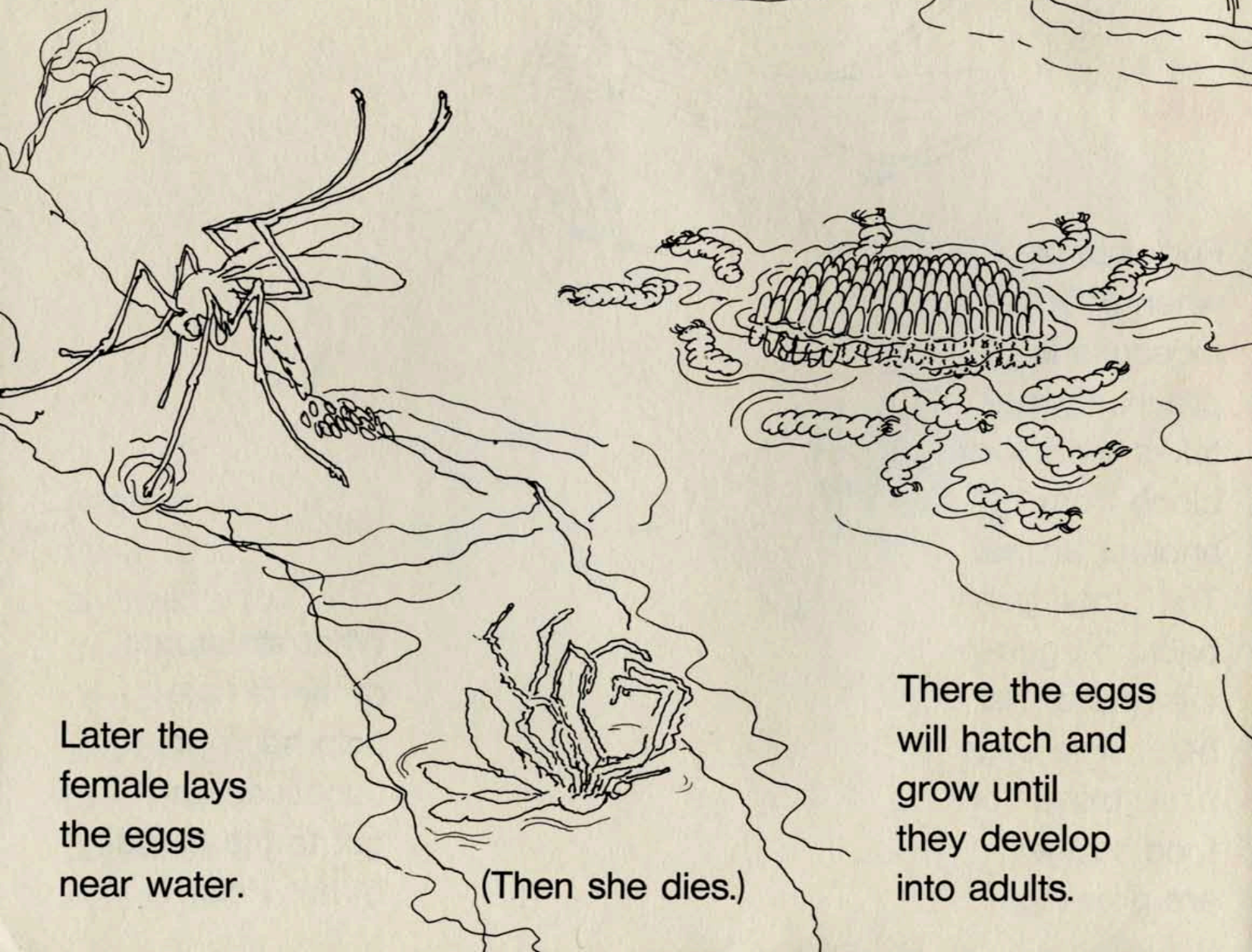
Another way to think about animals is to look closely at their **structures** and **behavior** to see what purposes they serve.



For example, when a female mosquito is pregnant, she takes a drink of blood from another animal. The blood goes back to eggs in the rear of her body. The eggs need blood for food as they are growing.



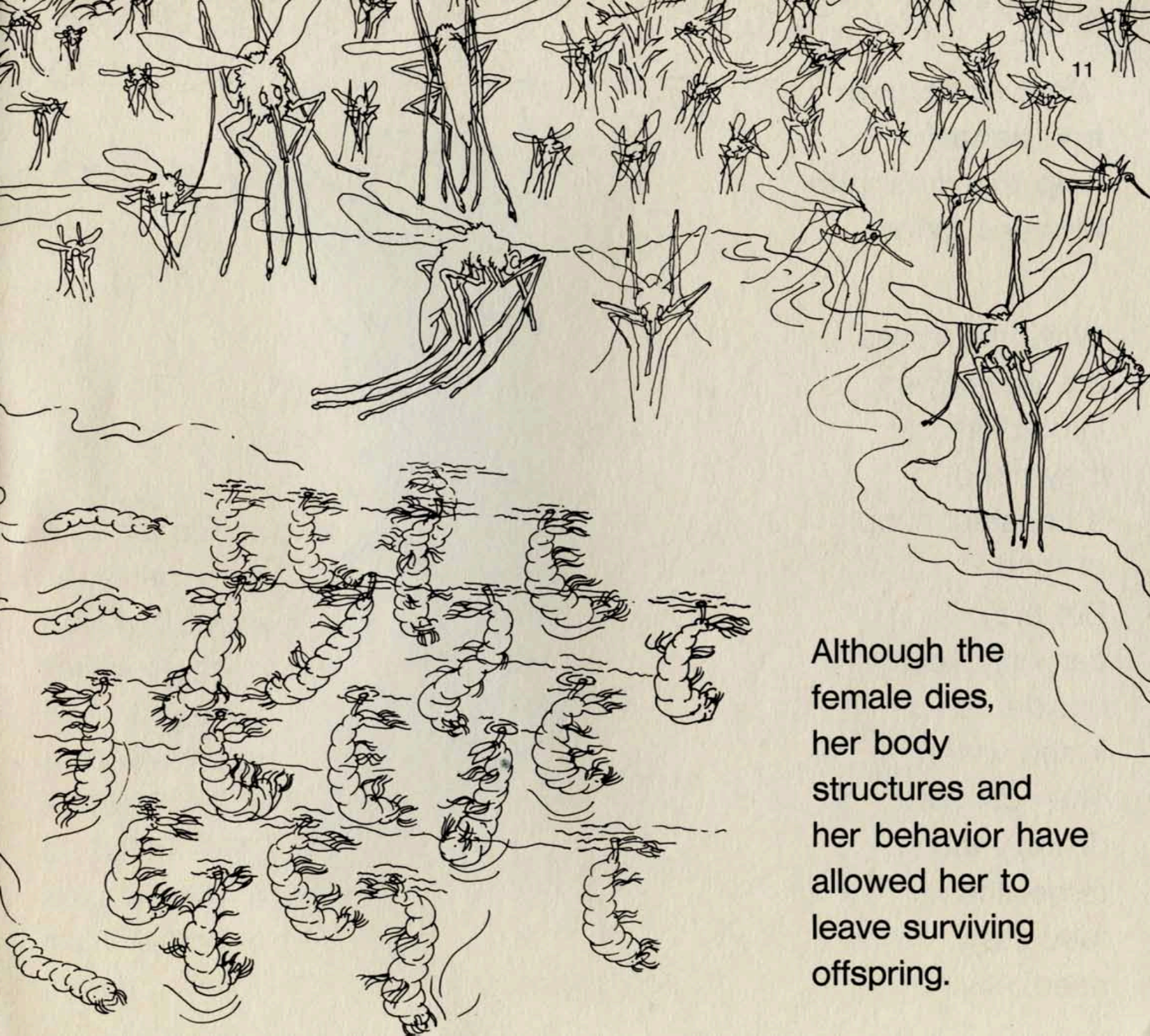
What structures of the female help her land unnoticed and get to the blood of her victim?



Later the
female lays
the eggs
near water.

(Then she dies.)

There the eggs
will hatch and
grow until
they develop
into adults.

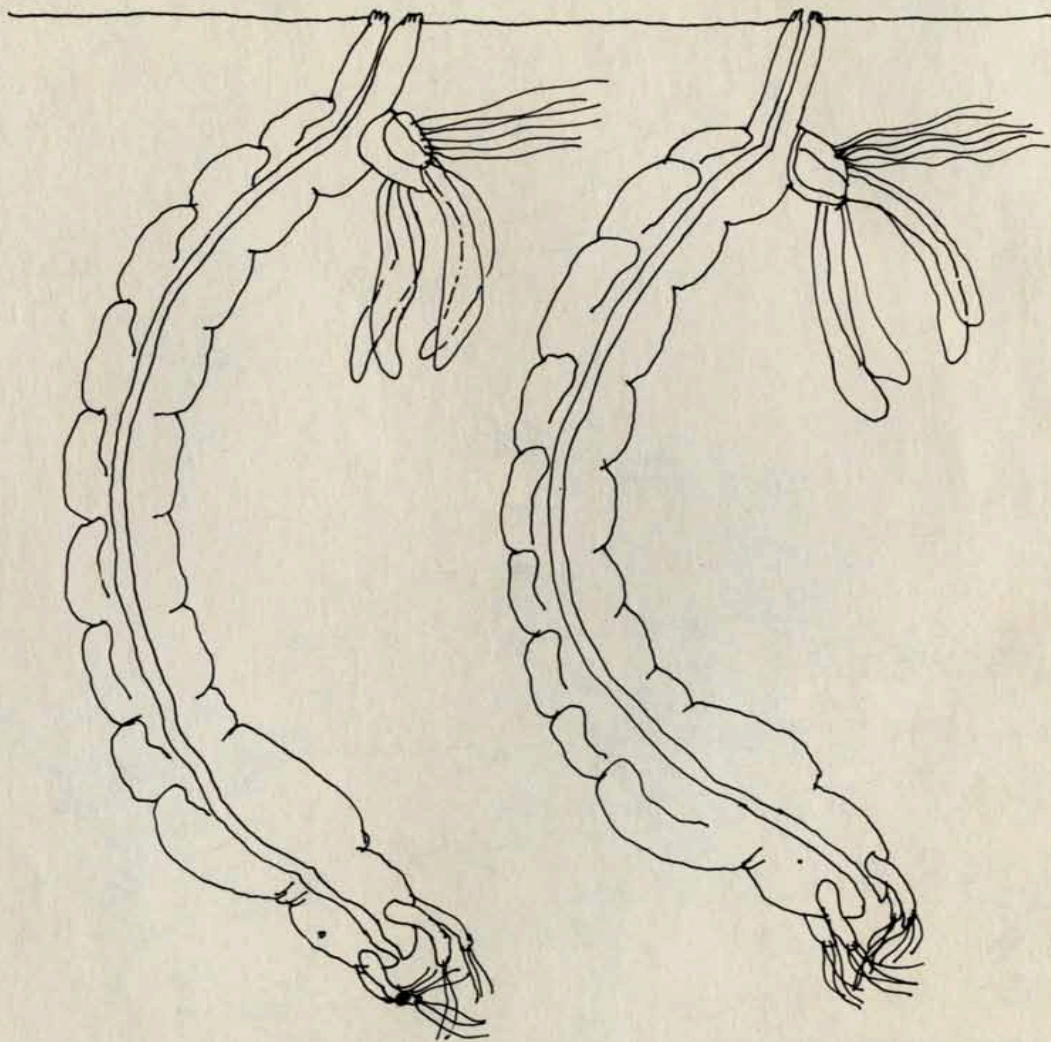


Although the female dies, her body structures and her behavior have allowed her to leave surviving offspring.

**Other structures
and behavior
help the mosquito
larvae survive.**

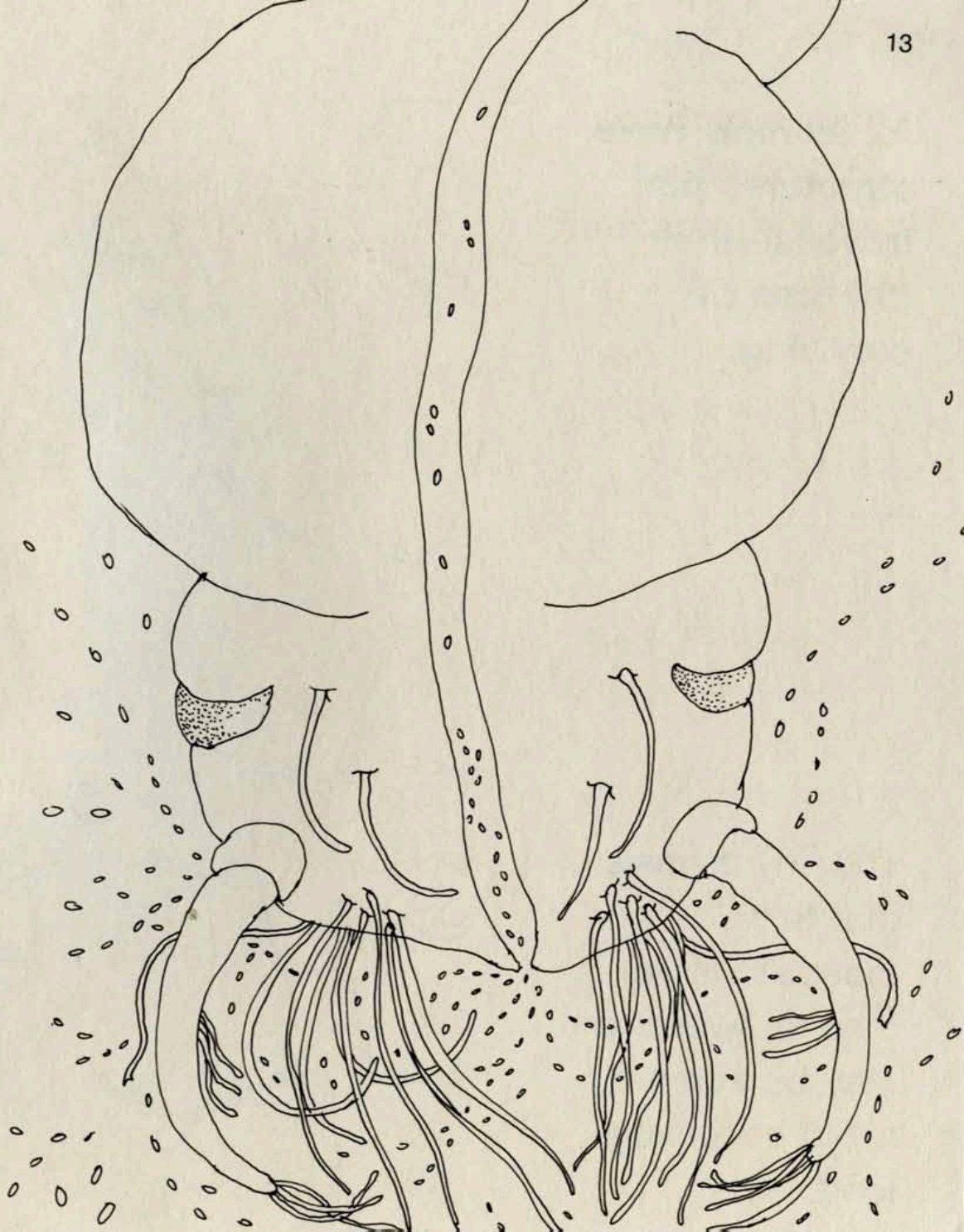
While the larvae
are developing
into adults,
they need
a constant supply
of food.

But they
can only float
upside down
in the water.
They cannot
do very much
to get the
food they
need.

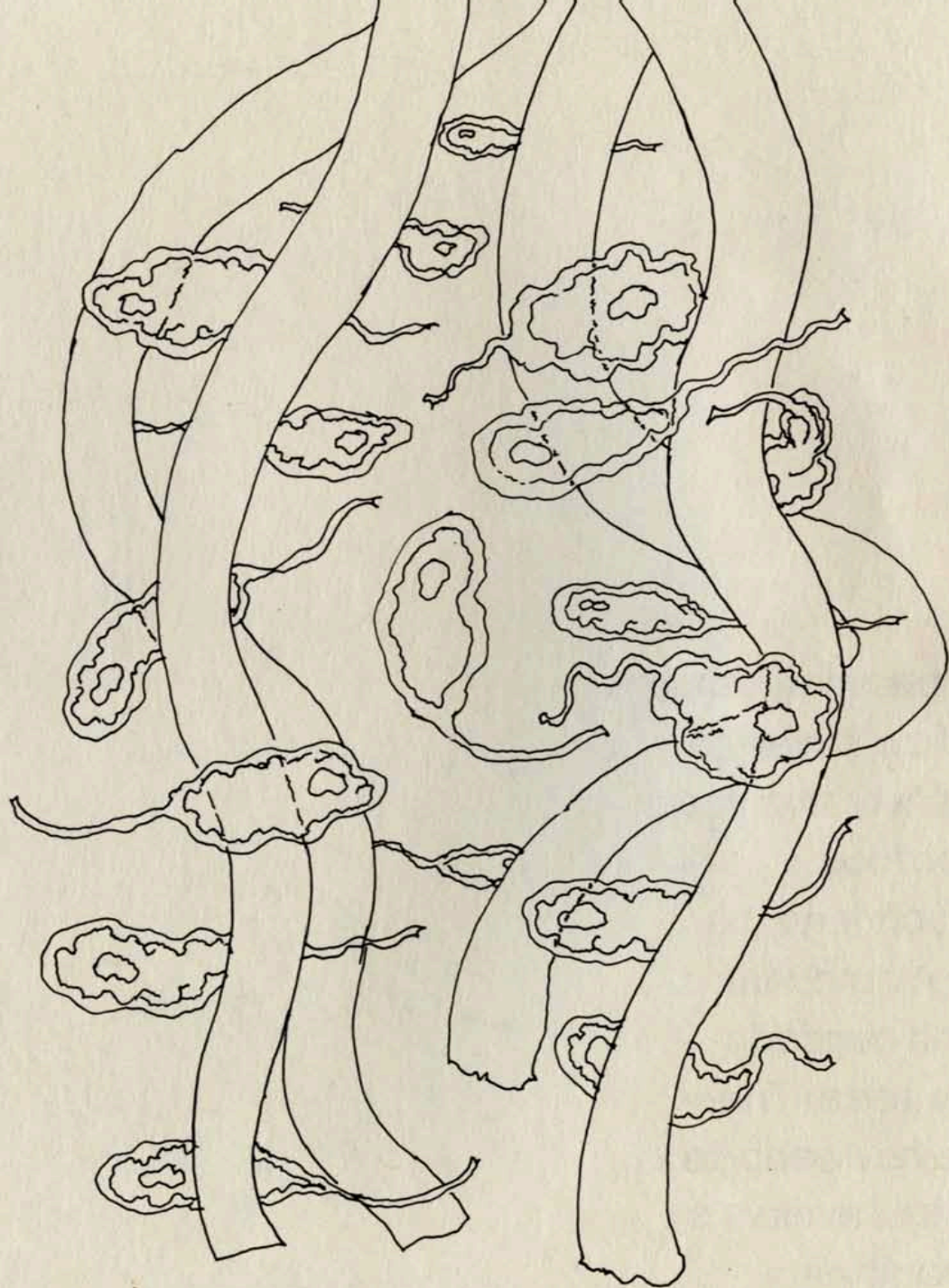


Special structures
allow larvae to
satisfy this need
for food.

Each larva has
a mouth that is
surrounded
by hairs. The
hairs sweep food
into the larva's
mouth.

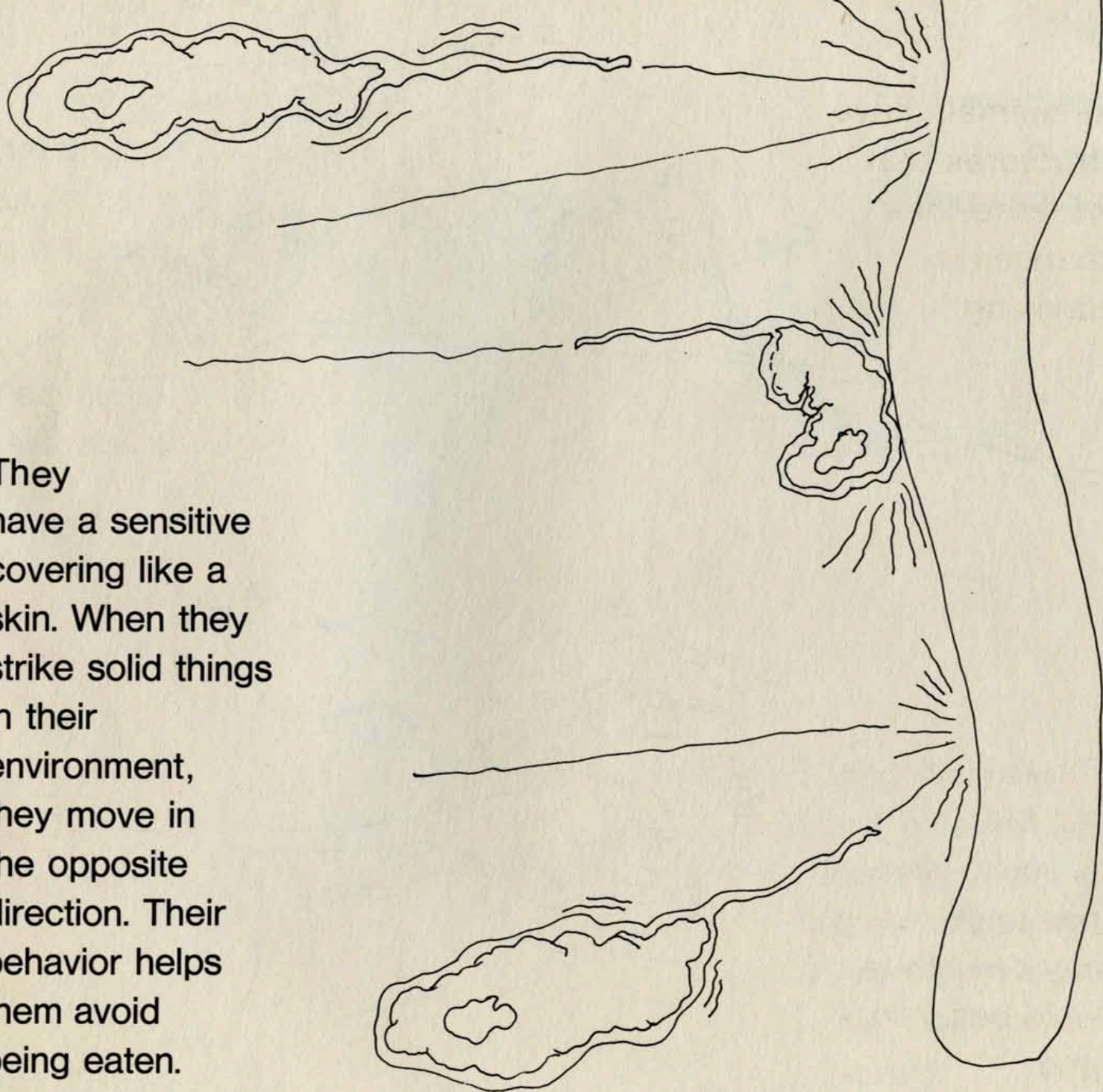


All animals have structures that increase their chances of surviving.

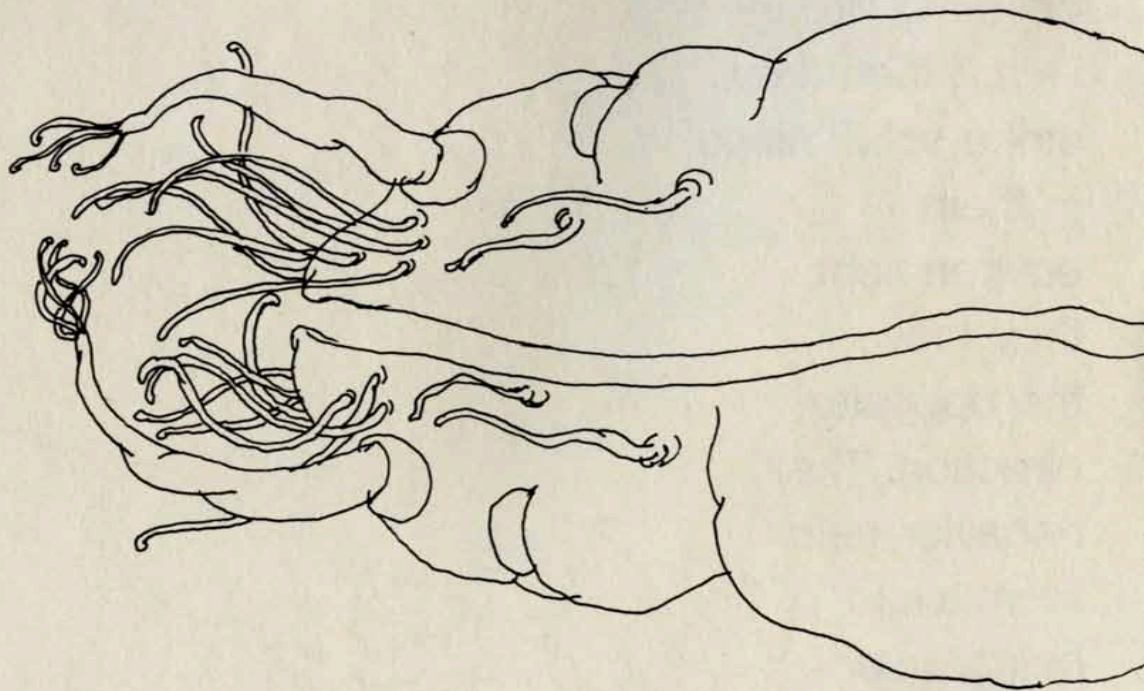
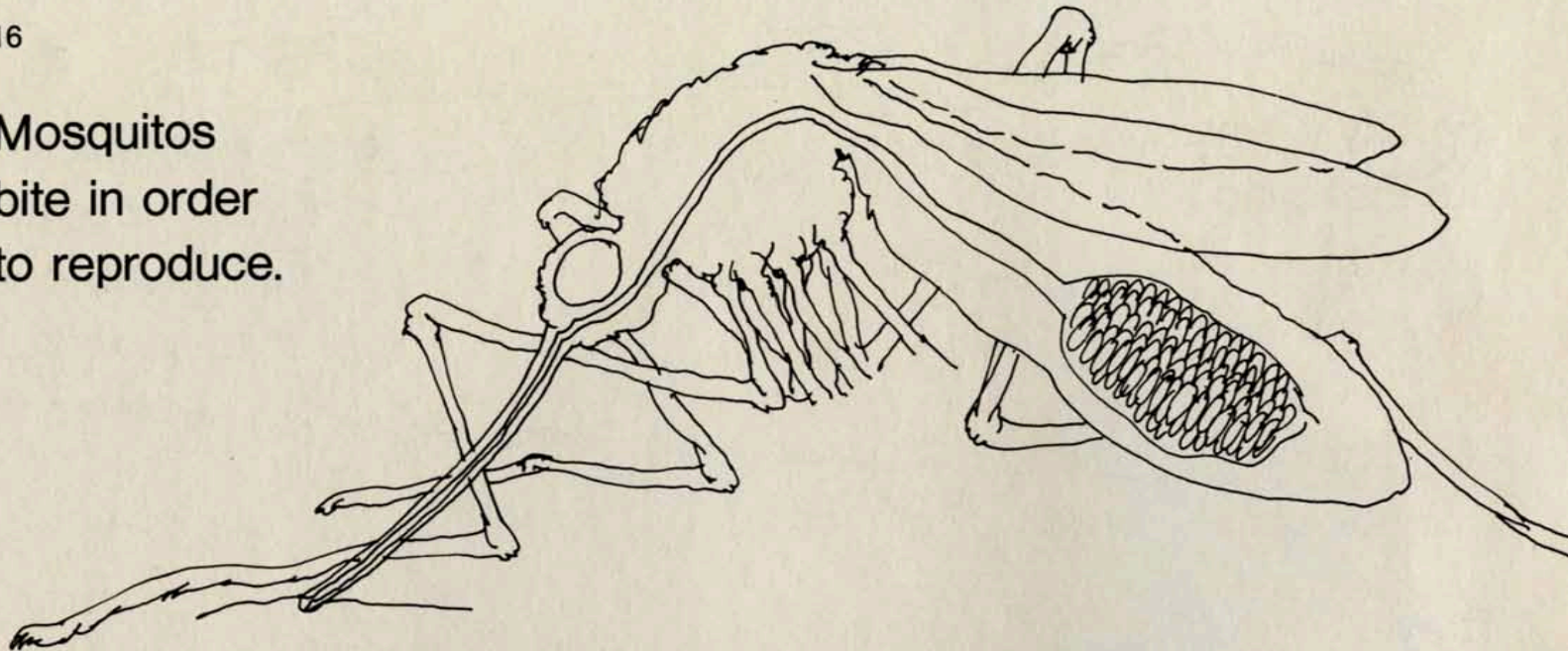


The tiny animals that the mosquito larva tries to sweep in may be able to avoid becoming food.

They have a sensitive covering like a skin. When they strike solid things in their environment, they move in the opposite direction. Their behavior helps them avoid being eaten.

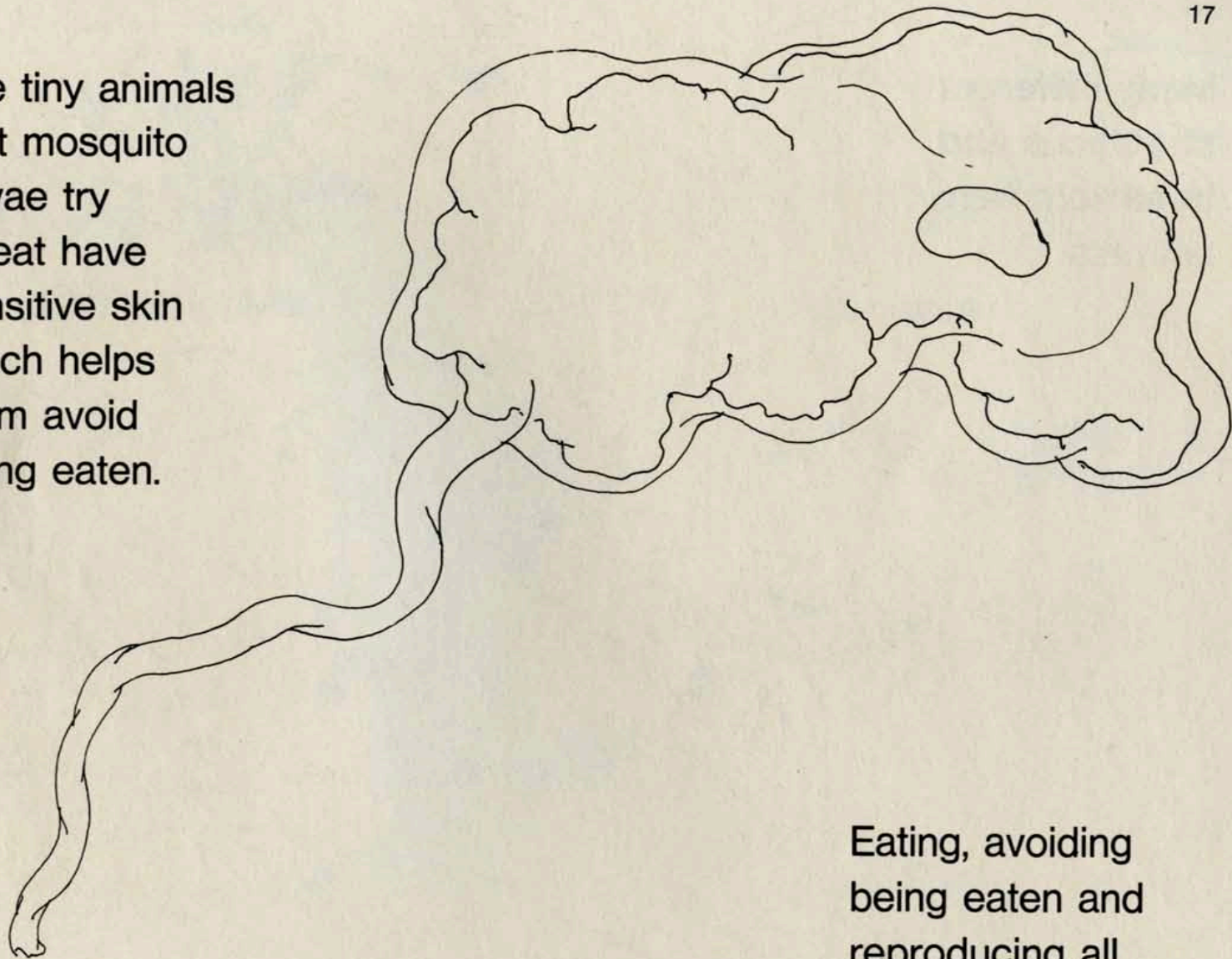


Mosquitos
bite in order
to reproduce.



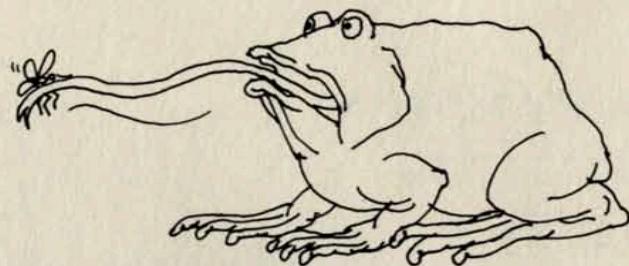
A mosquito
larva's mouth
has hairs for
eating.

The tiny animals
that mosquito
larvae try
to eat have
sensitive skin
which helps
them avoid
being eaten.

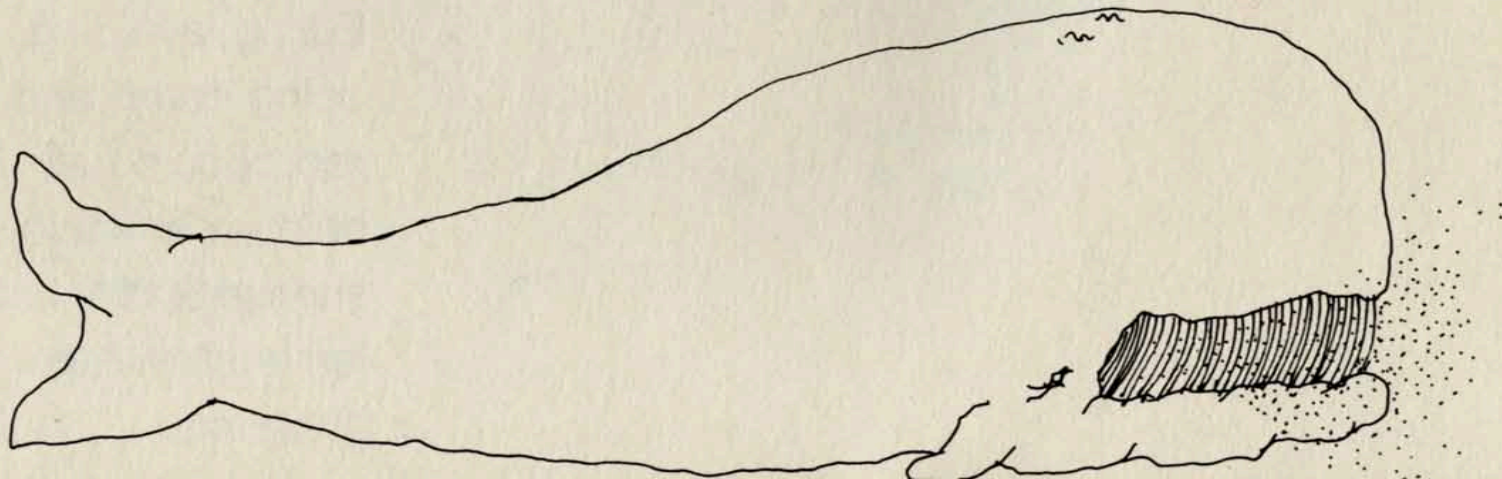
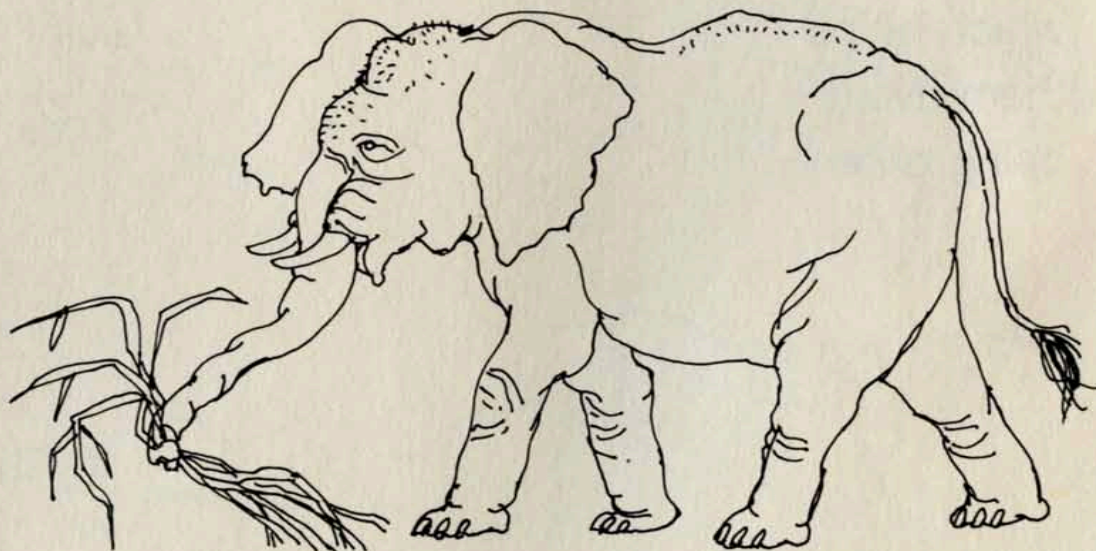


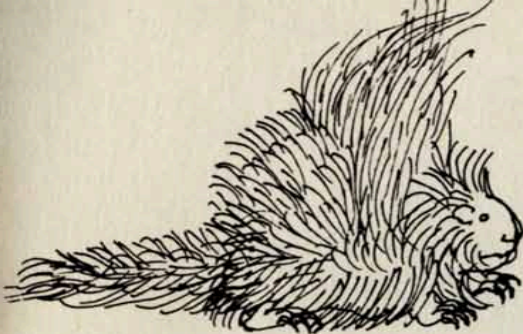
Eating, avoiding
being eaten and
reproducing all
help an animal
survive and
leave surviving
offspring.

**Many different
structures and
behaviors help
animals**

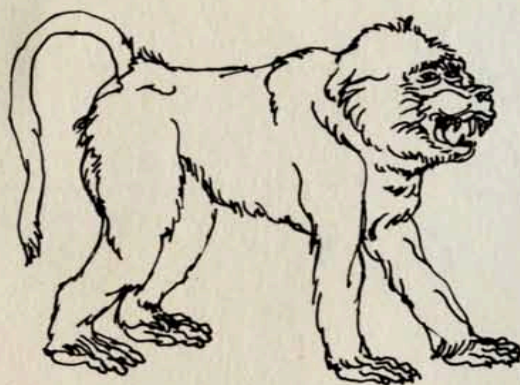


eat

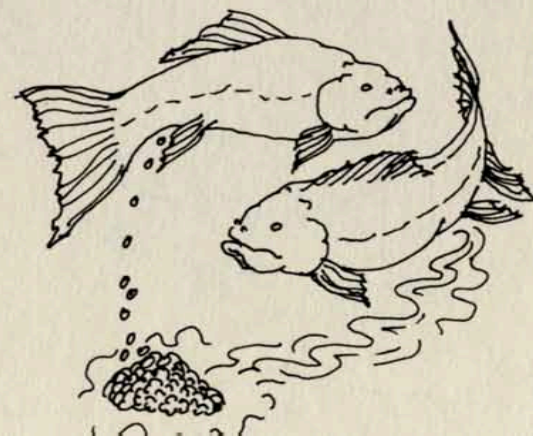
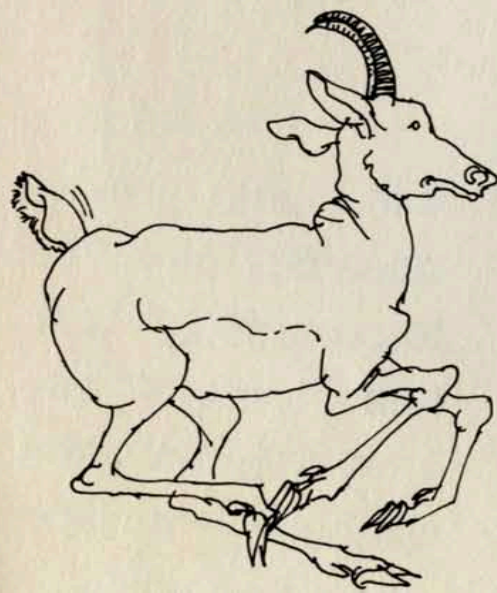
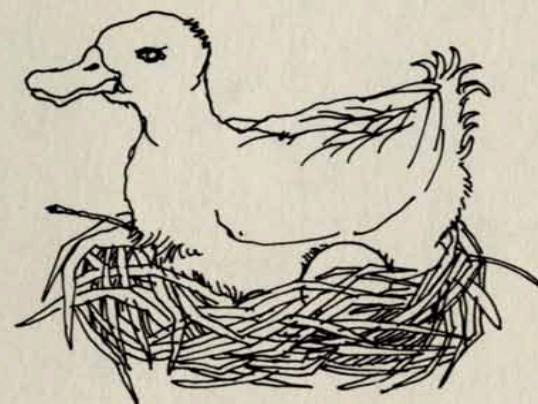




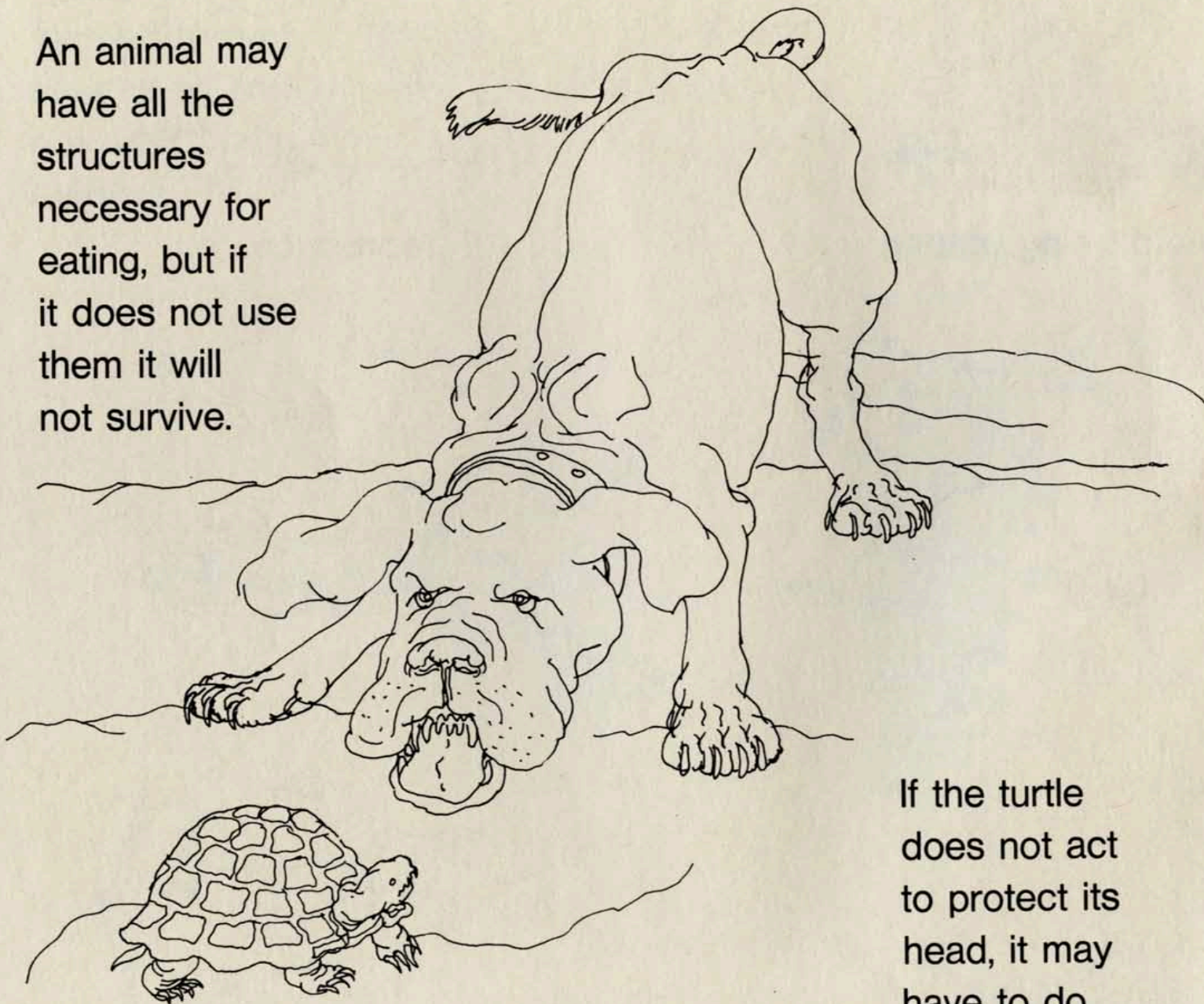
avoid being eaten



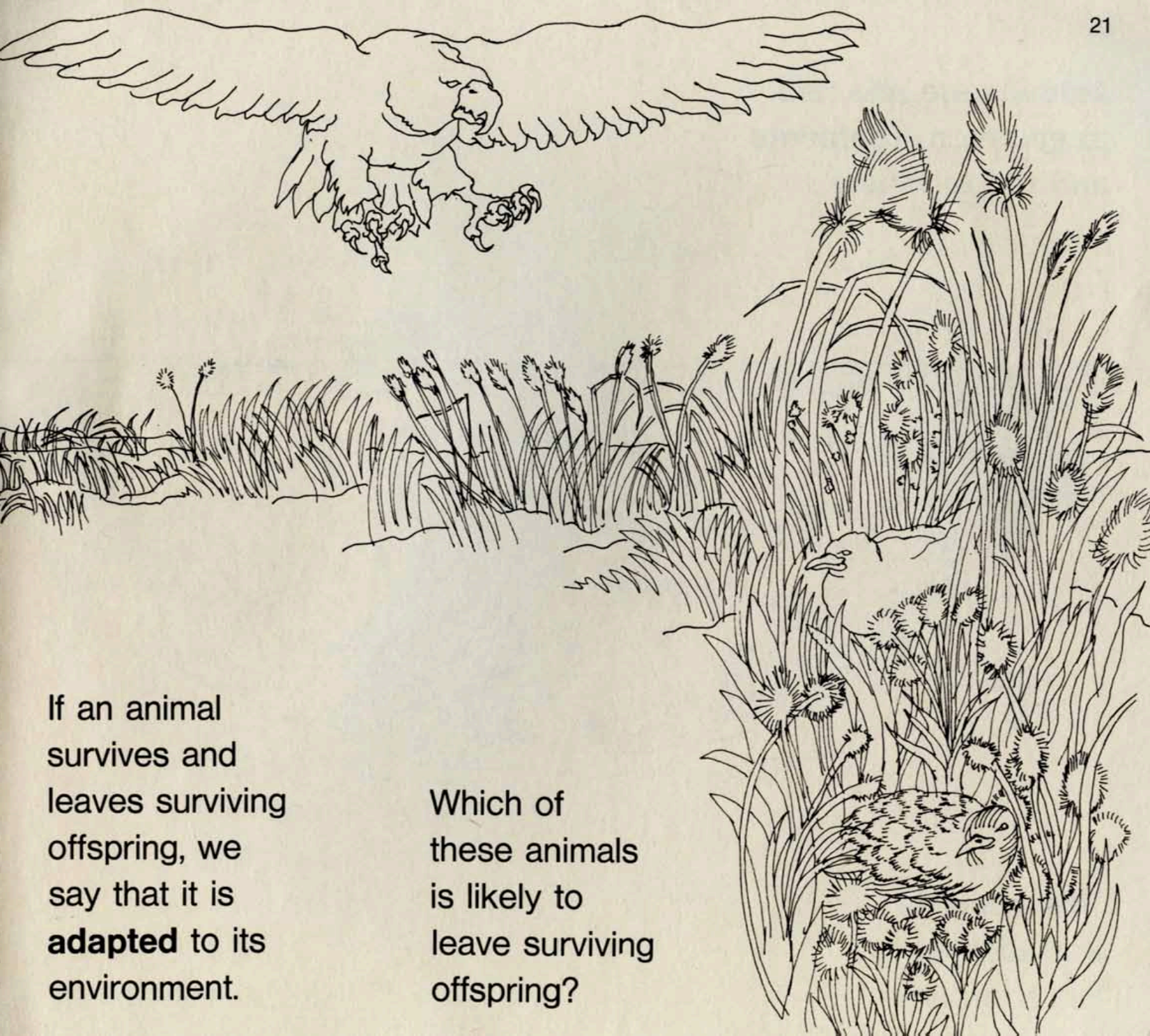
reproduce.



An animal may have all the structures necessary for eating, but if it does not use them it will not survive.



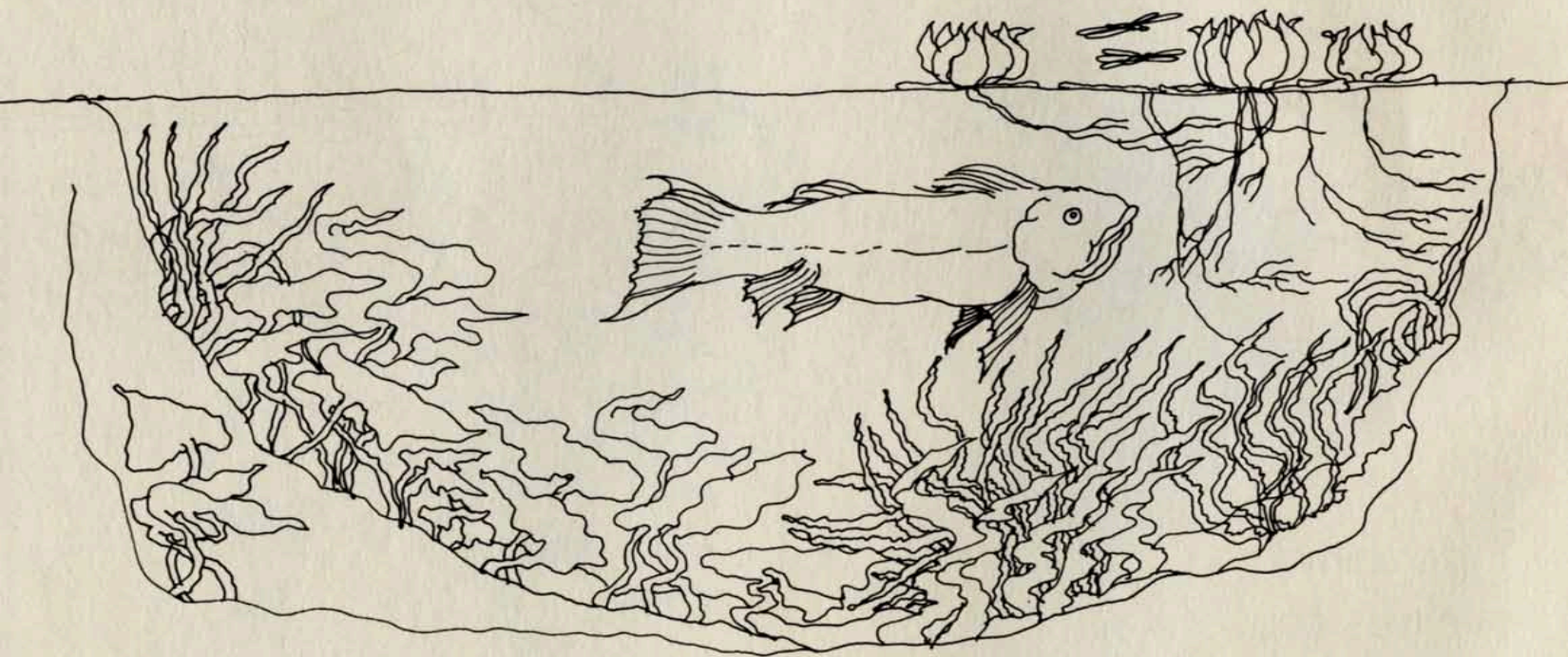
If the turtle does not act to protect its head, it may have to do without it.



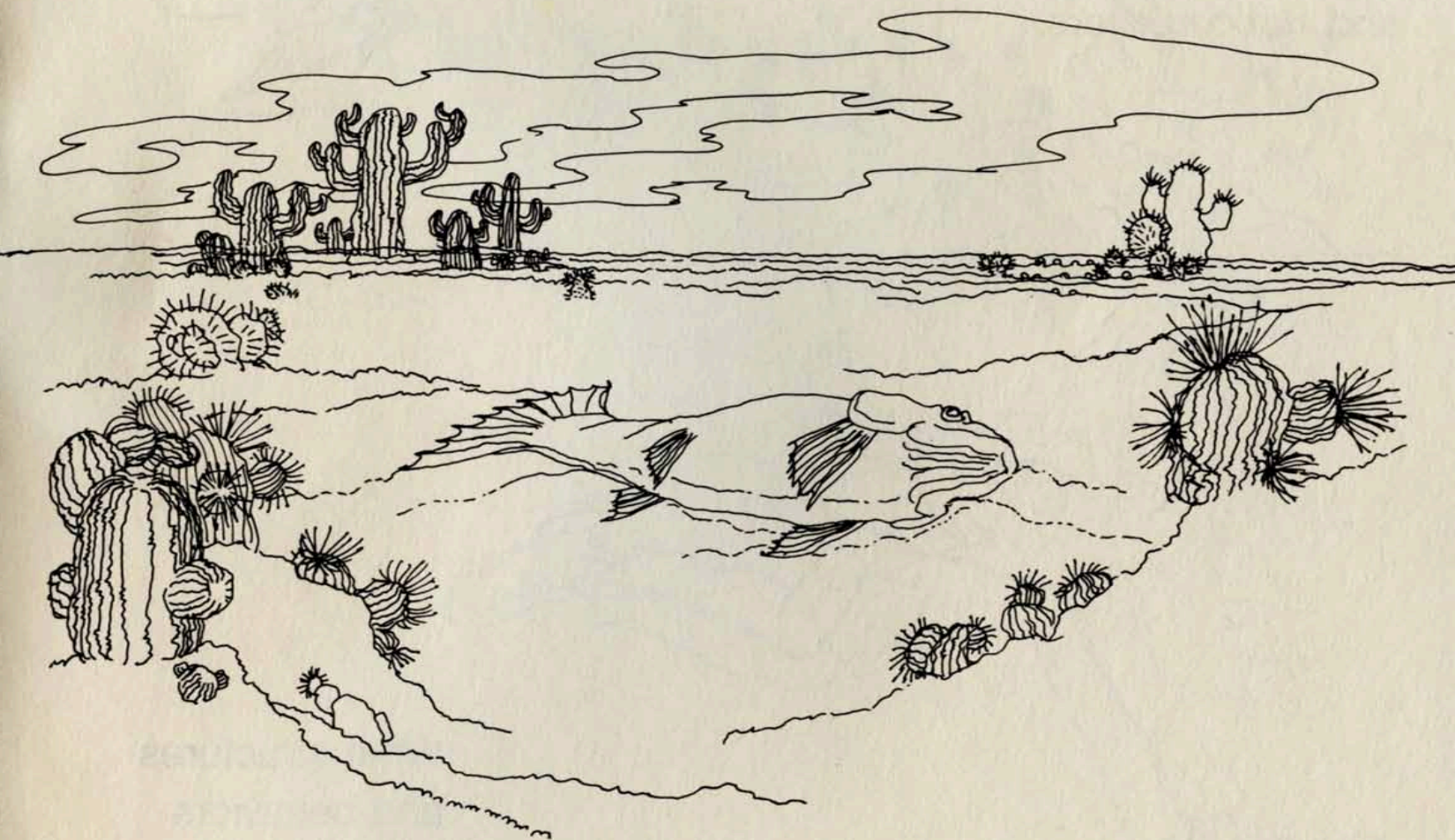
If an animal survives and leaves surviving offspring, we say that it is **adapted** to its environment.

Which of these animals is likely to leave surviving offspring?

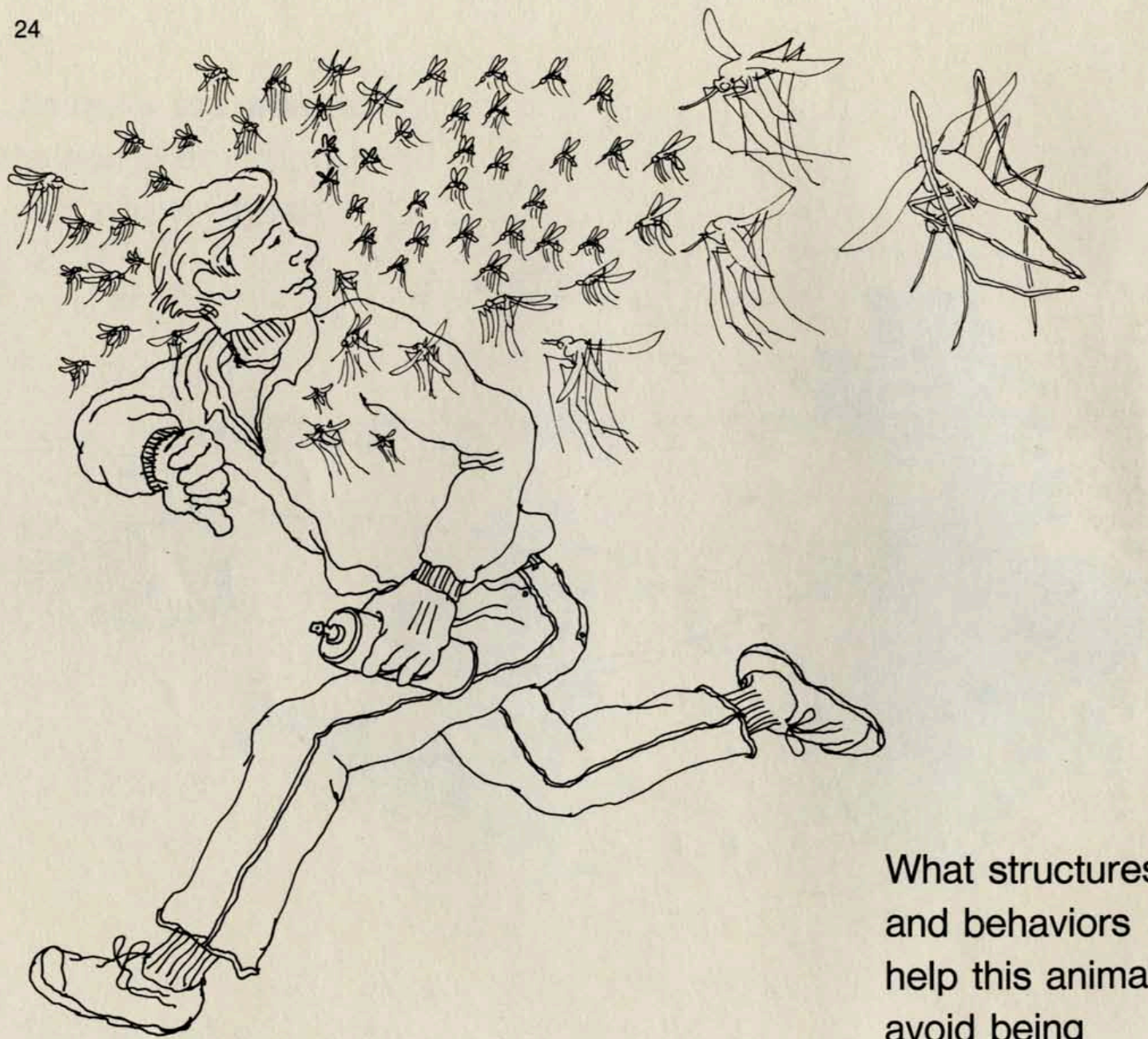
**Animals are adapted
to some environments
and not to others.**



This animal is
well adapted to
this environment...



But not to this
environment.



What structures and behaviors help this animal avoid being eaten alive by mosquitos?