

PALEONTOLOGY

Ancient Animal Relatives

Fossil remains of animals living 60 million years ago are discovered in Wyoming's Bison Basin. Plesiadapids, small, tree-climbing animals, are included in the collection.

► Fossil remains of archaic animals that lived 60 million years ago have been discovered in a remote valley in Wyoming known as Bison Basin.

The animals were only remotely related to monkeys, bears and other modern animals, Dr. C. Lewis Gazin of the Smithsonian Institution reported.

The fossils were first discovered by a Geological Survey party. Dr. Gazin had a major part in collecting them.

The creatures lived during the Tiffanian epoch, next to the last subdivision of Paleocene geologic time—a period that lasted approximately 20 million years but which was just the start of the "Age of Mammals," Dr. Gazin reports.

In Paleocene times mammals were emerging as earth's dominant animals and the dinosaurs' importance had waned. Warm-blooded creatures were becoming markedly diversified, filling many of the habitats left by the disappearance of the reptilian forms that previously ruled.

Notable in the collection are remains of plesiadapids. These were small, probably tree-climbing animals, belonging to the primate order, but only remotely related to the living New or Old World monkeys.

Plesiadapids were not only North American in distribution but are known also from the Paleocene in France, from beds about

the same age as our North American Tiffanian time.

The Bison Basin beds in Wyoming produced at least four species and two genera of these creatures, represented by teeth and jaws. Among them is one of the most primitive known of the family, a rather minute creature known as *Pronothodectes*. In the Bison Basin beds this represents a survival of the group recognized as the precursor of true *Plesiadapis*.

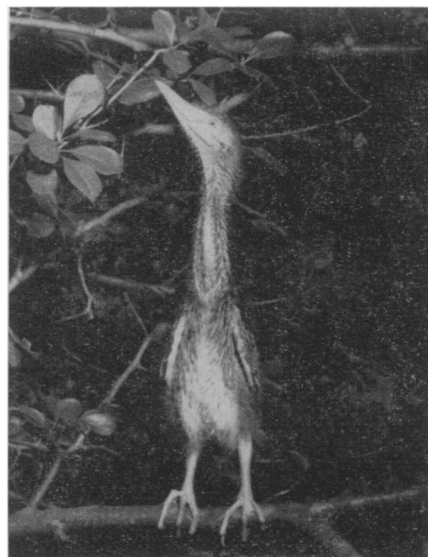
Among other creatures represented are condylarths—archaic, subungulate mammals that paleontologists now generally believe gave rise to the modern hoofed or ungulate animals.

The condylarths themselves, however, were not truly hoofed, but had toes with structures intermediate between claws and hoofs. They show evidence that the claws at this stage were beginning to spread out or flatten.

Some of the condylarths were very small; the largest of those in the Bison Basin, however, was *Phenacodus*, an animal over four feet long and about two feet high.

The Bison Basin collection also contains fossil remains of several kinds of creodonts and such creatures as claudodonts, animals that probably had the appearance of small bears but were not ancestral to them.

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YOUNG GREEN HERON—Fledgling green herons are often found this time of year perched in tree branches in nesting areas along streams. They often leave their nests a few days before their wings are strong enough for sustained flight. When disturbed, they scramble along the branches of a tree, squeaking.

ARCHAEOLOGY

Scientists to Seek Ancient Royal City

► THE GREAT BIBLE CITY of Gibeon, site of many great battles and incidents, will soon be sought under the soil of what is now el-Jib, an Arab village of 900 inhabitants eight miles north of Jerusalem and three miles from the Jordan-Israeli border.

An expedition left California May 25, directed by Dr. James B. Pritchard, professor at the Church Divinity School of the Pacific, Berkeley, Calif., under the sponsorship of that school, the University Museum, Philadelphia, and the American School of Oriental Research, Jerusalem.

Gibeon is called in the Old Testament a "great city . . . one of the royal cities." It is mentioned 43 times in the Bible and it was there that 12 swordsmen from each of the rival houses of David and Saul slew each other. It was the scene of Joab's slaughter of Amasa and of Solomon's famous dream. It was there that Joshua made the sun stand still.

Archaeologists excavating the ancient Biblical city hope to find evidence of its history and how and in what periods its people lived. In surveying the site last summer, Dr. Pritchard found pottery from various periods 3000 to 2000 B.C., 900 to 600 B.C., and the Roman and Byzantine eras. The largest number of fragments was from the Iron Age of 900 to 600 B.C.

El-Jib is one of the few important Palestinian sites never excavated.

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PHYSIOLOGY

Aid to Motherhood

► A MORE ACCURATE METHOD of pin-pointing ovulation—a possible boon to many women with sterility problems—is suggested by research reported to the Second World Congress on Fertility and Sterility in Naples, Italy.

Two California physicians reported a sharp rise in the level of platelets, blood elements important in coagulation, right at the time ovulation occurs.

The phenomenon was first observed in a patient with a blood disease called essential thrombocytopenic purpura, in which a reduced platelet count in the blood is followed by intermittent bleeding into the skin, bowels and other organs.

A study of the daily platelet levels over a period of months showed that the lowest count was during menstruation, and the highest at a halfway point between menstrual periods, apparently at the time of ovulation.

This was followed by a study of 26 nor-

mal women between 18 and 36 years, in whom the same phenomenon was observed. The sharp platelet rise occurred at the same time there is a temperature rise about midway between menstrual periods. This temperature rise has been a widely used method of identifying ovulation time, but it may occur over a period of several days. The platelet rise lasts only for a day, and then drops rapidly.

The platelet increase also was correlated with lower abdominal pain that occurs during ovulation in some women. The platelet changes did not occur in pregnant women or in those whose ovaries had been removed.

Two women, one with a sterility problem, have become pregnant after impregnation on a particular day suggested by the platelet peaks.

The work was reported by Dr. Herman Pepper, of Redwood City, Calif., and Dr. Stuart Lindsay, University of California.

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