(1971. J. Med. Ent. 8: 687-95) reported that *Ae. taeniorhynchus* fed predominantly on mammals, with less than 1% feeding on reptiles or amphibians. Engorged *Ae. taeniorhynchus* in Edman's study were collected from 3 different habitats not including the coastal sand dune area. Had Edman collected engorged mosquitoes along certain sections of east coast Florida beach during turtle season (early May through mid September), his results may have indicated that reptiles serve as an important vertebrate host for salt marsh mosquitoes. This demonstrates the value of sampling a wide variety of habitats over several active seasons before drawing general conclusions from mosquito blood meal analysis. It also points out that even when extensive sampling is done, as in Edman's study, pockets of unusual blood feeding may be missed. While these areas of engorgement on unusual vertebrate hosts may represent only a minor part of the overall species specific feeding profile, they serve to document the extreme plasticity of blood feeding patterns displayed by some mosquito species.

There is little question that salt marsh mosquitoes flying along ocean dunes can and will respond opportunistically to the presence of sea turtles. During our observation period, each female turtle fed hundreds of mosquitoes. It is unlikely that any other individual vertebrate host in the salt marsh/sand dune habitat accounts for so many blood-fed mosquitoes in such a short period of time.—J. F. DAY, Florida Medical Entomology Laboratory, Vero Beach, FL 32960, USA, and G. A. CURTIS, Indian River Mosquito Control District, Vero Beach, FL 32960, USA.

A TECHNIQUE FOR SEPARATING MOLE CRICKETS FROM SOIL—In order to determine mole cricket population densities and distributions in the field, Williams and Shaw (1982. Florida Ent. 65: 192-4) developed an efficient sampling technique which employs a tractor-powered soil corer. This technique requires that the crickets then be separated from the large quantities of soil. For this reason, a soil sifter was developed which was portable, inexpensive, and yielded live crickets.

The sifter consists of a hopper made of 16 gauge galvanized steel (Fig. 1). The top perimeter has a 2.5 cm lip which supports the hopper on a removable wooden frame made of 4.1 X 8.9 cm planks. A 0.63 X 0.63 cm mesh, hardwarecloth sieve fits into the top and has 2 handles for easy removal. The base perimeter of the hopper also has a 2.5 cm lip which provides a surface for attaching a hatch. The hatch is secured by a piano hinge on one side and by latches on the remaining sides. The latches are bolted to square pieces of galvanized steel that are welded vertically from the edge of the lip to the side of the hopper. The hatch is lined with a water-tight foam rubber gasket. A hole in the front of the hopper is plugged with a rubber cork, which can be removed to release excess water.

This technique relies simply on the principle that soils sink in water, whereas crickets float or swim to the surface. The hopper is first filled with ca. 20 liters of water, which prevents crickets from being buried by soil as they fall through the sieve. The soil sample is spread on the sieve and forced through with pressurized water from a garden hose. The sieve is scanned for crickets and then removed from the hopper. At this stage the water surface is typically covered with organic debris and foamy scum, which

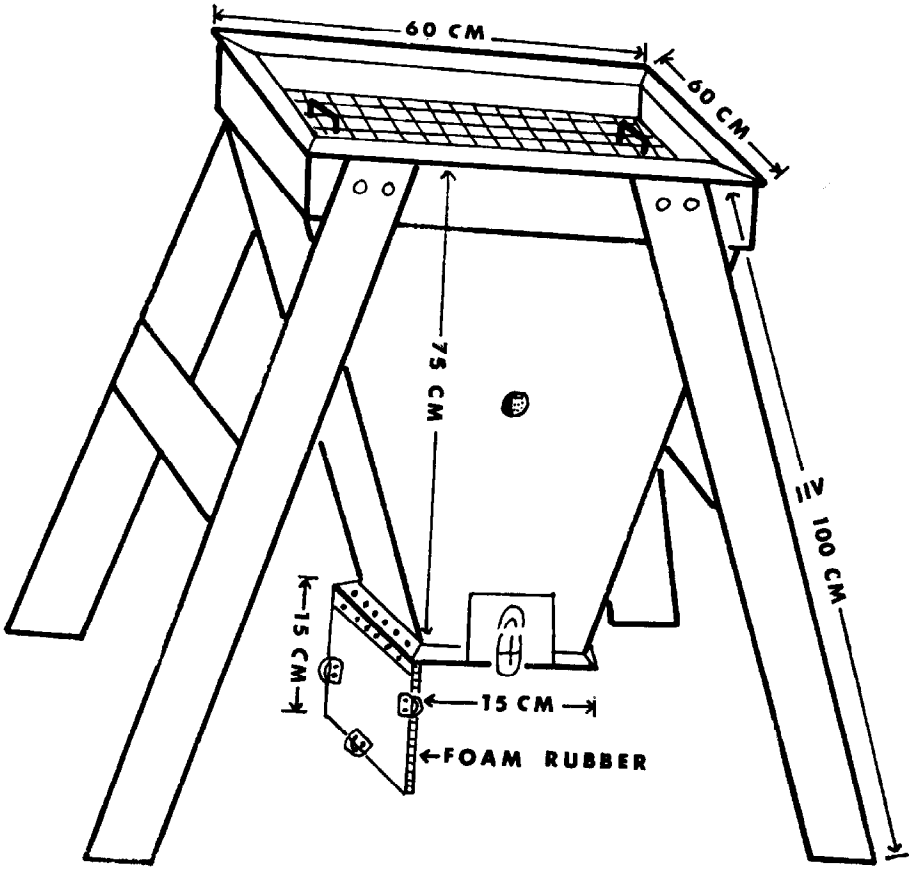

Fig. 1. Portable soil sifter hopper and support frame for extracting mole crickets from soil samples.

makes it difficult to see the crickets. A hand-held, straight-edged sieve (0.16 cm mesh) is used to skim the water. Its contents are washed into a 19-liter bucket that has a 0.16 cm mesh screen for a bottom, and this is sprayed with water until all the foam has passed through. The bucket sieve is then placed inside another bucket filled with water, and the crickets are easily spotted as they swim on the surface.

From 4 to 8 nineteen-liter samples can be processed per man h depending on the amount of plant material and soil type. A blind test incorporating 10 nineteen-liter soil samples, 5 of which contained mole cricket nymphs in various instars, was used to assay the accuracy of the technique (Table 1). This test, and trials done in the field, showed that crickets are likely to be missed in the hopper if they are crushed or die during core sampling or sifting. In these instances, the lack of any movement by crickets among the debris in the water makes it difficult to spot them, especially if they are 1st instar nymphs.

An advantage of this technique is that crickets can be separated from soil samples in situ provided there is a source of pressurized water. If the source of water is mobile, then soil can be quickly returned to its point of origin. The hopper is merely placed directly over the core hole and the soil sample is deposited after sifting.

TABLE 1. NUMBER OF MOLE CRICKET NYMPHS INTRODUCED AND NUMBER RECOVERED FROM FIVE 19-LITER SOIL SAMPLES USING A PORTABLE SOIL SIFTER.

	Soil sample					
	1	2	3	4	5	$\bar{X}$
Crickets introduced	10	7	6	5	3	—
Crickets recovered	9	6	6	3	3	—
%	90	85.7	100	60	100	87.1

Materials for constructing the hopper and frame cost less than $60 and both can be easily transported in a pickup truck or station wagon. The sifter yields live crickets and could also be used to separate other soil dwelling insects provided they are buoyant in water.

I thank T. J. Walker and W. T. Walker for their help and advice on this project.—GARY N. FRITZ, Entomology-Nematology Dept., University of Florida, Gainesville, Florida 32611, USA. Present address: Dept. Entomology & Plant Pathology, Box 3BE, New Mexico St. Univ., Las Cruces, NM 88001 USA.

LYRIFORM ORGANS IN THE CENTIPEDE SCUTIGERA (SCUTIGEROMORPHA: SCUTIGERIDAE)—A replica method for light microscopy (K. T. Khalaf. 1980. Florida Ent. 63: 307-40) at 400 X magnification was used to observe the cuticular pattern of the entire dorsum of the centipede *Scutigera* sp.

The dorsal cuticle of the head and tergal plates possesses numerous organs, each consisting of a striated tubercle and a slender companion trichium (Fig. 1, 2). These appear to be similar to the lyriform organs of the legs of some arachnids, which were illustrated by Barth (1976. Pages 445-73. *In* H. R. Hepburn, ed. Elsevier Scientific Publishing Co., New York). Lyriform organs are composed of close and parallel slit sense organs. Functionally, they serve as cuticular mechanoreceptors, stimulated by compression of the slits. As far as I know, these organs have not previously been reported from centipedes.

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