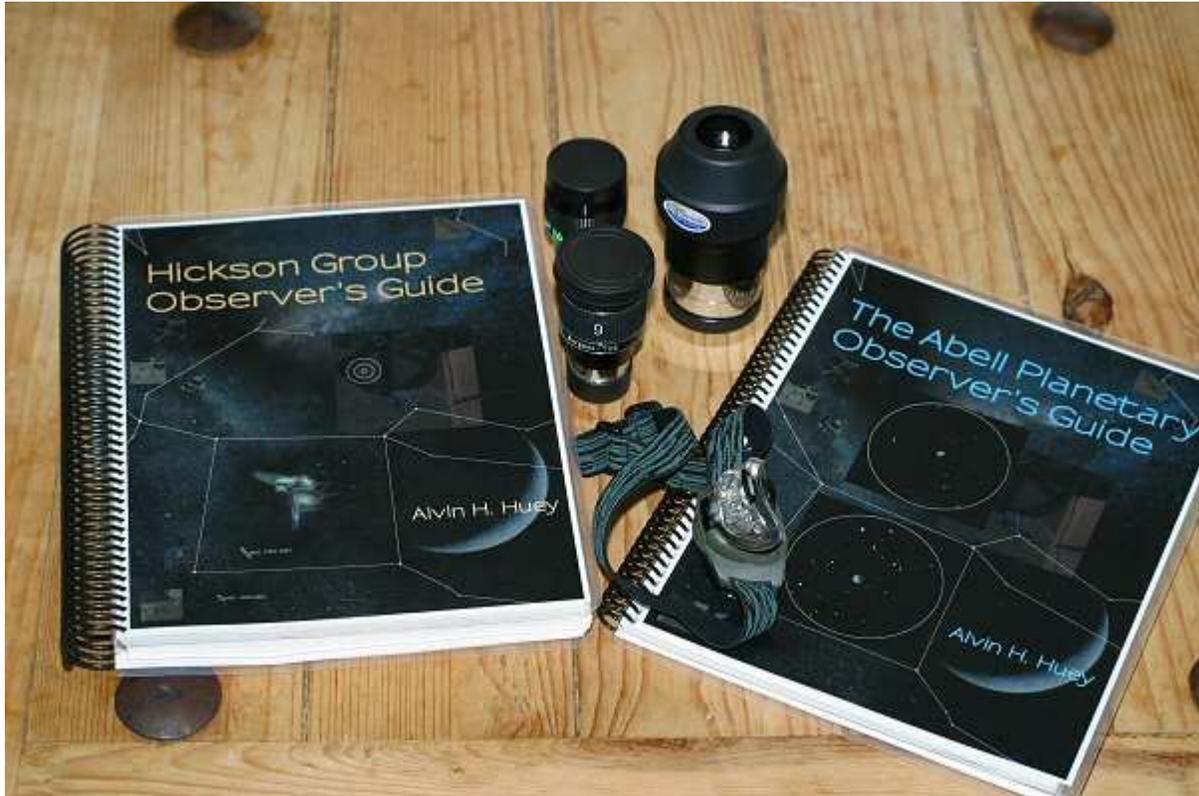


The Abell Planetary Observer's Guide and the Hickson Group Observer's Guide

Resources for large telescopes
Tom Trusock 3/06



*So ya wanna go Deep? Take a look at these observing guides from FaintFuzzies.com; the **Abell Planetary Observer's Guide** (202 pages) for \$39.95, and the **Hickson Group Observer's Guide** (442 pages) for \$49.95*

Like many of us, I caught aperture fever a while back.

While I have five or six small telescopes, I've always had something that provides a little aperture. Over the course of several years, my aperture went from 8" to 10" then to 15". Finally, I seem to have peaked at 18". Probably for good – at least as far as my personal telescopes go. However – I have friends. Friends with bigger scopes - and let me be honest – I have no compunctions about mooching.



It also seems like the scopes in my club are growing larger and larger every year. We just bought a 25" scope for the club last year, and just a couple of months ago, one of my really good observing buddies just placed an order for a 30" Obsession.

But let me be frank; there's only so many times I can look at the Messiers. And in my opinion, these huge things are a little overkill for things like the H400 as well. Oh, granted, these targets look spectacular – NGC 7006 looks like M13! But I've seen em all before. Most amateur Astronomers are aware of the Night Sky Observers Guide – a decent handbook for telescopes from 8-18", but above that? What do you look at with these beasts?

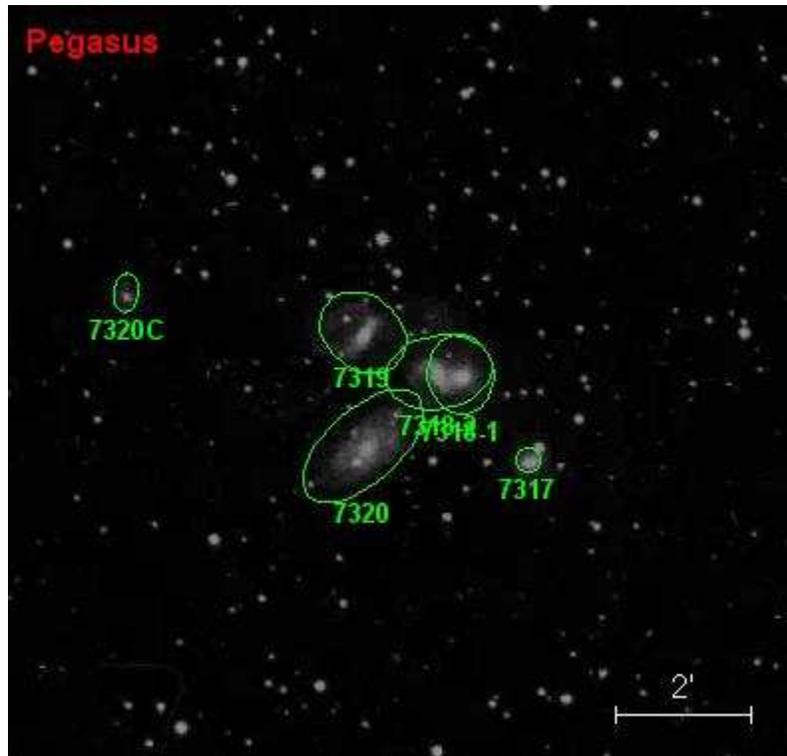
Well, once you enter the arena of the truly large telescope, you find that there are literally millions of targets within your reach – a couple of the most popular sets include the Abell Planetaries and the Hickson Galaxy Clusters, many of which are visible with scopes as small as 10 to 12 inches from truly dark sites.

Alvin Huey has put together a couple of observing programs for the amateur who really wants to go deep. And, better yet, from my perspective, he's done it with the two types of targets I prefer – galaxy groups and planetary nebulae. He's published the Hickson Group Observer's Guide and the Abell Planetary Observer's Guide – using 22" and 30" telescopes. He's used his own notes and sketches along with Megastar Charts, and

reversed DSS images to compile an observing book / program for advanced amateurs with large telescopes who are interested in some of the more esoteric targets.

About the catalogs

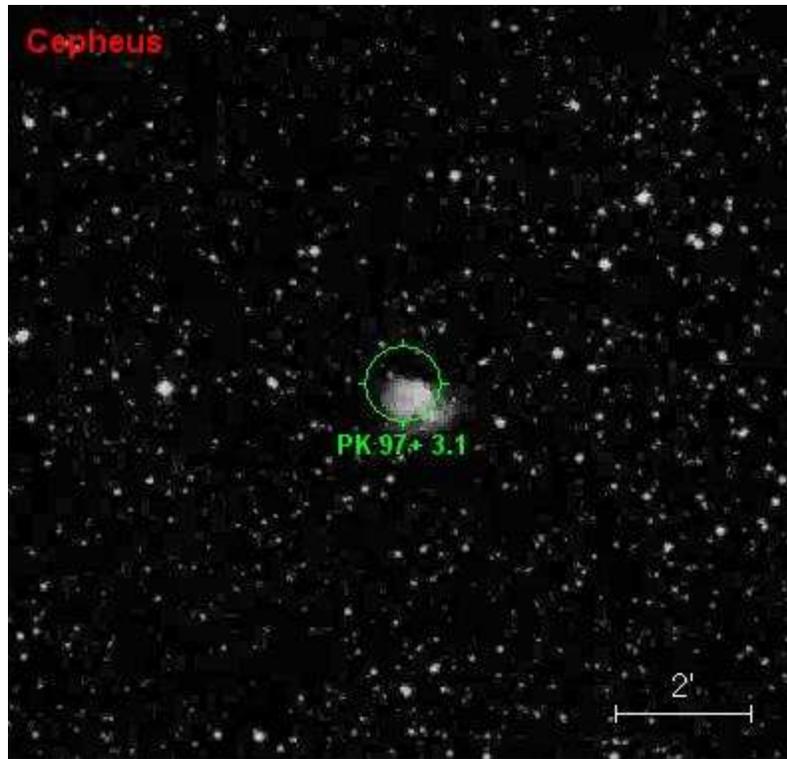
Dr. Paul Hickson compiled a list of 100 interesting interactive galaxy clusters with the idea of looking for inharmonious redshifts – where apparently nearby or interacting galaxies are flying apart at high velocities instead of remaining in their groups.



Hickson 92 - Stephan's Quintet

Probably the best known Hickson is Hickson 92 – this particular one has been observed by most amateurs and is a staple at public star parties in the fall, and is better known as Stephan's Quintet. Another popular Hickson, Seyfert's Sextet, is listed as Hickson 79. The galaxies in Hickson groups seem tightly connected and are usually of similar magnitudes and surface brightness. While members of the best known Hickson – Stephan's Quintet – has been observed by individuals with scopes as small as 8" (the best I've managed is 10"), many of the Hicksons are difficult targets for a 20" scope – or perhaps even larger.

The Abell Planetaries were cataloged by George Abell in the 1950's using DSS (Deep Sky Survey) plates. The original Abell catalog had 86 entries – 5 of which were determined to be spurious. Abell 11 is most likely a reflection nebula, 17 is non-existent, 32 is most likely a fault in the plate exposure, 76 is a ring galaxy, and 85 is apparently a supernova remnant.



Abell 77

The Abell Planetary nebulas are another series of challenging targets for the visual observer. Visual magnitudes range from 19.5 to 10.3 and most entries have a diameter of around 1-3 arcminutes. The surface brightness of these objects also tends to be low, but can occasionally surprise you.

Personally, I've observed several of the Hicksons and Abell Planetary nebulas (George Abell also cataloged galaxy groups), but have never made a run at the entire list. These aren't exactly easy targets. Accurate charts that can be used at the eyepiece are a must. I used to prepare for a session by printing up finder charts in my star chart program of choice (SkyMap Pro), then looking for descriptions on the web as to what to expect per a particular aperture (a hit or miss proposition for most of these), and then finally, I'd print up a DSS photo for identification at the eyepiece. Like many of us, this type of approach does not lend itself to those clear nights that sneak up on us unexpectedly. And that can make it a pain.

Alvin's done away with that pain.

The books are fairly simple in layout – an introduction in the beginning, coupled with some information about the type of observing that you'll be doing – recommendations for eyepieces and in the case of the Planetary guide, a section on Planetary filters.

The writing is on par with what you'd expect from an advanced amateur – it's clear, readable, and understandable, but these haven't been published by Sky and Telescope. There are some minor errors. I've yet to run across anything major, they are mostly

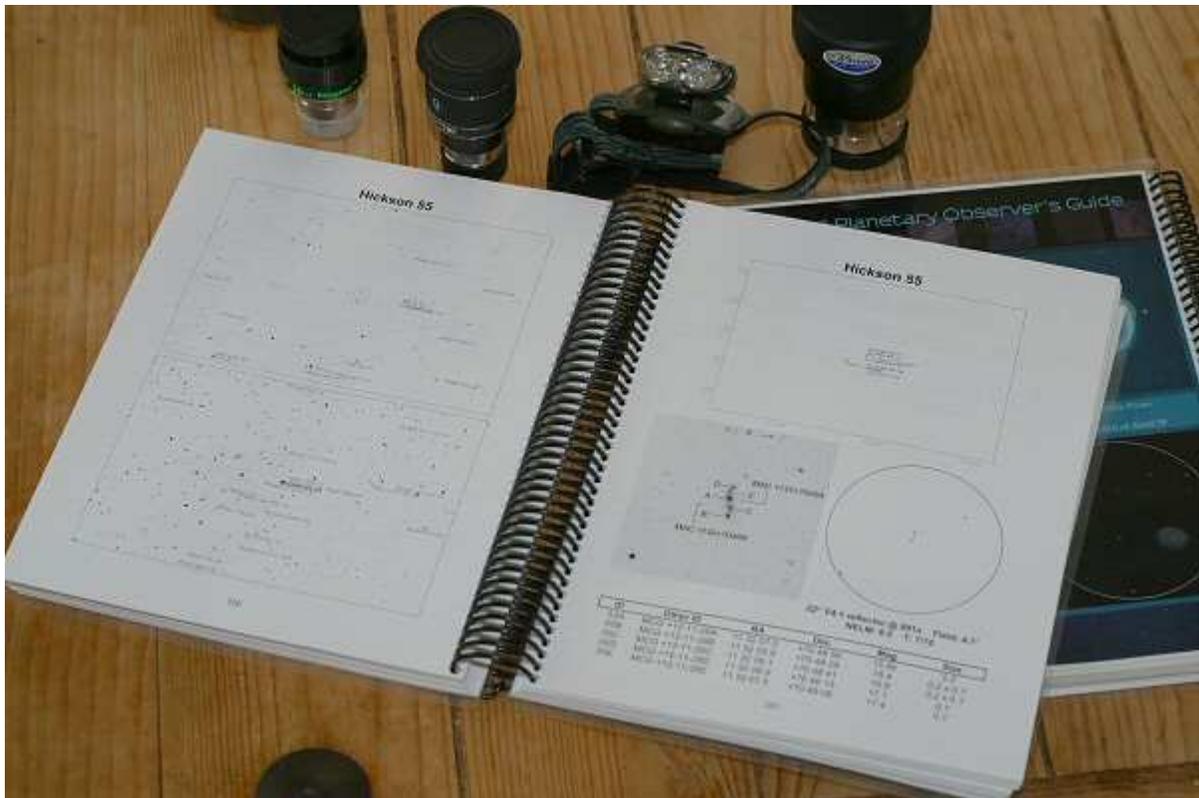
things like; a reference to a chart below that's actually located on the next page, a missing paragraph space – generally minor things that in no way detract from the usefulness of the guide.

Both books are spiral bound (a nice and necessary touch as they are clearly designed to be used at the telescope), have a hard plastic coated cover and are printed on high quality paper that should hold up fairly well to dew.

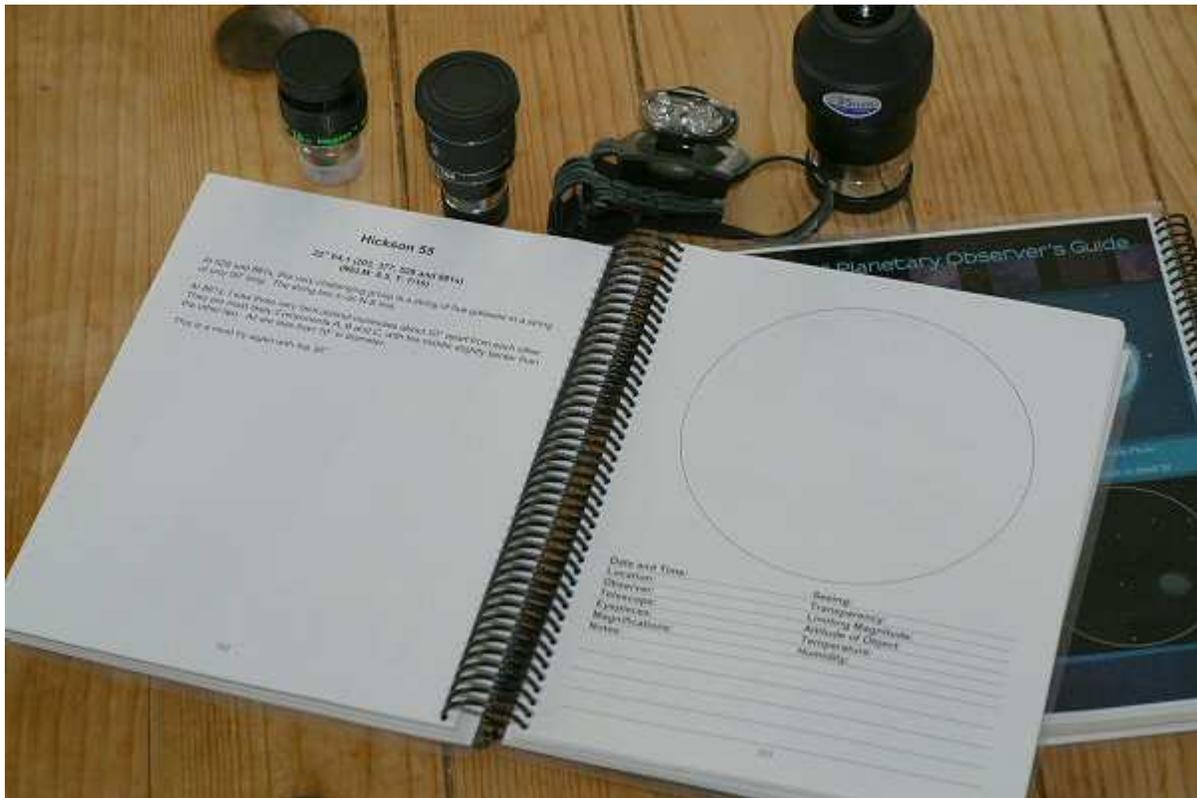
The Hickson and Abell guides are set up slightly differently, so I'll take separate looks at each.

The Hickson Group Observer's Guide

Mr Huey starts with a nice introductory section about the specifics of the origin of the Hickson groups and observing them. He makes clear the distinction between the photographic magnitudes listed in most catalogs and their visual counterparts. He also includes an interesting and accessible discussion on surface brightness. He then goes into a (very) little bit of morphology, gives some notes on equipment recommendations, observing techniques, recommendations on how to record your observations and how to use the guide. It's nice to see the Pickering scale noted, but one should keep in mind that it's mainly designed to be determined with much smaller apertures (it was devised by William H. Pickering using a 5 inch refractor) than Mr. Huey uses to observe the targets in question.



For the Hickson Guide, Mr. Huey organizes the guide in numerical order – logical as they are listed in terms of increasing right ascension in the catalog itself. He devotes four pages per object – the first page has a naked eye chart w/ telrad circles, and a widefield finder chart. The next page contains an eyepiece chart, an inverted DSS image, a sketch and basic stats about the group. The third page contains Mr. Huey's notes, and the 4th has space for your own notes – including a pre-drawn circle for a sketch, and a standard observation recording form. I find this last page particularly nice, however, if one makes repeated observations of the group, no additional space is provided. It would have been nicer to allow for a couple of observations on a page – there's certainly room.



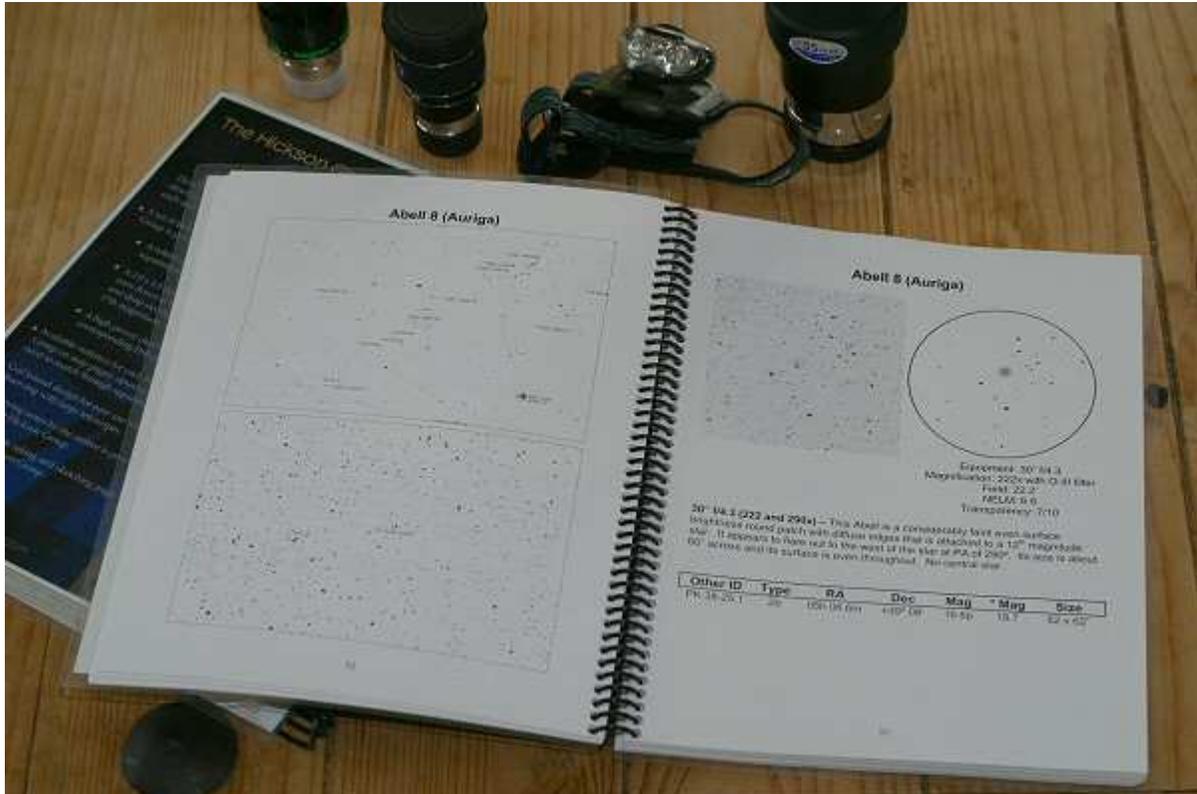
Finally, the last of the four hundred and forty two pages contain a group index, a list of errata (known errors with Megastar), and a bibliography.

The Abell Group Observer's Guide

The introductory portion of the Abell Guide is very similar to the Hickson Guide. Mr Huey starts with a nice introductory section about the specifics of Planetary Nebulae and observing them. He makes notes of websites (and occasionally books) for further reading. While the websites are cited / recommended in the text itself, the books can be found in the bibliography at the very end of the guide. In today's net centric world, it's nice to see websites cited. He then explains the classification schemes for planetary nebula, and goes into detail about some of the equipment he uses, and gives some recommendations for

filters. Mr Huey states (and I agree) that an OIII / UHC filters are a necessity for observing the Abell's. He then goes on to give some tips on observing techniques, note taking and how to use the guide itself.

In the two hundred and two pages of the Abell Guide, Mr. Huey organizes the target list by constellation – a good arrangement for the Abell's as they tend to hop all over the sky by their catalog numbers. This is an arrangement I'd personally prefer for the Hickson guide as well.



The setup for the actual guide is similar – however, the megastar eyepiece chart has been eliminated. This makes sense as there's typically only one object of interest in the field with the planetaries – with the Hicksons, by their very nature there are several. The first page contains the naked eye and finder charts, while the second contains a reversed DSS image, eyepiece sketch, observing notes and basic information on the planetary.

Unlike the Hickson Guide, the Abell guide has no provisions for taking notes in the book itself.

Alvin is missing a couple of Abell observations – on most occasions, he's been skunked a couple of times with his 22 inch scope – not all that surprising – some of these targets have an extremely low surface brightness. Once or twice he states he hasn't had a chance to make the observation yet. Some of the Abell's missing observations include: 5, 7, 9, 13, and 83.

As I mentioned above, the original Abell catalog had 86 entries – 5 of which were determined to be spurious. Abell 11 is most likely a reflection nebula, 17 is non-existent, 32 is most likely a fault in the plate exposure, 76 is a ring galaxy, and 85 is apparently a supernova remnant. Mr. Huey excludes all of these but Abell 85 from his guide, and Abell 85 is noted with the correct designation – as a supernova remnant and not a planetary.

Summary

One of the things that can mean success or failure when looking for a difficult target is having an idea of what, exactly, you are looking for. In that aspect, I find Mr. Huey's notes and sketches to be invaluable to the visual observer. While the charts and DSS images can be printed for use at the eyepiece by the motivated observer with the proper software and access to the internet, Alvin Huey has done the drudge work for you and compiled it all, alongside his notes and in a single volume.

For those who like unusual targets, I'll also note that Alvin Huey is currently planning three more installments in the series: the Best Planetary Nebulae Guide, Observing Arp Peculiar Galaxies (2 volumes) and the Abell Galaxy Cluster Observing Guide – but indicated that these are a ways off.

In the meantime, the Abell Planetary Observer's Guide and the Hickson Group Observer's Guide should keep most large scope amateurs busy for a long time to come. Astronomers who are interested in going beyond the typical, and own the prerequisite equipment (no 4" telescopes need apply) should definitely give these books a good hard look.

Available from:

Alvin H. Huey
FaintFuzzies.com
<http://www.faintfuzzies.com>

Abell 77 and Hickson 92 images captured using [Sky Map Pro](#) and the Digitized Sky Survey