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INSECTS INDICATE CREATION

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Abstract

A Creation Research Society (CRS) insect collection has been started. Qualified workers are invited to participate in the identification of these specimens and other phases of entomological research. There are outstanding evidences for design in dragonflies, click beetles, springtails, and other insects. Insects simply appear in the fossil strata without indication of an evolutionary ancestry. The paleontology, physiology, and anatomy of insects are fields ready for creationist study.

A CRS Insect Collection

Baseline studies are needed of botanical, zoological, geological, and other scientific features at the CRS Grand Canyon Experiment Station (GCES), Paulden, Arizona. Collections of insects, plants, rocks, and other scientific specimens can be started for our laboratory facility when funds are available for its construction. Individual members can play important roles in these and other tasks. For an introduction to research possibilities at the GCES, consult Howe (1984). Insect research can also be performed at Grassland Experiment Station, Weatherford, Oklahoma from which a list of plants and animals has already been published—consult Hagberg and Smith (1983).

On July 10-13, 1985, insects at the GCES and nearby regions were collected and mounted. Several covered bait cups containing fruit or other foods were sunk to ground level along the southern edge of the GCES land and were periodically examined for insects (Figure 1). Insects were also netted out of milkweeds, thistles, and other plants flowering on the CRS land and at nearby Sullivan Lake, Paulden, Arizona.

Collections were made at night by using ultra-violet and fluorescent attractant lamps. Insects were mounted, labeled, and placed into families for future categor-

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ization and as a nucleus for the CRS insect collection. A list of the orders and families collected are given in the Appendix following an outline used by Borror *et al.* (1976).

CRS members specializing in various insect families are encouraged to write George Howe who will ship part or all of this collection for classification to genus and species. The help of qualified experts is needed in this effort.

Design in Insects

Shortly after sunset we collected an owlfly (Figure 2) and noted in Borror *et al.* (p. 334) that larvae of owlflies lie in wait to ambush their prey. Ant lion larvae dig a pit into which other insects slide and are captured. Unlike the ant lion larvae, the owlfly larvae lie concealed in surface debris and from such hiding places attack small insects. Diverse predatory activity such as this by ant lion and owlfly larvae involve exquisite genetic control which could be profitably studied by creation researchers as an indicator of design in nature.

Figure 1. Robert Sanders inspects bait in sunken cups along the edge of the GCES.

While discussing interesting insect hunting strategies, at the GCES there are spider wasps—large hymenopterans that capture and paralyze tarantulas. Concerning spider wasps as a group, Borror and DeLong (1964) had this to say:

> The spider wasps generally capture and paralyze a spider and then prepare a cell for it—in the ground, in rotten wood, or in a suitable crevice in rocks; some spider wasps construct a cell first, then hunt for a spider to store in the cell. A few species attack the spider in its own cell or burrow and do not move it after stinging and ovipositing on it; a few species deposit on spiders that have been stung by another wasp. p. 553

As E. N. Smith has pointed out (personal communication) the origin of such a delicate interaction would be hard to understand in terms of evolution. If the spider-wasp injected too little venom into the tarantula, the spider would walk away and the wasp's larva would die. But if it injected too much, the spider as well as the wasp larva would die!

Near Sullivan Lake we observed the darting flight of dragonflies and were reminded that these large insects have on their legs basketlike apparati by which they catch other insects which they eat while flying or later while resting—Borror *et al.* p. 122). The origin of this food-catching basket is difficult to understand in evolutionary terms. It may be reasonably assumed that before they possessed this device, the dragonfly ancestors must have already had other efficient means of securing food—or else they would not have survived. But if evolutionists argue that some pressing "need" for such basket structures suddenly arose, the evolving Odonata would have likely starved before the slow processes of mutation, natural selection, and such could have equipped them with the new leg apparati needed to arrest prey in flight.

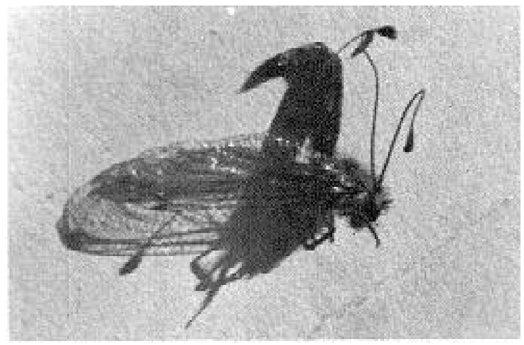

Figure 2. An owlfly — *Ulodes* sp.—caught by using attractant lights at the GCES. Note prominent antennae.

Fossils and Insect Origins

Someone seeking to demonstrate the history of dragonflies from fossils will encounter facts that do not fit easily with the macroevolution model. For example, fossil dragonfly-like creatures, found in what are called Paleozoic strata, were already very complex, having large wingspreads, and giving no evidence of having descended from simpler predecessors. Borror *et al.* relate that although the largest dragonflies in the United States today are only 3.25 inches long, Carboniferous fossil dragonflies had wingspreads of 2.5 feet (p. 170). Barker (1966, p. 148) reports that what is now the state of Kansas was the habitat for dragonflies that measured more than two feet.

If we come to the fossils in quest of an evolutionary ancestral tree for insects in general, we are again disappointed as the first (deepest) insects were already insects, according to the authority Wigglesworth (1964, p. 1) who writes that these fossil types ". . . were recognizable then as now by having the body divided into three more or less well defined regions . . ." Peter Farb (1962, p. 5) asserts that the origin of insects is uncertain, stating that: "There are no fossils known that show what the primitive ancestral insects looked like . . ."

Like many other workers, Wigglesworth writes at great length about how the hypothetical ancestor of insects might have looked; but concerning his own evolutionary speculations he frankly concludes that: "These notions are not 'proved' in the popular sense of our knowing as a fact that the changes during evolution did happen in that way" (p. 3). Wigglesworth further asserts that evolutionism is ". . . merely a provisional description of what we believe has happened and is happening" (p. 3). Even so, he adopts the evolution model anyway because: "There is at present no other theory which fits the facts so well . . ." (p. 3). But upon turning to a fossil diagram on page 5 of Wigglesworth's book, one would think that the facts did not fit evolutionism very well because most insect groups are found to show up rapidly at various geological layers from the Devonian and the Cretaceous to the Permian without any hint of an ancestral tree.

For example, Wigglesworth (1964) and Cowen (1976, p. 27) indicate that the springtails made their debut in the Devonian Rhynie Chert strata of Scotland and are thus thought by uniformitarians to be the deepest and oldest of the insects. Looking at springtails with an eye for evolutionary evidence, one might expect to find that they are "primitive" or at least "transitional" in body structure. Instead, they are complex little creatures each having a folded, forked organ called the "furcula" at the back of the abdomen. As Hutchins (1966) reports, the furcula is normally held by a biological catch in the locked position. When it is released, however, the furcula strikes against the surface on which the springtail is standing and propels the insect for distances up to eight inches—Hutchins (p. 291) and Farb (p. 12).

Members of this supposedly ancient and primitive springtail group also have a ventral tube which serves as a sucker to hold them onto a leaf or some other object. Hutchins even describes the water springtail as using its ventral tube to penetrate the surface film on water, thus anchoring the insect near the surface.

Concerning springtails, it should be noted in passing that some workers, like Carpenter, would file a minority report, arguing that these Devonian fossils either were not true springtail insects or that springtails themselves (Collembola) should not be classified as insects (1947, pp. 66-67). Carpenter thus concludes that the oldest unquestionable insect fossils come from the Upper Cretaceous, not the Devonian.

Although Hutchins makes it clear that he holds an evolutionary view for the origin of insects, he makes this commendable exclamation at the onset of his book: "God must have loved the insects he made so many of them. . ." (p. vii). He also recognizes a natural human aversion to insects by adding, "Not all human beings share God's preference."

Concerning insect fossils, Hutchins writes:

> . . . there are vast gaps in the fossil record covering millions of years, and when we go beyond the Carboniferous period which began about 300 million years ago, the trail fades completely (p. 3).

Note Hutchins' words carefully as he hints at evidence against evolution but then checks himself:

> Insect origins beyond that point [the Carboniferous] are shrouded in mystery. It might almost seem that the insects had suddenly appeared on the scene, *but this is not in agreement with accepted ideas of animal origins*[Emphasis added] (p. 4).

Did Insects Come from Arthropods?

Wigglesworth believes that hypothetical insect ancestors must have evolved as a branch of the arthropods but he then notes that "The origin of the Arthropoda is quite unknown. . ." (p. 4). Klots and Klots also suggest that:

> The Trilobites, Paleozoic Arthropods known only from fossils could have been ancestors [of insects], a belief based on their combination of general structures; *but there is no actual proof or even good evidence that they were.* [Emphasis added] (1961, p. 7).

Klots and Klots (p. 7) suggest that the members of the phylum Onychophora are "living fossils" having some features intermediate between arthropod and annelid groups. Perhaps some creationist zoologist will pursue this claim and see if the onychophorans actually look like valid candidates to bridge the broad gap between arthropods and annelids. To their own question "What are the direct ancestors of insects?" They give the frank reply: "We do not know."

The Origin of Insect Wings

In addition to the somewhat questionable springtails from Devonian strata, two other groups of insects appear in the fossil record quite deep or "early" (from a uniformitarian point of view)—the dragonfly-like Protodonatas and the cockroaches—both from mid-Carboniferous rocks, as Cowen (p. 27) has indicated: "Some forms of these early insects closely resemble species that are living today but they are noted for their large size." Matthews (1962, p. 113) writes about these large dragonflies and giant cockroaches. The dragonflies are representative of that group of insects having wings that cannot be flexed or folded over the abdomen. Roaches, on the other hand, are in that great group of insects where wings can be flexed. Both of these strikingly different types of wing patterns make their debut together among the oldest of insect fossil specimens. This means that there is no indication from the fossils regarding which type of wing was most "primitive" nor can one tell how these different wing types arose.

Before leaving the topic of insect wings, we should note, as Borror *et al.* (p. 139) pointed out: "The insects are unique among flying animals in that their wings are in addition to their legs, and not modified legs (as in the case of flying vertebrates)." It is obvious as well that flying would require supporting changes in behavior and physiology, the origin of which is not readily apparent.

A Puzzling Parallelism for Evolutionists

Carpenter relates that Paleozoic protohemiptera insects had suctorial mouth parts which permitted them to consume liquid foods. Yet it would appear that evolutionists are forced to defend the unlikely proposition that suctorial mouth parts must have arisen twice independently:

> . . . as far back as the Upper Carboniferous, at least two hundred twenty-five million years ago, the suctorial mechanism had been developed in insects; and also that this device originated in relatives of the may-flies and dragonflies, *quite independent* of its subsequent development in the Hemiptera and Diptera. [Emphasis added] (p. 75)

The odds against suctorial mouth parts arising just *once* (let alone *twice!*) by naturalistic evolution are very high.

Insect Problems for Creationists Too?

A problem for creationists emerges as well—see Klots and Klots (p. 7). Of the six insect orders present in Carboniferous rocks, only one still exists—the Blattidae or cockroach order—all others having become extinct. But many of the insect orders found in the Permian rocks are still extant. If both Permian and

Cretaceous rocks were formed in the same catastrophe (as some creationists hold) how can one explain the fact that most insects in Carboniferous rocks are extinct while those orders in Permian rocks still exist?

But creationists face an even greater problem in the study of insects. We obviously abhor the assertion that "vestigial organs" exist, and yet many adult insects that do not eat have mouth parts. Did this contradictory situation arise as a change in insect behavior after the Flood catastrophe? Is it a degenerative aspect of the curse?

Insect Development Is Unique

Farb (p. 59) reported an interesting feature of insect embryology—both the larval cell mass and the adult cell cluster coexist in isolation from each other at a very early age in the insect. This means that the plans for both the larva and the pupa-adult are already determined when the embryo is no more than a ball of cells. When the larva finally enters the pupal stage, the larval cells promptly die while the adult cell cluster undergoes accelerated growth. Thus the larval cells die at the right time to serve as food for adult cells which grow rapidly and undergo differentiation at the specific time.

All these changes are under strict hormonal controls, as insect physiologists have noted. A pair of glands in the head—corpora allata—control the change from larval to adult stage. They secrete a "juvenile hormone" which keeps the insect in the larval stage and when its production is halted, other hormones formed in the thorax signal the larval cells to die. Farb (p. 59) reports that at the same time a head hormone induces another hormone secreted in the thorax—a hormone that ultimately stimulates the dominant pupal-adult cells to grow!

Farb hints that this wondrous embryologic dichotomy is merely a device to permit independent variation and evolution of both larval and adult stages—thereby allowing each to adapt to widely different environments. Creationists could more credibly assert that such independent simultaneous growth of the larva and the pupa is a scheme by which the Creator provided remarkably different specializations for larvae and adults so that insects can be supplied with the best possible larval and adult adaptations to meet the requirements of widely differing habitats.

Thus there can be such very different lifestyles as those found in the larvae and adult stages of the dragonfly. Locomotion of the larvae (which live in water) is by jet propulsion—water being expelled from the anus. Adults however, move through the air with wings. Larvae feed by a "mask" whereby the lower lip is greatly enlarged and also armed with a pair of hooks—forming a device that can be shot out to seize prey—Burton and Burton (1975, pp. 74-75). The adult dragonfly, on the contrary, hunts while flying (as already noted) with a basket-like trap on its legs. Thus the Creator provides for amazing diversity of lifestyles in two stages of the same insect's life.

While still pursuing the subject of insect development, CRSQ readers will remember that W. J. Ouweneel of the Royal Netherlands Academy of Sciences clearly showed that the so-called "homoeotic mutants" of the fruit fly *(Drosophila melanogaster)* by which a wing may be changed into a haltere or an antenna into a leg are very striking in their morphological aspects but are ". . . only negative with regard to evolution"—Ouweneel (1975, p. 141). He summarized such homoeotic mutations as follows:

> On the basis of present knowledge of homoeotic phenomena, I come to the conclusion that they are not evidence for any evolution whatsoever. On the contrary, these phenomena are an example of how one simple gene mutation can disturb, not just one small morphological feature only, but the expression and regulation of dozens of other genes. (p. 153).

The Beetles

Many families in the beetle order (Coleoptera) were found at GCES—see Appendix. This is not surprising as Borror *et al.* give 23 families of beetles in a coleopteran key which itself requires about 25 pages of text! One beetle we collected was in the family Elateridae and possessed a fascinating device which apparently equips it to escape predators or stand upright when it falls on its back. Borror *et al.* (p. 391) indicated that the prothorax and mesothorax of other insects are united in such a way that no movement between the two sections is possible. But in the case of this "click beetle" they reported that:

> The clicking is made possible by the flexible union of the prothorax and mesothorax, and a prosternal spine that fits into a groove on the mesosternum . . . If one of these beetles is placed on its back on a smooth surface, it is usually unable to right itself by means of its legs. It bends its head and prothorax backward, so that only the extremities of the body are touching the surface on which it rests; then, with a sudden jerk and clicking sound, the body is straightened out; this movement snaps the prosternal spine over end. If the insect does not land right side up, it continues snapping until it does.

The origin of such exciting morphological and behavioral adaptation would be difficult to explain in terms of mutation and natural selection.

Insects and Speciation

Much research into the origin of species has been conducted on the fruit fly. Yet the developmental geneticist, W. J. Ouweneel feels that this whole field should not be called "evolutionary genetics" as it presently is but simply "population genetics." He asserts that what is called "micro-evolution" in the genus *Drosophila* ". . . does not require the chance occurrence of new variation by mutation" but simply involves ". . . an already existing repertoire of genetic variation latent in the population"—Ouweneel (1977, p. 33). Thus according to Ouweneel, the little fruit fly with its hundreds of species in the Hawaiian Islands alone would not be a tribute to evolution but is an example of ". . . adaptation based on the innate genetic variation in populations, a prediction fully confirmed by the molecular genetic results of the last ten years" (p. 33).

CRSQ Entomology

Over a period of 22 years many articles covering creationist implications of insect study have appeared in the CRS Quarterly, of which the following five are

examples: Ouweneel (1975), Ouweneel (1977), Smith (1981), Rea (1981), and Lammerts (1983). It is hoped that even more creationists will perform research on insects and that some will assist in preparing a substantial collection of insects from northern Arizona to be stored and used at the GCES research facility.

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Appendix:

Each order of insects is in capital letters followed by various families collected in that group. Unless otherwise noted, each collection was made at or near the GCES.

ODONATA
- Aeschnidae, *Aeshna arida* Kennedy, dragonfly, Sullivan Lake.
- Coenagrionidae, damsel fly, Sullivan lake

ORTHOPTERA
- Locustidae, locust
- Tettigonidae, long horned grasshopper

HEMIPTERA
- Corizidae, box elder bug
- Pentatomidae, stink bug, and three other Hemipterans

NEUROPTERA
- Ascalapidae, *Ululodes* sp., owlfly, Sanders has this and is working on species.

COLEOPTERA
- Cincindelidae, tiger beetles
- Carabidae, ground beetles
- Staphylinidae, rove beetle
- Elateridae, click beetle
- Pyrochoridae, fire-colored beetle
- Tenebrionidae, darkling beetles
- Scarabaeidae, June beetles etc.
- Chrysomelidae, cucumber beetle

LEPIDOPTERA
- Pieridae, cabbage moth
- Sphingidae, Sphinx moth
- Noctuidae, owlet moth
- Geometridae, geometrid
- Pyralidae, pyralid moth
- Micropterygidae, mandibulate moth

DIPTERA
- Pipunculidae, big-headed fly
- Syriphidae, fruit fly
- Ephyridae, shore fly
- Muscidae, muscid fly
- Tachnidae, tachnid or warble fly

HYMENOPTERA
- Pompilidae, spider wasps or tarantula wasp
- Apidae, *Bombus* sp. and *Anthopora* sp. (bumble bee and mason bee) as well as several other Hymenopterans

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QUOTE

Consider the following concrete existential phenomena: Where is the first-class scientist or philosopher or scholar today, one who has won or who may be considered for a Nobel Prize, who can recite the Nicene Creed in good faith and accept what it asserts without mental reservations? Excellence in science and scholarship appear, then, to corrode faith demonstrably. How much of whatever faith a scientist or artist finally comes out with as a result of his science or art will be acceptable to David, Paul, Augustine, Athanasius, Chrysostom, Aquinas, and Luther? Who "judges" whom in the matter of faith, the scientist or the saint?

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