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Study: Oxygen helped mammals grow

WASHINGTON (AP) -- Mammals, once tiny creatures scampering on the forest floor, grew larger as the amount of oxygen in the air increased over millions of years, a new study says.

Today mammals, ranging from dogs and cats to elephants, dolphins and people, dominate the planet.

It's a success story Paul G. Falkowski of Rutgers University and colleagues say was helped by the more than doubling of oxygen in the air over the last 205 million years. Their findings are published in Friday's issue of the journal Science.

The researchers measured samples of material deposited on the seafloor going back millions of years. By measuring the amount of carbon-13 in the samples they were able to estimate the amount of oxygen in the atmosphere at a particular time.

They found that the air contained only about 10 percent oxygen at the time of the dinosaurs.

By 50 million years ago the oxygen level had risen to 17 percent and it was 23 percent 40 million years ago, they reported. Currently the air contains about 21 percent oxygen.

The rise of oxygen "almost certainly contributed to evolution of large animals," the researchers reported. The oxygen needs of mammals and birds are three to six times as high as reptiles.

The impact of an asteroid or meteorite about 65 million years ago is thought to have contributed to the demise of the dinosaurs. Their elimination also created an opportunity for the rise of mammals.

There was an increase in small and medium-sized mammals in the first few million years after the end of the dinosaurs, the researchers reported. A second surge, from medium to large sizes, was seen between 50 million and 40 million years ago, they reported.

The research was funded by the National Science Foundation.

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