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Experimental Researches

John Murray (1785–1851), a writer and lecturer on many different scientific topics, published this collection of essays on what might be called the physics of biology in 1826. The first essay, on the luminosity of glow-worms, begins with an extensive discussion of the beauty and effects of light, and the various ways of creating it, before considering the various theories of light and optics current at the time. Supplied with specimens from Sweeny Hall in Shropshire, where they flourished, he performed various experiments on the 'luminous spherulae' which were the source of the glow-worm's light, trying to establish their chemical composition, and the time they would remain glowing in different media and temperatures. The same attention to detail and ingenious analysis are shown in the other studies, on the luminosity of the sea, the strength and lightness of spider webs, the chameleon's colour changes, and 'the torpidity of the tortoise'.

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Experimental Researches

*On the Light and Luminous Matter of the
Glow-Worm, the Luminosity of the Sea, the
Phenomena of the Chameleon, the Ascent
of the Spider into the Atmosphere, and the
Torpidity of the Tortoise*

JOHN MURRAY



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EXPERIMENTAL RESEARCHES
ON
**THE LIGHT AND LUMINOUS MATTER OF THE
GLOW-WORM,**
THE LUMINOSITY OF THE SEA,
THE PHENOMENA OF THE CHAMELEON,
THE
ASCENT OF THE SPIDER INTO THE ATMOSPHERE,
AND
THE TORPIDITY OF THE TORTOISE, &c.

By **JOHN MURRAY, F. S. A., F. L. S.,**
FELLOW OF THE HORTICULTURAL AND GEOLOGICAL SOCIETIES,
MEMBER OF THE WERNERIAN AND METEOROLOGICAL SO-
CETIES, &c. &c.

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JAMES CURLL, PRINTER, GLASGOW.

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**CHARLES MORLAND, Esq.**  
THESE PAGES  
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## ADVERTISEMENT.

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A FEW of the subjects which the following pages embrace, have either already appeared, or been partially discussed. They are now introduced in a more condensed form and order, and exhibited at one view. New observations or illustrations have been added, and the phenomena altogether embrace some of the most curious and interesting inquiries to be found within the sublime and beautiful range of Natural History.

These are not mere speculative dogmas, but inferences resulting from inductive inquiries into the Physiology on which they treat, and they possess, at least, the charm of experimental research. Should they induce others to enter the field of investigation, and pursue the very singular phenomena thus partially unfolded, the object and design of the Author will be fully realized.



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