

Hidden Stars

© The Commission for Dark Skies

Where have the stars gone?



British Astronomical Association



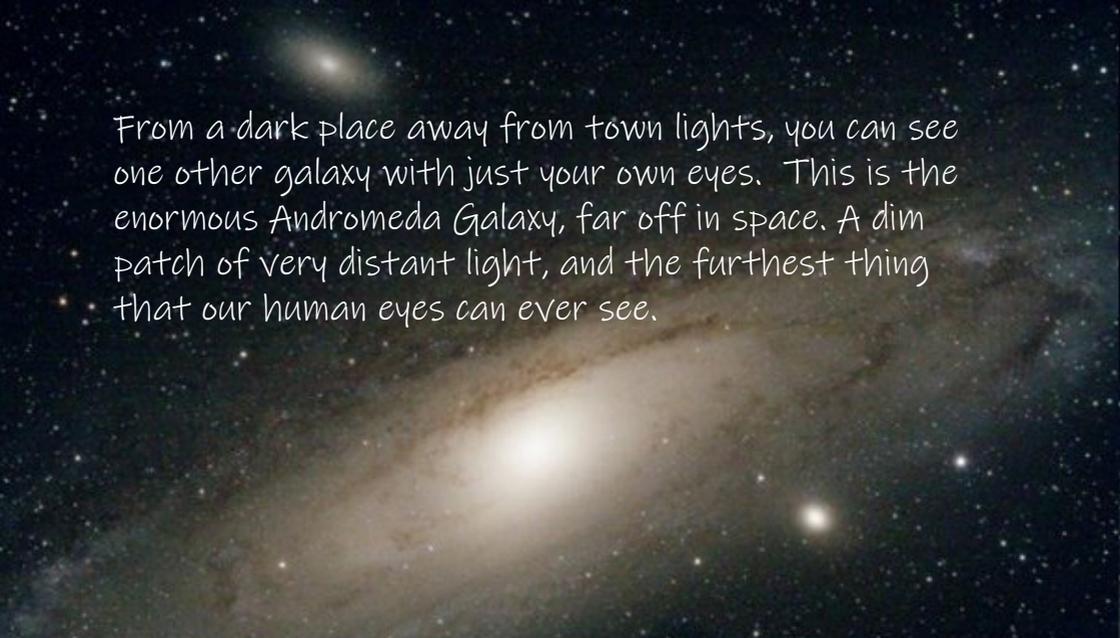
Commission for Dark Skies

Hidden Stars

A clear, dark night sky is a wonderful sight. Most of us have never seen it. But humans have gazed at starry skies, and their five bright, slowly moving planets, for at least half a million years.

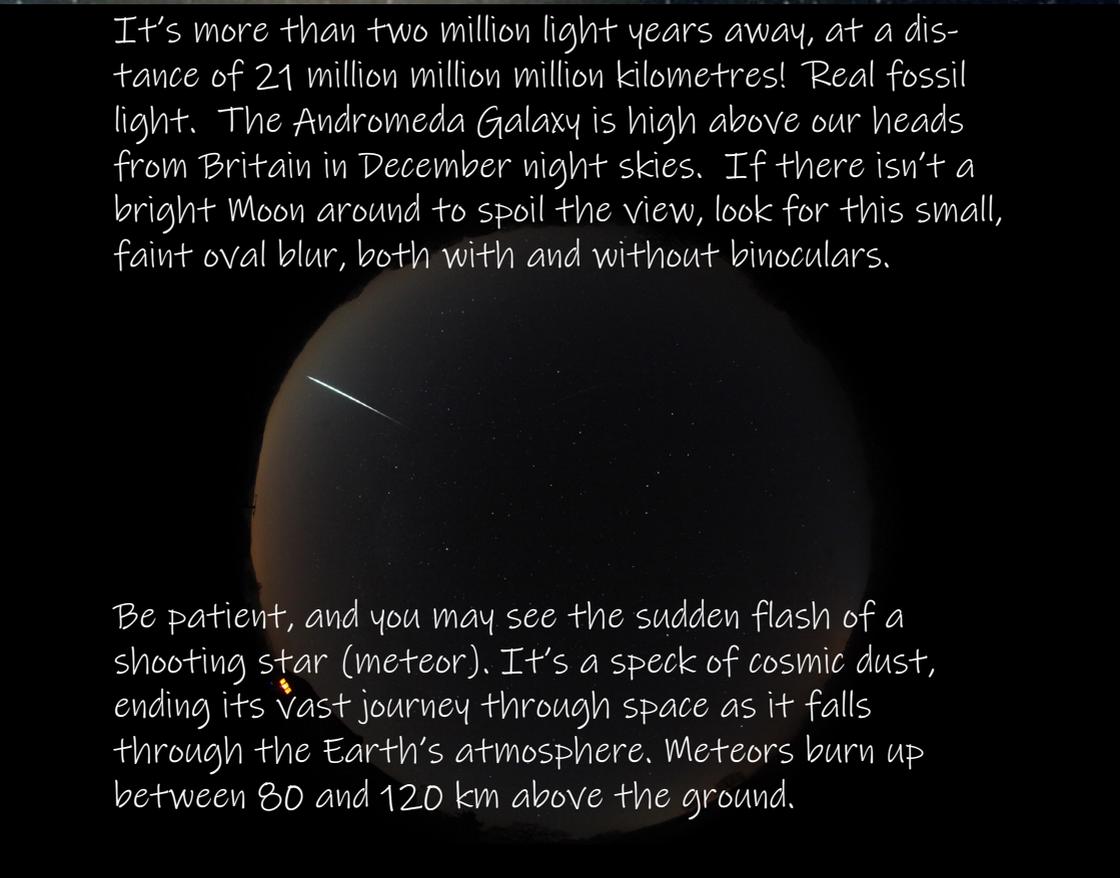
What are you missing if you can't see much in the night sky? From somewhere dark, you can see thousands of stars scattered across the sky. They all belong to our large spiral galaxy, a massive swirl of hundreds of billions of stars called the Milky Way.

One very average star in that stream of stars and dust has a familiar name – we call it the Sun. It keeps planet Earth alive.



From a dark place away from town lights, you can see one other galaxy with just your own eyes. This is the enormous Andromeda Galaxy, far off in space. A dim patch of very distant light, and the furthest thing that our human eyes can ever see.

It's more than two million light years away, at a distance of 21 million million million kilometres! Real fossil light. The Andromeda Galaxy is high above our heads from Britain in December night skies. If there isn't a bright Moon around to spoil the view, look for this small, faint oval blur, both with and without binoculars.



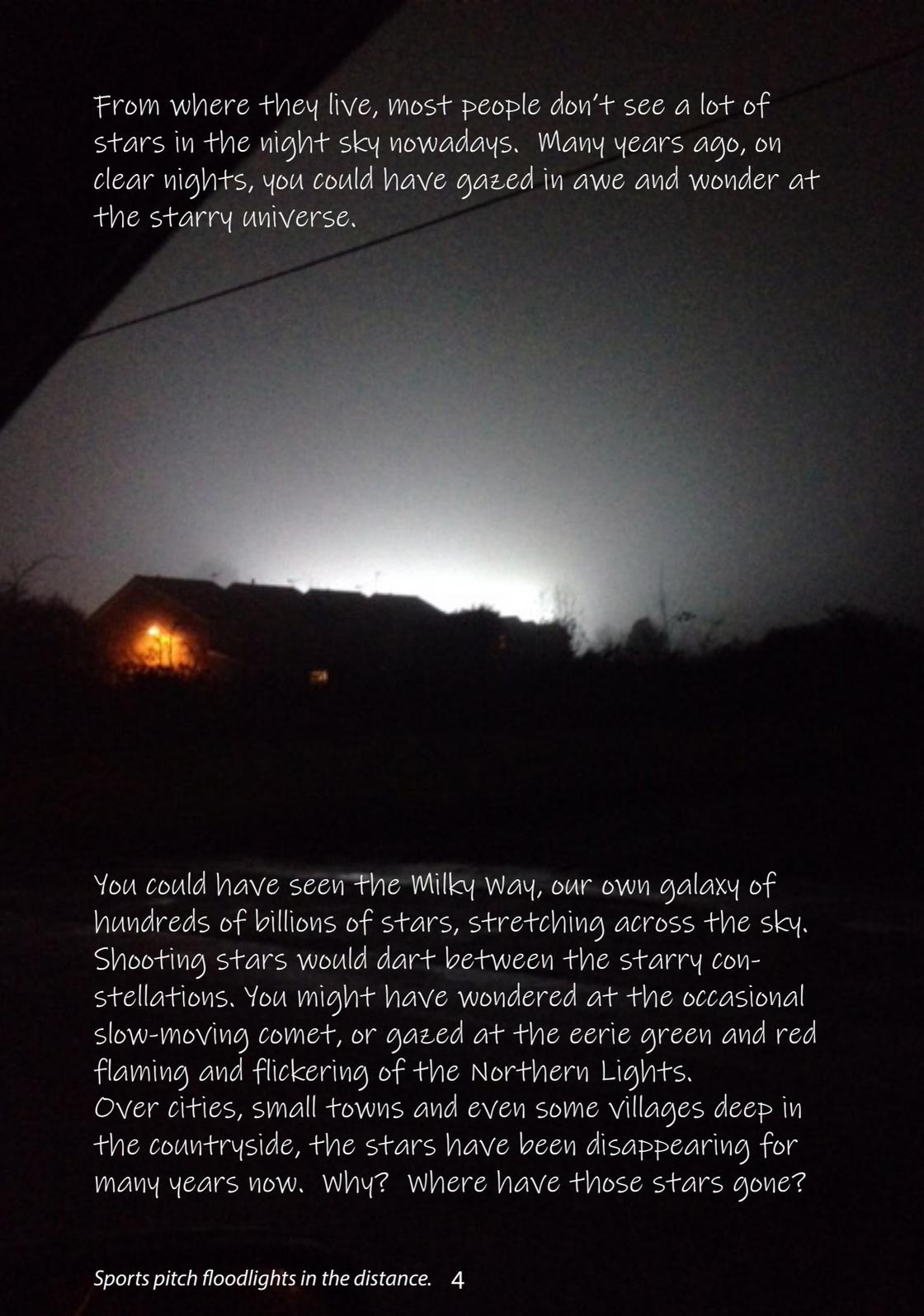
Be patient, and you may see the sudden flash of a shooting star (meteor). It's a speck of cosmic dust, ending its vast journey through space as it falls through the Earth's atmosphere. Meteors burn up between 80 and 120 km above the ground.

The Northern Lights (aurora) look like a ghostly curtain of red and green light dancing before your eyes in the north.

They're sometimes seen in the far south of England.



Can you see all those things in the night sky from where you live? If not, and you'd like to know why not, read on...



From where they live, most people don't see a lot of stars in the night sky nowadays. Many years ago, on clear nights, you could have gazed in awe and wonder at the starry universe.

You could have seen the Milky Way, our own galaxy of hundreds of billions of stars, stretching across the sky. Shooting stars would dart between the starry constellations. You might have wondered at the occasional slow-moving comet, or gazed at the eerie green and red flaming and flickering of the Northern Lights. Over cities, small towns and even some villages deep in the countryside, the stars have been disappearing for many years now. Why? Where have those stars gone?

Now, we see a greyish-white glow in our night sky. It's called skyglow. From towns and some villages in Britain skyglow hides the stars. People who want to see them as their parents or grandparents did have to travel far off into the countryside.

Starlight has been travelling for hundreds or even millions of years to reach our eyes. Then it's suddenly taken away from us in the very last moment of its journey by skyglow. That's very sad.

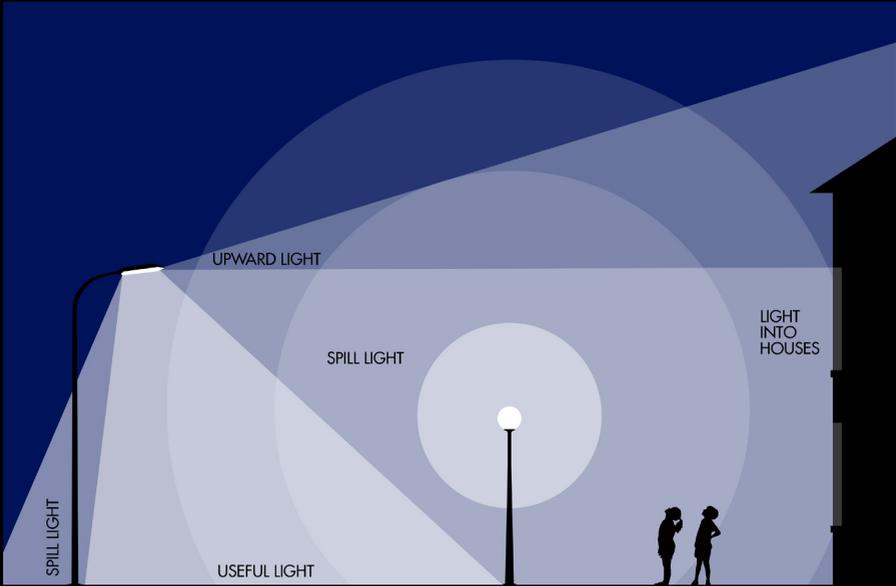


What causes skyglow? There's a clue in the photo above. It's caused by lights shining upwards. The light bounces off dust and tiny water drops in the air. This makes the night sky glow.

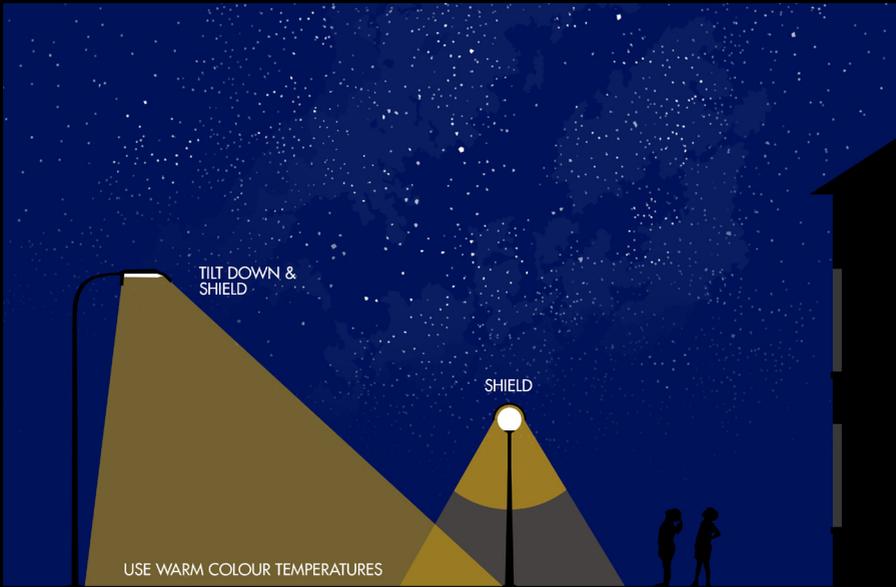
We don't need to shine lights into the sky. There's nothing up there at night that needs lighting up. Aircraft don't need floodlighting. Bats, owls, moths and all the other night creatures, in the air and down here, are harmed by our wasted light. They need the kind of real darkness they've had for millions of years.



Road lights, sports floodlights, house 'security' lights, building floodlights: all these can cause skyglow if they're not carefully aimed where their light is needed, and they send light upwards, wasting energy and adding to climate change.



Bad lighting example



Good lighting example



Remember, the sky is half of our environment, and it's the only part of our environment that still has no protection in law.

Local councils, and others who choose lights, should be following the good advice from the organisations listed on the next page.

Hidden Stars

Get information about good lighting from:

The British Astronomical Association's Commission for Dark Skies (CfDS):
www.britastro.org/dark-skies

In 1989 members of the British Astronomical Association decided that the time had come to try to do something about the glow creeping into night skies all over Britain. A survey carried out by CfDS in 1990 found that, in the UK, more than 90% of people looking at the stars saw light pollution.

The CPRE, the Countryside Charity: www.cpre.org.uk

This organisation works to keep the countryside from being spoiled, and for many years it has been telling people about light pollution of the night sky.

The Institution of Lighting Professionals (ILP): www.theilp.org.uk

This is Britain's main organisation for people who work in lighting. They share advice and information about how to get it right, and publish good lighting guidelines.

International Dark-Sky Association (IDA): www.darksky.org

Since 1988 this USA-based organisation has worked to solve the problem of light pollution. It has set up International Dark Sky Reserves and other places where people aim to protect their dark starry skies.

Michael Crichton, who wrote Jurassic Park and many other books, said:

"The natural world, our traditional source of direct insights, is rapidly disappearing. Modern city dwellers cannot even see the stars at night. This humbling reminder of our place in the scheme of things, which human beings once saw every twenty-four hours, is denied us. It's no wonder that people lose their bearings, that they lose track of who they really are, and what their lives are really about."

"Travels" ISBN: 9780099282914, Pan Macmillan

© The British Astronomical Association's
Commission for Dark Skies



Commission for Dark Skies

Written & Edited by
Bob Mizon

Graphic Art by
Kerem Asfuroglu

