29 December 2011, Zeiss AS80/1200

First encounter with Fornax

Telescope: **AS80** (Zeiss AS80/1200 mm)
Eyepieces:
TV25 - TeleVue Plössl 25, f=25mm, (48×, 61′)
ATC20 - ATC K20, f=20mm, (60×, 42′)
O-12.5 - Zeiss O-12.5, f=12.5mm, (67×, 37′)
O-10 - Zeiss O-10, f=10mm, (84×, 30′)
TMB7 - TMB Supermono 7, f=7mm, (171×, 11′)
XO5 - Pentax XO5, f=5.1mm, (235×, 11′)
XO2.5 - Pentax XO2.5, f=2.58mm, (465×, 5.4′)

Time: 2011/12/29 19:40-20:30UT
Location: Říčany
Weather: Very good transparency in between quickly changing clouds.
Mount: Alt-az. Astro-Tech Voyager

I want to share how my *typical* DSO winter short sessions look like. I have found out that my small refractors are well suited for such purpose, in particular Zeiss AS80/1200. Its thin, gently curved lenses react to thermal shocks quite rapidly. I can take an advantage of short windows between clouds and observe in conditions in which I would not bother to set up my larger 250mm Newton. This is nowadays unfortunately a common pattern of our winter weather.

There was no star visible for two weeks and when there was suddenly a small gap without clouds. I quickly took out the telescope and set it on my alt-az mount. The plan was clear, I wanted to hunt for planetary nebula NGC 1360 in Fornax. During those cloudy days, I came across an idea to create a list of objects discovered by small telescopes (let's say 5in and below). I have noticed that some of my favorable deep-sky objects were discovered quite late with surprisingly small apertures. For example a nice galaxy in Draco, NGC 6503 (Auwers, 1854, 6.3cm), or open cluster NGC 6791 in Lyra (Winnecke, 1853, 7.4cm). If you are interested in check the list. Here is the link 4in.html. I excluded, obviously, the objects from Messier's catalogue and other objects known since antiquity. The list contains objects that I have a chance to see well (i.e. declination about -25 and more). It is not complete and still expanding as I'm discovering new candidates.

Planetary nebula NGC1360 was on this list as well. I never dared to even look at this area before. That's because in my location - a small town just at the border of 1.5 million people city, I usually cannot see by eye even γ Eridani. This night was special, the transparency between clouds was very good and I could easily locate the star by eye.

This star was my starting point for the hunt. First, I looked at nearby **o^2 Eridani**. I had remembered from two years ago that it

was a nice triple star with a white dwarf and one of the smallest known red dwarf stars. At that time, this was an easy object for my 250mm Newton. The group was more tricky in 80mm refractor. It took me some time to see the third component with reasonable certainty. The red dwarf is of about magnitude 11, so it should not be a problem for a 80mm lens, but it is placed only 9″ from the 9.5 magnitude white dwarf. At 171× (TMB7), I could not see even a hint of this star. At 235× (XO5), there was something but I had to turn the power up to 465× (XO2.5) to be sure of it. Without knowing anything about the third star position, I estimated that its position angle was 330° with respect to the white dwarf. Later at home, I have found out that this was about correct guess.

Next object on the way down to NGC 1360 was another planetary nebula **NGC 1535** (9.6v, 48″ × 42″). I never visited the nebula before. It was definitely a fine view even in small refractor. I could glimpse its ring structure at 96× (O-12.5) and 120× (O-10). There was no more time to study it. It was obvious that the clouds would be back very soon.

So I jumped even more south directly to **NGC 1360** (9.4v, 11′ × 7.5′). The clouds were already there as the number of stars visible in the eyepiece was changing in time. But in time of good clarity, the nebula was showing up. At 48× (TV25) with UHC filter, it was a very faint milky cloud elongated in north-south direction. My estimate of the size was 8′−10′.

I also checked nearby galaxy **NGC 1398** (9.8v, 7.1′ × 5.4′, PA100°) which was also discovered in small telescope. There was no chance as UHC filters are not helping on galaxies too much.

Finally, I quickly turned the scope towards another gap in clouds to open cluster **NGC 1662** (6.4v, 20′) in Orion. I came across of it two months ago and I liked it. This evening it was already visible in my 50mm finder as a a hazy star. In 80mm refractor, it was a very nice group of about 8 brighter stars forming ship with short mast sailing roughly in north-west direction. In between the bright stars, I could glimpse with averted vision about ten more faint companions.

Fifty minutes run quite quickly and the clouds were back. I hope the story documents why I like my small refractors. They allow me to enjoy even the shortest periods of clear sky in times when I would not be even thinking of taking out my heavy and long Newton 250/1600mm.

Alexander Kupčo