# ENTOMOLOGY NOTES

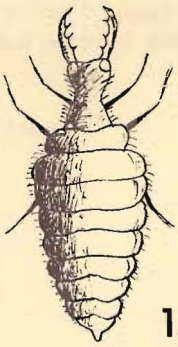
No. 1

PUBLISHED AS A SERVICE OF
THE MICHIGAN ENTOMOLOGICAL SOCIETY


## Lions and Tigers in the Sand

One usually thinks of sandy areas as barren wastelands where nothing lives. Not so! Among the fascinating creatures adapted to the sandy habitats of field and shore are the ant-lions and tiger beetles. These insects are nomads that prey upon the unwary travelers that venture into their desert. Although some tiger beetles are striped and vaguely appear tiger-like, the cat-like names of both insects are more properly derived from their predatory nature and agressive behavior.

The larval ant-lion (Fig. 1) is well adapted to its existence in the sand, dwelling in a kind of "fox-hole" where it lies in ambush to sieze its victims. This "fox-hole" is in reality a pitfall that entraps the unsuspecting prey (Fig. 2). The ant-lion waits patiently at the bottom hidden under the sand with only its large, curved jaws protruding.

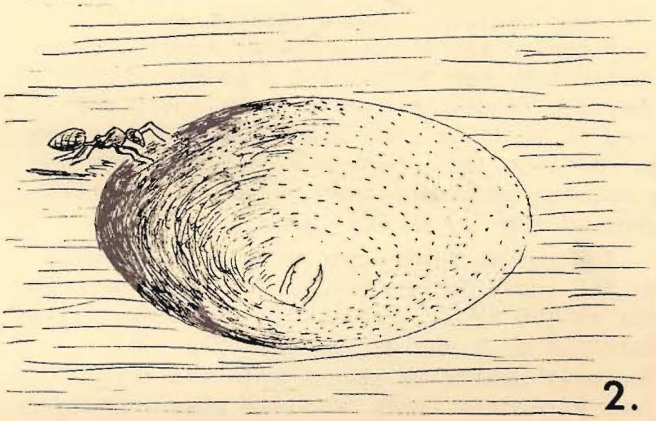


1.

When an ant or other wingless insect steps over the brink of the pitfall, the sand crumbles beneath its feet, and it is carried into the jaws of the ant-lion. If the prey does not fall to the bottom the ant-lion obligingly helps it in by undermining the sand beneath its feet.

In making the pitfall the little creature shovels the sand with its head throwing it aside with jerking movements. Because dry sand is needed for satisfactory pitfalls, these traps are found in areas protected from rain such as beneath overhanging rocks or buildings.

The ant-lion makes an excellent pet. It can be dug up from its burrow and kept in sand in a jar where one can observe its pit-building and insect capturing techniques. A few ants a week is food enough for its nourishment.



2.

The other ferocious denizen of the sand, the tiger beetle, is among the most sought after of all the insects (Fig. 3). The graceul forms and beautiful colors of the adults make them the favorite of students of the Coleoptera. "Tigers" may be red, brown, or green and often have a metallic sheen. Some are nearly all black and those that live on white sand are almost as white, so when at rest they blend into their surroundings. Most species are banded and spotted with yellow.

Dozens of species occur in the Great Lakes Region in sandy areas, on dunes, and along the shores of streams and lakes. They like the sun and are most active on hot sunny days when they can be seen scurrying across the sand in search of a mate or prey. Clouds or rain will send them hiding--into holes in the ground or beneath stones or other objects. They are wary insects difficult to capture without a net. Indeed they are certainly the most agile of all beetles--swift of foot and quick to take wing. This becomes immediately evident when you approach one. As you come near, it stands still on tip-toes and watches you attentively with its generous eyes, but by the time you get within a few yards it runs off swiftly for

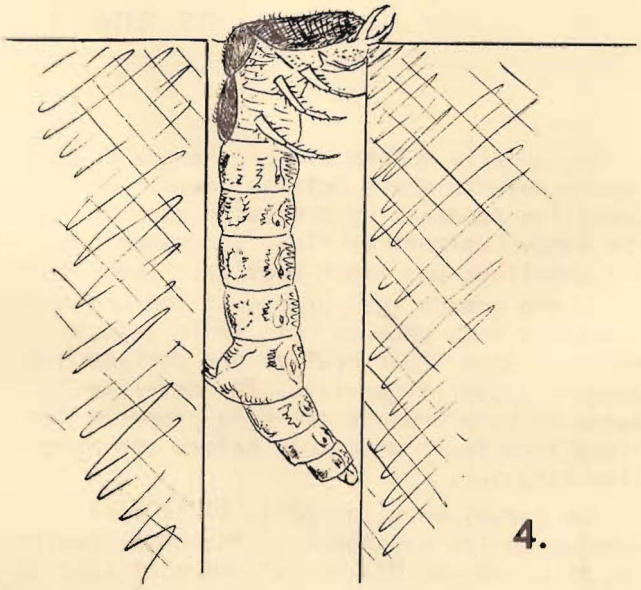
a few feet and then takes flight. Often it flies only a few yards ahead and alights facing you as if to taunt you into trying again. After that only a slow, careful and stealthy approach will bring a beautiful specimen to net.

3.

Tiger beetles capture their prey with long curved mandibles and when handled carelessly they can administer a painful bite. They are tenacious creatures as well, and hang on to their prey even unto death in the collector's jar. Many a tiger collector has a mounted specimen or two with an ant still clasped tightly in its jaws.

The larval tiger beetle is as ungraceful as the adult is beautiful. It is as ferocious as the adult, and spends its days at the entrance of a verical burrow (Fig. 4). There it awaits in ambush with its large jaws wide open ready to sieze unwary passers-by. Two small hooks on the back are used by the little creature to hold back and keep from being jerked out of its hole--should the prey be larger than it. Once captured the prey is dragged to the bottom of the burrow, which may be more than a foot underground, and devoured.

Tiger beetle burrows are often discovered accidentally when the sand suddenly becomes full of holes. This happens when the larva, which was plugging the entrance of its burrow with its head and thorax, suddenly drops to the bottom at the slightest alarm. A short wait will again see the holes disappear one by one, and any slight movement on your part will cause them to appear again.



4.

The larva is easily collected by thrusting a straw down the burrow and digging down the straw with a trowel until the insect is found at the bottom. Another way is to poise your trowel at an angle to the burrow and wait for the larva to surface; then with a quick thrust of the trowel, the burrow can be cut off below it.

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