TIME 11-20-78

Science

Pesky UFOs

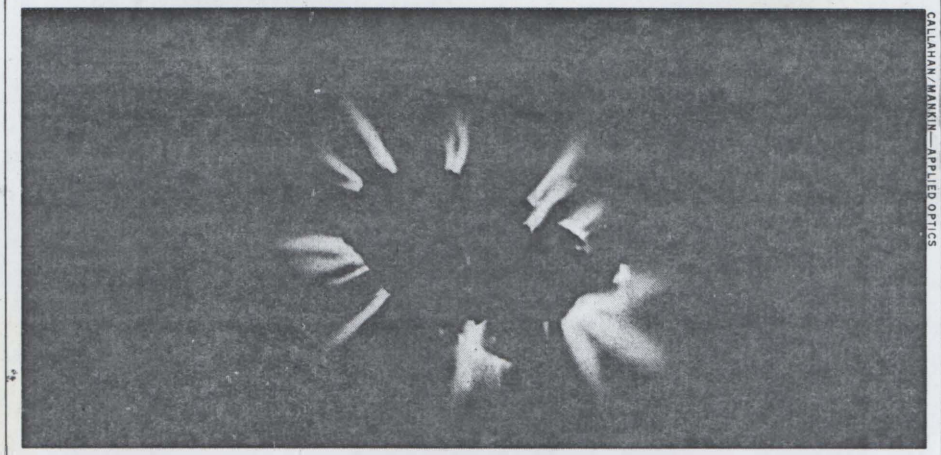
Those glowing, humming objects may really be insects

They ran outside in time to see a large object, flat on the bottom with a dome on top hovering over the house . . . They heard a humming noise, and lights around the bottom edge of the object were blinking on and off, giving a predominantly red impression but also appearing at times to be green and yellow.

This incident, related in the 1974 book *The Utah UFO Display,* was just one of 80 sightings of unidentified flying objects reported near the small northeastern Utah town of Roosevelt from 1965 to 1968. The book, carefully researched and written by Frank B. Salisbury, a plant physiologist at Utah State University, was seized upon by UFO buffs as still more evidence of the reality of flying saucers and visitations from extraterrestrial beings.

Now comes word that should really bug the True Believers. In a report in the journal *Applied Optics,* two U.S. Department of Agriculture scientists offer an earthly explanation not only for the Utah UFOs but possibly for many others as well. Reading Salisbury's book, Entomologist Philip S. Callahan and his associate, R.W. Mankin, were struck by the similarity between the movements of the UFOs and the actions of insect swarms. Their conclusion, after some painstaking research: the Utah objects were probably moths known as spruce budworms, illuminated by a common atmospheric phenomenon known as St. Elmo's fire.

Long observed as glowing halos around the yardarms of sailing ships, in the vicinity of church steeples and near the wing and propeller tips of aircraft, St. Elmo's fire occurs when strong electrical fields are created in the atmosphere. If atmospheric voltage rises high enough, as under a thunderhead, the electrical resistance of the air breaks down and electrons flow from such pointed objects as a ship's mast, agitating nearby air molecules to produce a strong coronal light.



CALLAHAN/MANKIN—APPLIED OPTICS

Predatory stinkbug glowing UFO-like in a lab-created electrical field

Like a great "free-floating discothèque in the sky."

To test whether insects could also be set aglow, Callahan and Mankin in their lab generated electric fields comparable to those produced during storms. They then confined within the fields several species of insects, including predatory stinkbugs and spruce budworms. The results were invariably the same: the bugs, consisting, as the scientists note, of an excellent dielectric (the exoskeleton) surrounding an electrolyte (the body fluids), displayed brilliantly colored flares from such external points as their antennae, leg joints and jaws. Write Callahan and Mankin: "There is absolutely no doubt that, given the right weather conditions, nature can produce a high enough electric field to light up flying insects."

Strong supporting evidence came from U.S. Forest Service records, which showed that there were in fact several severe spruce budworm infestations in forests near Roosevelt just before the UFO outbreaks. Thus, the budworm moths, having feasted on the trees and flying in well-defined swarms that may have measured miles across, could have been on nocturnal migrations when the people of Roosevelt began seeing those strange, dancing lights. Indeed, as the moths hovered and blinked overhead, while trying to escape atmospheric electric fields on certain stormy nights, they might well have resembled what the scientists call a great "free-floating discothèque in the sky." ■