

Hermit Crab

➤ CRABS ARE delicacies of the dinner table, usually served, for the sake of "atmosphere," cooked and stuffed back into their own shells.

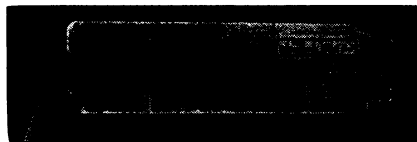
The edible crabs of the world belong to a relatively small group of species. The inedible kinds of crabs outnumber the species of positive economic value many fold and include a host of species of interesting and often weird appearance.

Among these are the hermit crabs. They are not really crabs at all in the true sense, although they have been given the name in common parlance. They probably originated from burrowing ancestors whose tails had become soft and flexible. When they gave up burrowing, they had to protect their tails by pushing them into shells.

The hermit crab can often be seen among the rocks during a seaside vacation. In spite of the name, it cannot be truly said to have a crusty disposition, except perhaps about its head and claws. This lack of the natural crust with which all other crabs are endowed is what determines its peculiar custom of inhabiting the deserted dwellings of departed sea snails.

If you see a small curled sea-shell hustling along in a shallow tidal pool, at a good deal faster clip than its proper owner could ever have carried it, the present tenant is almost certain to be a hermit crab. If you capture

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such a shell and try to pry the little creature out, you will have no luck, for the crab sticks as tight in the shell as did the snail that grew in it originally. If you persist, you can pry the crab out—but it will be in pieces.

Hermit crabs grow, just as other crabs do, but instead of cracking a shell and molting, or shedding it, the hermit must abandon his adopted quarters when they begin to cramp him and seek new ones.

This is because his body is permanently in the unprotected "soft-shell" state. The search for new living quarters is a time of anxiety for the temporarily homeless crab. Sometimes, two houseless hermit crabs, happening simultaneously upon a suitable empty shell, will stage a fierce battle for its possession. For this pugnacity, the species is sometimes called the soldier crab.

Science News Letter, February 12, 1955

METEOROLOGY

Propose New Theory Of Lightning Formation

➤ A NEW theory of "bootstrap" electrification to cause lightning, occurring long before rain begins, was proposed to weathermen attending the American Meteorological Society meeting in New York.

Dr. Bernard Vonnegut, a pioneer in "rain making" who is now a physicist at Arthur D. Little, Inc., said that his theory, if correct, may play a prominent part in the formation of rain. He described his theory as follows:

Air near the surface of the earth carries a slight positive charge. Strong updrafts sweep this positively charged air to upper levels to form positively charged clouds. Negative ions from the upper atmosphere are attracted to the clouds, attach themselves to cloud particles and change into ions of low mobility.

These negatively charged particles are swept by downdrafts to the lower part of the cloud in a continuous process that results in a strong negative charge accumulating in the lower part of the cloud.

When this negative charge becomes sufficiently large, it causes a discharge of positive ions from points on the earth's surface. They attach themselves to the fine particles always present in the air at low levels and are transformed into ions of low mobility.

These positive ions are then carried to the upper part of the cloud by updrafts, thus increasing the positive charge in the upper part of the cloud. This increase in the positive charge raises the negative charging rate, intensifying the negative charge on the lower part of the cloud.

The result is a "bootstrap" electrification process in which the charges build up until large enough to produce lightning.

At the present time it is generally believed that the electrification is caused by the falling of charged precipitation particles, although no satisfactory theory has been advanced to explain this process.

Science News Letter, February 12, 1955

AERONAUTICS

"Tennis Net" Tested For Landing Fields

➤ ENGINEERS HAVE stretched a nylon tennis net across a miniature landing field and are "serving" model F-86 Sabre jets into it.

The purpose of the experiment is to test a new device, called a "rabbit catcher," designed to span the end of a runway. When a jet coming in for a landing overshoots the field, it will plow into the net, stretch it forward, then come to a halt without damage to plane or barrier.

To test this theory, scientists of the All American Engineering Co. at Georgetown, Del., have constructed model jets, a model runway and a model net, all scaled down to one-tenth life size. The "jets" are shot into the net from a catapult.

Unlike players, the scientists hope their shots will not hop over the net.

Science News Letter, February 12, 1955

VIROLOGY

Viruses Help Identify Tuberculosis-Like Disease

➤ PLANT-LIKE ORGANISMS that cause a tuberculosis-like disease may be identified by viruses that prey upon these organisms.

The viruses were isolated by Drs. Orda Plunkett and E. N. Azarowicz of the University of California at Los Angeles. They attack only fungi of the genus *Nocardia*, which cause such diseases as nocardiosis, a pulmonary disease resembling tuberculosis.

The viruses are of no value as remedies against fungus diseases. However, they may be of special value in identifying fungus organisms, which are often difficult to distinguish from each other and from other organisms.

For example, some strains of *Nocardia* so closely resemble the TB germ as to cause an erroneous diagnosis.

Fungal viruses were first discovered two years ago by Drs. Plunkett and Azarowicz. Although bacterial viruses have been known for years, no one had been able to isolate the fungal variety prior to that time.

Science News Letter, February 12, 1955

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