Observing the Draconids

Question:
I am interested in going out to observe the Draconid meteors at the weekend. I am completely new to astronomy and would be grateful for any practical advice you could offer on how to go about observing them. Would Newlands be a good place to observe from?

Reply:
Here are a few words of advice that I hope may be helpful to you in observing the Draconids. I won't go into detail about meteors or about the Draconids in particular because there is plenty of information online – the Wikipedia articles are quite good.

Meteor showers occur when the Earth passes in its orbit through one of the many streams of tiny particles that also orbit the Sun. Typically these consist of dust associated with a comet and they trail in the comet's path. The Draconids are associated with a comet called Giacobini-Zinner.

Why 'Draconids'? Draco is a constellation, a pattern of stars in our northern sky – clearly, cometary dust in our solar system can have no real connection with the remote stars that form the appearance of Draco the constellation.

The reason is this. If you observe a meteor shower, record the luminous trails that the meteors trace as they zip across the sky and extend them backwards, you'll find that they seem to originate at a single point. This point is known as the meteors' radiant and showers generally take their name from the constellation in which it appears. In this case, Draco.

This doesn't mean that to observe the Draconids you should stare at the constellation Draco! Shower meteors can appear away from their radiant – it's just that if you trace their trails back across the sky, they'll tend to point towards their radiant. This is an effect of perspective.

The Draconid shower is not a particular conspicuous one, but still worth looking out for. If you become interested in looking for meteors and have access to a smart-phone etc, there is a useful app called Meteor Shower Calendar. There is also a very useful free program called Stellarium (www.stellarium.org) that you might like. It will help you recognise and find your way around the constellations - including finding out where Draco actually is in the sky.

As for observing tips. Yes, Newlands would be OK. Basically, you need to look for the darkest possible sky that you can conveniently access. That said, you should pay due attention to your own personal safety and security, preferably observe with others, let people know where you are, take a phone – for a variety of reasons, remote places can also be unsafe places. Please bear this in mind.

On the practicalities of observing: be sure to wrap up warm and, if you're thinking of staying long, maybe take a hot drink. Astronomy can involve a lot of standing or sitting around in the cold. Some observers use a reclining chair or lounger so they can lie back in relative comfort and look at the sky. If you want a light, be sure to cover it with red plastic or similar – red light does little to upset your night vision. It takes a good 20 minutes for your eyes to become fairly dark adapted, allowing you to see fainter objects, so give your eyes time to settle and avoid looking at lights while you're observing. That includes phone and tablet screens – many of the available astronomy apps have a red 'night mode'.

You don't need any optical aid to watch for meteors, but if you take binoculars you might like to look out for some other objects of interest as well. I'd suggest looking for M31 (The Great Galaxy in Andromeda), the Double Cluster in the constellation Perseus and, rising in the East, the beautiful star cluster called the Pleiades. Any sky guide will show you where to locate these – look in one of the monthly mags, or use an app or Stellarium.

I hope this helps a bit. Good luck with the Draconids!

Note: While I hope that some of the above advice will help beginning astronomers with observing meteor showers in general, my suggestions for objects of interest to look for in between times will obviously be different for different times of the year.

I hope this helps – good luck!

John Evans FRAS
GAS Ask an Astronomer