In Real Time

In his article "Evolution in

Action" [ 1 1 /05], Jonathan

Weiner does an excellent

job showing that evolu-

tionary change can be rapid

and can be studied as it oc-

curs. He does, however, re-

peat an incorrect conclu-

sion when he states that the

story of the evolution of

color in the peppered moth

has "toppled over."

Research has repeatedly

shown that natural selec-

tion acts on the color of

moths and that changes in

air quality lead to rapid

evolutionary change. What

is in doubt is the mecha-

nism whereby natural se-

lection occurs. Bernard

Kettlewell's initial hypoth-

esis was that selection fa-

vored moths that matched

their background. As Mr.

Weiner correctly notes,

subsequent study has failed

to support that mecha-

nism, and investigators are

now investigating other

hypotheses.

Jonathan Losos

Washington University

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Jonathan Weiner

replies: Jonathan Losos is

correct: the case of the pep-

pered moth does remain a

dramatic example of evolu-

tion in action. The moth

has evolved before our eyes,

and natural selection has

driven its evolution.

The story of the moth

should be taught in class-

rooms as a case study of

both evolution in action,

and also of science in ac-

tion. When hard new data

force scientists to question

the details of a favorite old

hypothesis, they do it —

even if it hurts.