

Eagle and Rabbit

Telescope: **Telementor** (Zeiss C63/840 mm)

Eyepieces:

ATC53P - ATC 53P, $f=53\text{mm}$, ($16\times$, 2.4°)

ATC40 - ATC 40K, $f=40\text{mm}$, ($21\times$, 2.0°)

ATC20 - ATC 20K, $f=20\text{mm}$, ($42\times$, $60'$)

TMB16 - TMB Mono 16, $f=16\text{mm}$, ($53\times$, $35'$)

A-10 - Zeiss A-10, $f=10\text{mm}$, ($84\times$, $34'$)

Time: 2014/08/30 19:30-22:20UT

Location: Říčany

Weather: Good transparency with small haze.

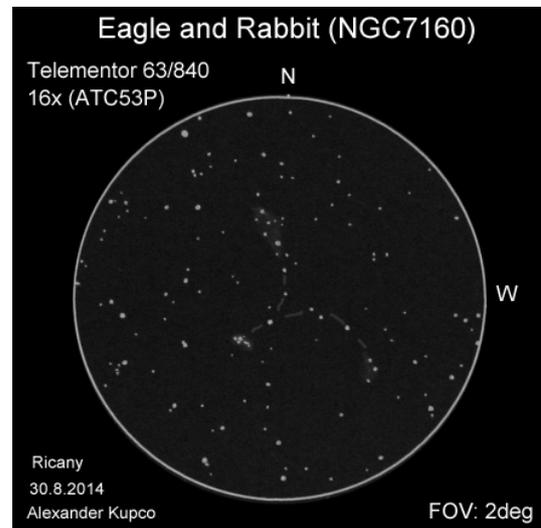
Accessories: Baader 1.25" zenith prism

When I was taking out my Telementor, I thought it would be for a short session. I just wanted to check comet C/2014 E2 (Jacques). However, I got lost simply and it was wonderful, three hours long night at the end.

What has kept me out so long? As the sky was not too bad, I decided to check few objects plotted in Interstellarum Deep Sky Atlas (DSA) in the area around the comet location. The atlas shows the widest selection of open clusters and asterisms, many more than Uranometria 2000.0. In addition the atlas has one very useful feature. The objects are categorized into the groups based on their visibility in telescopes of different apertures. Those suitable for small ones are marked with the boldest and largest fonts (the limit stated in the atlas is 4 inches). Very handy, I was selecting the targets right on the spot.

In total, I have checked almost 30 objects this night. Many open clusters were nothing but small groups of several stars with some misty background at best. Here belonged: **NGC 7261** (V8.4, $5'$), **NGC 7281** ($15' \times 9'$), **Alessi-Teutsch 5** ($13'$), **NGC 7235** (V7.7, $4.0'$), **NGC 7226** (V9.6, $1.8'$), **Teutsch 126**, **IC 1434** (V9.0, $7'$), and **Anon. Platais** ($6'$).

There were some nice surprises as well. Open cluster **Pismis-Moreno 1** ($6'$) was



one of them. Small magnification of $16\times$ was showing quite distinct, about $12'$ large triangular group of about 10 stars with some uneven misty background. The brightest background was around the northern vertex. Images are showing some nebulousity in there (Sh 2-140) but it is more probable that I saw combined light of several fainter stars located in this area. The cluster was dominated in its western vertex by bright double star $\Sigma 2893$. Larger magnification of $53\times$ revealed slightly more stars, about 15. The misty background was still there, especially in the northern vertex.

Large open cluster **Trumpler 37** (V3.8, $90'$) was another nice stop. This young cluster is embedded in nebula **IC 1396** ($165' \times$

135'), both belonging to the Cepheus OB2 association. The cluster shows up nicely at small magnifications. At 16×, there was lovely dense starry field of elongated box shape (2:1) with longer side oriented in NE-SW direction. Two straight chains of brighter stars dominated the rectangle running along its diagonals and crossing in the middle just at the place of the brightest yellowish star $\Sigma 2816$ (AC: 5.7+7.5, 12", 120°) and (5.7+7.5, 20", 339°). I could easily see the second fainter companion at this low magnification. Switching the power to 53× revealed the third companion. There was another wide double, $\Sigma 2819$ (7.4+8.6, 13", 59°) the same field of view at 16×.

The background sky was visibly brighter in the rectangle area. At 21× and with H β filter, the background showed many larger milky spots. I'm not experienced enough to say if it was really the nebulosity of IC 1396 or just the summed light of many stars that has felt below the visibility threshold with the filter. In any case, the most obvious edge was from the northern side. South from $\Sigma 2816$, the change was continuous without defined edge.

I admired few stars and doubles in the region as well. The field around the Garnet Star μ Cep was crowned with the presence of relatively bright and easy to see comet C/2014 E2 (Jacques). I run by chance at 16× on wonderful, relatively close pair with golden and light blue components. Soon, I have identified it as the well known variable star δ Cep. Also nearby bright star ζ Cep looked nice, I admired for a while its nice yellow colour. Bright white pair ξ Cep (4.5+6.4, 6.9", 267°) was definitely worth a short stop at 53×. Another neat pair that I run on at 16× randomly was $\Sigma 2872$ (7.1+8.0, 21.6", 316°). I also checked $\Sigma 2860$ (7.9+9.2, 13", 257°) near the cluster Alessi-Teutsch 5. The faint component was not easy to be noticed at 16×. It was clearly there as I quickly confirmed at 53×.

There was one dark nebula in the area marked in the DSA as suitable target for small refractor. But I could not see even

the slightest hint of **B174** at 16×.

The highlight of the evening and unexpected surprise was small open cluster **NGC 7160** (V6.1, 7'). I saw this cluster only for the second time. In 63mm refractor, it was a lovely group of seven brighter stars in lower magnification. Higher magnification of 84× revealed one more quite faint star but not much else. I noticed at 16× that the cluster is part of about one degree large asterism. There were two distinct curved chains of medium bright and fainter stars which were joying at the spot of NGC 7160. With my running imagination, I saw there a flying eagle with poor prey in its claws, a rabbit. **The Eagle and Rabbit** stood out quite nicely, I would say at the same level as another fine asterism Naillon 3 that I visited the same night. I liked the group and I have sketched quickly its members. Later at home, I have added to the field more stars down to the same magnitude using the catalogue numbers. You can see the result on the first page.

The sky was looking relatively nice and being excited by my new discovery I decided to stay a little bit more. I started to explore the region around open cluster M39.

The first stop was dark nebula **B168**, under dark skies and with low power one of the most lovely view I know about. Of course, from the city, the view was not that inspiring. Still, the dark nebula was standing out nicely at 16× as a thin and very long dark line.

I had to try the H β filter on **IC 5146**, the Cocoon Nebula (10'). There was some hazy oval spot around two very faint stars popping in and out with averted vision at 21×. I was not sure it is not just a trick those two close stars were playing on me. Higher magnification 42× did not show any nebulosity, but the view was already quite dark with the filter. I need to revisit this object under darker skies.

Open cluster **NGC 7092 (M39)** (V4.6, 31') was another nice surprise. I usually avoid this large group as it is too poor in larger scopes. But at 16×, it looked finally like a "proper" quite dense cluster. All

bright stars were showing nice bluish tint.

I then checked two large asterisms in the area. **Naillon 3** (80') was distinct about degree long chain of about 15 medium bright stars (mag 9+). It started slightly west of star 75 Cyg and it was running exactly in the north direction from there. Nearby asterism **Kro J2149.6+4101** was conspicuous group of seven stars of triangular shape scattered in the area with diameter of 18'.

I still did not want to be parted from the stars and I decided to visit few galax-

ies in Camelopardalis. In particular, I had in mind **IC 356** (V10.6, $5.9' \times 3.9'$, PA105°) discovered by E. Barnard in 1889. But I could not see anything from powers of 21× to 84×. I checked then another nearby bright galaxy **IC 342** (V8.4, $21.4' \times 20.9'$, PA168°) but again nothing at 16× or 21×. I new that something was wrong. Looking at the lens I discovered that it was heavily fogged. Now, it was really a time to say hello to stars finally.

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