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STUDY SHOWS.

By John von Radowitz, Press Association Science Correspondent

Ancient ancestors of butterflies and moths dating back 200 million years flew on wings of gold, new research has shown.

Scientists have analysed microscopic ridges and grooves in the wing scales of fossilised insects to reveal their likely colour for the first time.

The tiny structures would have produced a metallic bronze to golden appearance, the study found.

Similar "photonic structures" covering the wings of modern butterflies generate a wide array of colours by scattering light.

Dr Maria McNamara, from [University College Cork](#) in the Irish Republic, said: "Remarkably, these fossils are among the oldest known representatives of butterflies and moths.

"We didn't expect to find wing scales preserved, let alone microscopic structures that produce colour. This tells us that colour was an important driving force in shaping the evolution of wings even in the earliest ancestors of butterflies and moths."

The research is reported in the journal *Science Advances*.

The team used powerful electron microscopes to analyse fossils from the UK, Germany, Kazakhstan, China and Burma.

Dr Tim Starkey, from the University of Exeter, said: "We've looked millions of years back in time .. to understand how and when the evolution of colours in these insects took place."

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