

Secrets of the 1814 Palermo Star Catalogue

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THE OBSERVATORY

The Palermo Observatory in Sicily was founded by Giuseppe Piazzi (1746-1826) in 1790. It is most famous for Piazzi's discovery of the first asteroid – Ceres in 1801. The observatory had an excellent transit circle made by Jesse Ramsden. It was also favoured by its latitude (38 deg. North) making it the most Southerly of Europes major observatories at that time.

THE CATALOGUE

Piazzi's first catalogue came out in 1803 and covered observations made over the period 1792-1802 (this catalogue does not use star-names). The catalogue we are concerned with came out in 1814 and covered the observations made over 1792-1813. This second catalogue was the responsibility of Niccolo Cacciatore (1780-1841), who was deputy to Piazzi. However, Piazzi himself had been blind due to illness from 1807.

RESPONSES TO THE CATALOGUE

A positive response to the 1814 catalogue was received from astronomers. It was particularly praised for its presentation of reductions from observations rather than simple observations.

Upon the whole, this work reflects great credit on the distinguished astronomer who now conducts the observatory at Palermo. The plan, although nearly the same as was pursued by M. Piazzi, and therefore not altogether new, is different from the printed observations of other observatories: and is in many respects worthy of imitation. For, although we would not wish to be considered as discouraging the printing of observations in the order, and in the manner in which they are actually made, yet we are certainly desirous, in common with many others that are fond of astronomy, of seeing the *reductions* of those observations a little more frequently than we do...(1)

Cacciatore also received a medal from the Royal Institute of France for the catalogue (2).

DELPHINUS

Many of you will be aware of the curious story concerning the names of the stars in Delphinus (the constellation of the Dolphin). Where alpha is called 'Sualocin' and beta 'Rotanev'. It is the Revd. T.W. Webb in his 'Celestial Objects for Common

Telescopes' (1859) who traces these star names to the 1814 Palermo star catalogue. Explaining that Niccolo Cacciatore in Latin is Nicolaus Venator and that this name reversed gives 'Sualocin' and 'Rotanev'. 'Cacciatore' meaning hunter in Italian. How Webb arrived at this explanation 45 years after the publication of the catalogue is a mystery.

Particularly, as Admiral Smyth in his Bedford Catalogue of 1844 (6) had investigated and failed to solve this riddle. Smyth wrote:

α Delphini appears under the cacophonous and barbaric epithet Svalocin, on the Palermo Catalogue. But no poring into the black-letter versions of the Almagest, El Battani, Ibn Yunis, and other authorities, enables one to form any rational conjecture as to the mis-reading, mis-writing, or mis-application, in which so strange a meta-morphosis could have originated.

That Admiral Smyth could not work this out these star names is baffling because we know he knew Piazzini and Cacciatore and had visited the Palermo Observatory in 1817.

I decided that a fresh look at the 1814 catalogue would be worthwhile, if only to confirm Webb's story. I also wondered if there might be any other mysterious star names in that catalogue?

METHOD

Fortunately I had access to a copy of the 1814 catalogue held in the Cambridge Observatory library. First I checked that the Delphinus names were there and they were on page 147. Then I went through the whole catalogue counting the named stars there are 153. Most of these names were common star names which raised no interest. However, there were 8 names which I was not familiar with and which I decided to examine further. I reversed them to see if any recognisable words emerged. Also I tried to positively identify the star in more modern catalogues/

Possible Suspects:8	Reversed:	Identified:
BEID (4.5)	DIEB	α^1 Eri (HR 1298)
SCEPTRUM (4)	MURTPECS	53 Eri (HR 1481)
ASMIDISKE (4)	EKSIDIMSA	(HR 3045 or 3699)
SERTAN (5)	NATRES	α Cnc (HR 3572)
ZAVIJAVA (3.4)	AVAJIVAZ	β Vir (HR 4540)
ICLARKRAU (3)	UARKRALCI	δ Sco (HR 5953)
CELBALRAI (3)	IARLABLEC	β Oph (HR 6603)
SHAM (4)	MAHS	α Sge (HR 7479)

On further research I found SERTAN and CELBALRAI in the 1801 star atlas by Bode as EZ-ZABAN and CHELB ER-RAI (3). They are given Arabic origins by Kunitzsch (4) and so I ruled them out of my investigation. Furthermore, Kunitzsch

and Allen (5) give reasonable Arabic origins for BEID and SHAM. That cut things down to just four star names:

SCEPTRUM ASMIDISKE ZAVIJAVA ICLARKRAU

Of these, it is interesting to note, that Allen gives ZAVIJAVA as first occurring in the Palermo catalogue, although, he does give a possible Arabic origin for it and also for ICLARKRAU. Neither Kunitzsch nor Allen gives any mention to SCEPTRUM and ASMIDISKE.

CONJECTURES

I have conjectured some possible meanings for these remaining star names. Could ASMIDISKE be an anagram for 'ask smith', but it doesn't quite work. I've also tried the names of assistants at the Palermo observatory to no avail. SCEPTRUM does mean sceptre (a royal wand) in Latin, but how does this fit its location in Eridanus (The River)?

It is possible these star names are genuine (but obscure) in which case it should be possible to find them in earlier star catalogues

CONCLUSIONS

The 1814 Palermo star catalogue may still contain some secrets. At least two stars from the 1814 catalogue remain unexplained. We also do not know how Webb deciphered the stars in Delphinus.

REFERENCES

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- (2) Memoirs of the RAS Vol. xv (1846) p.290-292
- (3) Bode, J.F. Description et connoissance generale des constellations, Berlin 1801.
- (4) Kunitzsch, P. Short guide to modern star names and their derivations / by Paul Kunitzsch and Tim Smart. Wiesbaden : Otto Harrassowitz, 1986
- (5) Allen, R.H. Star names : their lore and meaning / by Richard Hinckley Allen. New York : Dover, 1963 (First published 1899)
- (6) Smyth, W.H. A Cycle of celestial objects: Vol. 2 The Bedford Catalogue. p.482-483. London 1844. Smyth met Piazzi in Palermo in 1817.

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