

Hans Vehrenberg, Thorsten Neckel

Atlas of Galactic Nebulae (DVD)

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The abbreviation AGN has two meanings in astronomy. The astrophysical is “Active Galactic Nucleus”, which describes young galaxies with highly energetic cores. The other was chosen for an atlas and catalogue, created 1985-90 by two German astronomers: a professional (Neckel) and a well known amateur (Vehrenberg). Unfortunately their “Atlas Galaktischer Nebel” has not reached the popularity of similar works, for instance Arp’s “Atlas of Peculiar Galaxies”, but it defines a certain standard for this beautiful class of deep sky objects. It is a treasure chest for all kinds of galactic nebulae (excluding planetaries), especially for amateurs interested in astrophotography or visual observing. The three heavy, large format volumes, with a total of 462 cardboard pages, showing high quality images, are now available on a single DVD in the common pdf-format.

Hans Vehrenberg, who died in 1991, is widely known for his “Messier Buch” (Atlas of Deep Sky Splendors) and pioneering photographic star charts: the “Falkauer Atlas” and the even larger “Atlas Stellarum”, which covers both hemispheres. For amateurs – not willing to purchase the expensive Palomar Observatory Sky Survey (POSS) – this was the only deep image of the real sky, available in the 1970s and 1980s. I used the “Atlas Stellarum” for quasar observations in the pre-internet era. It was a time-consuming task at that time to get images or finding charts for lesser-known deep sky objects. The only sources were professional journals, not easy to access.

The ambitious astrophotographer Vehrenberg, looking for a comprehensive collection of galactic nebulae images, was faced with this problem too. Around 1978 he encountered Thorsten Neckel of the Max-Planck Institut für Astronomie, Heidelberg, who had already started collecting a sample of objects from the POSS – a by-product of his study of bipolar nebulae. The idea for the AGN was born, and could be realized some eight years later with the aid of the institute. The authors collected 1547 objects, mainly emission and reflection nebulae, from the POSS and the ESO/SERC Southern Sky Survey. Depending on their size, the black and white reproductions vary from the original plate scale (67.3"/mm) up to 15 times magnification. In a few cases images made at the German-Spanish Calar Alto Observatory or La Silla in Chile were used.

Part I, published in 1985, covers right ascension 0h to 12h north of -33° declination, presenting 435 nebulae. Part II appeared two years later and shows the remaining right ascensions with another 470 objects. The southern hemisphere, covered by the third part in 1990, contains 642 galactic nebulae. Beside the charts, each volume is introduced by a booklet with explanations, notes and the list of objects, altogether 177 pages. German and English text is presented throughout. The object list gives the equatorial position for 1950 and 2000, galactic and plate coordinates, size (arcsec) and common designation, where various catalogues are used (e.g. NGC/IC, S, LDN, DG, VDB, Cohen). The chart part presents additional designations, object type (e.g. HII, RN), plate color (blue, red) and scale.

The authors created a new designation, which needs getting used to. For example, the supernova remnant Cas A becomes GN 23.21.2. This is the right ascension for 1950. If two or more objects are at the same coordinate, further digits are added, like in the case of GN 05.32.5.02 = M 42 (Orion nebula); “01” is the HII region S 264 (Lambda Orionis nebula). The authors believed that their scheme would be accepted (like the famous PK designation for planetary nebulae catalogued by Perek and Kohoutek). As it is unneeded and cumbersome, this was a misjudgement.

This is not the only problem of the AGN. As soon as the printed volumes were available, the reviewer checked the object data for consistency. Numerous errors were detected: some “nebulae” are galaxies (e.g. GN 5.22.3 = UGC 3303) or planetaries (e.g. GN 6.15.2 = PK 158+17.1 = PuWe 1), coordinates are not exact (causing wrong designations), identifications are erroneous or missing, and much more. I’ve sent my findings to Hans Vehrenberg, who appreciated them very much (the other author was not amused).

Anyway, the AGN is a tremendous and valuable work – especially for amateurs. It is certainly true, that nowadays all information can be extracted from the internet, but this is a time-consuming and often frustrating task! It is moreover pretty questionable, whether these “modern” data are more reliable: The web is full of errors, especially concerning catalogues of deep sky objects. Thus the “Atlas of Galactic nebulae” of Vehrenberg and Neckel is still a useful source – and presenting a very reasonable DVD version is the best way to popularize it. Perhaps a second chance for an old fellow!

Wolfgang Steinicke