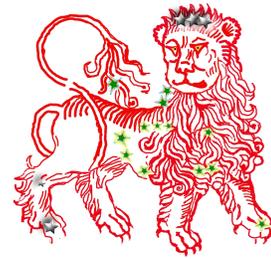


April 2024 Another Look  
Leo and Leo Minor

New Moon April 8 @1121, Full Pink moon the 23rd @ 1648.

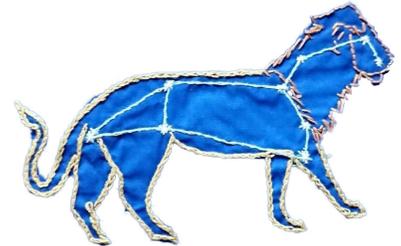
In Old English it is the Moon after Yule and also the Snow moon  
Native American names include the Breaking ice Moon, Broken Snowshoe Moon,  
Budding Moon, When the Ducks come back Moon and when the Geese lay eggs Moon.  
In different parts of the continent we find the Sucker Moon, Sugar Maker Moon and in  
the Dakota's, When the Streams are Navigable Moon. The Celts have Hare Moon and  
Growing Moon.



April 6, lunar occultation of Saturn visible from Antarctica.

April 8 Total Solar Eclipse visible in the US

April 9, lunar occultation of Venus visible from Florida



In Spanish its León y León Menor, in German Löwe und Kleiner Löwe.

In French its Lion et Petit Lion, Italian Leone e Leone Minore and in  
Greek Its Λιοντάρι και μικρότερο λιοντάρι or Liontári kai mikrótero liontári.

<https://ras.ac.uk/media/932>

*This incredible image is an embroidery created by Professor Shirin Haque, Professor in Astronomy at the Department of Physics at the University of the West Indies on the island of Trinidad and Tobago. The embroidery was done to celebrate the naming of HD 96063 (host star) and HD 96063b (exoplanet) as Dingolay and Ramajay. Her website is found on: [Prof. Shirin Haque | The Department of Physics \(uwi.edu\)](#)*

Leo Minor was created by the Polish astronomer Johannes Hevelius in 1687 and included it in his *Catalogus Stellarum Fixarum*. The constellation's name means "the smaller lion" in Latin. Hevelius created the constellation from 18 stars between the larger constellations Leo and Ursa Major.

In 1870, the English astronomer Richard A. Proctor renamed the constellation "Leaena", or the Lioness, in an attempt to shorten constellation names to make them easier to manage on star charts, but sadly, we have no lady lion constellation anymore.

Le Petit Lion contains two formally named stars. Those approved by the International Astronomical Union (IAU) are Illyrian- HD 82886 and Praecipua aka 46 Leonis Minoris. The Illyrians are a Balan people now inhabiting Albania. Illyrian has a planet named Arber, the original name for the Albanians

Leo Minor has at this counting nine exoplanet systems, three of which are HD 87883, HD 82886 (G0D), and Kelt-3 (F2D).

Hanny Van Arkel is a Dutch schoolteacher who in 2007 noticed an unusual object in an image from the Hubble. The image was of IC2497, an 11<sup>th</sup> magnitude spiral in Leo Minor about 4x4 arcmins in size.



Hanny was studying I2497, when she discovered her Voorwerp as part of a project developed by Galaxy Zoo, a citizen/scientist program. Amateurs were assigned objects imaged by Hubble and studied the objects to determine classification and characteristics. [Lars Zetterlund](https://www.flickr.com/search/?text=hanny's%20voorwerp) [https://www.flickr.com/search/?text=hanny's voorwerp](https://www.flickr.com/search/?text=hanny's%20voorwerp)  
Hanny's Voorwerp is a quasar ionization echo. I have several links below help you search for understanding.

[https://en.wikipedia.org/wiki/Hanny's\\_Voorwerp#/media/File:Hs-2011-01-d-print.jpg](https://en.wikipedia.org/wiki/Hanny's_Voorwerp#/media/File:Hs-2011-01-d-print.jpg)  
[https://en.wikipedia.org/wiki/Hanny's\\_Voorwerp%23/media/File:Hs-2011-01-d-print.jpg](https://en.wikipedia.org/wiki/Hanny's_Voorwerp%23/media/File:Hs-2011-01-d-print.jpg) and  
<https://www.zooniverse.org/projects/zookeeper/galaxy-zoo/about/research> and

Read more about Galaxy Zoo at: <https://www.zooniverse.org/projects/zookeeper/galaxy-zoo/about/research> and  
<https://www.zooniverse.org/>



Check here for more images of quasar ionization echos or Vorwerpjes:

[https://en.wikipedia.org/wiki/Hanny's\\_Voorwerp#/media/File:Extended\\_Gas\\_In\\_Active\\_Galaxies.jpg](https://en.wikipedia.org/wiki/Hanny's_Voorwerp#/media/File:Extended_Gas_In_Active_Galaxies.jpg)

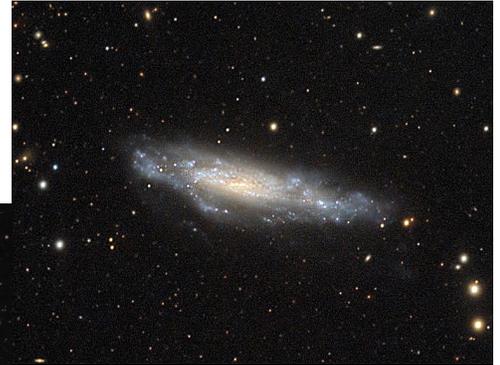
I used the image by Gary Imm <https://www.astrobin.com/2efji6/?q=voorwerp> because I was looking for something close to what you will see visually. IC 2497's magnitude is in the 11's and the Voorwerp is around 17. But if you look at I2497 telescopically you will see a galaxy with an active nucleus hiding a black hole about 10 million times the size of our sun. When the black hole was going crazy and created the Voorwerp, its size was 10 trillion times the size of our sun and just think, we are get to look at it.



Going from the sublime to the sublime, Arp 107 is a pair of interacting galaxies in the process of merging. They have an apparent magnitude of 14.6. [https://www.flickr.com/search/?text=arp 107](https://www.flickr.com/search/?text=arp+107)

NGC 3432, sometimes known as the Knitting Needle Galaxy, lies 3 degrees southeast of the star 38 Leonis Minoris. It appears almost edge-on and can be observed in amateur telescopes. Its about 11<sup>th</sup> mag.

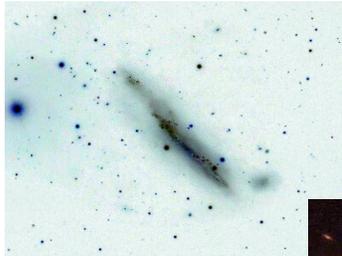
NGC 3003 is a barred spiral. It is 5.8 arc minutes in size and is about 12<sup>th</sup> magnitude, as you will see, its almost edge-on. <https://www.astrobin.com/search/?q=ngc+3003>



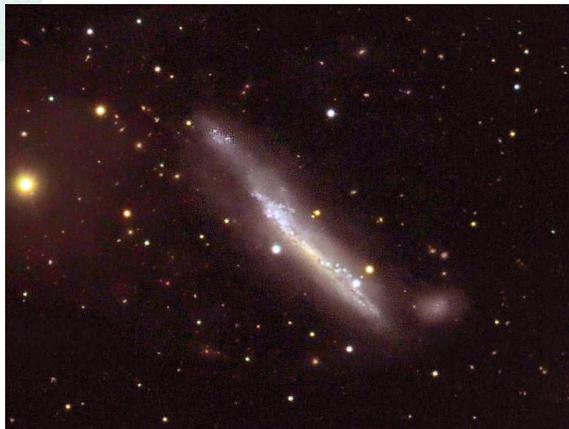
NGC 3344 is a spiral galaxy seen face-on. It is approximately 25 million light years distant and 7.1x6.5 arc minutes in size. Its about 10<sup>th</sup> mag.

<https://www.astrobin.com/search/?q=ngc+3344>

NGC 3504 is an 11<sup>th</sup> mag. barred spiral. It is a starburst galaxy, a region of massive star formation. Two supernovae were observed in the galaxy in recent years, one in 1998 and another in 2001. The other galaxy is 3512.



[Mantrap Catalog](#)



NGC 3504

Arp 206 is NGC 3432/UGC 5983. 3432 is an intriguing object well worth additional study. We call it a starburst galaxy because it is being disturbed by its neighbor, dwarf galaxy UGC 5983, that blot at the bottom right of the two images. U5983 is part of the focus this month...

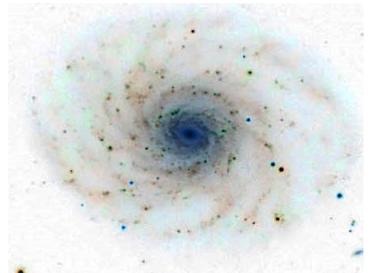
faint, dwarf galaxies. We are lucky in this one because the two are interacting. Be sure to study 3432 for bright variable outbursts, knots of star formation and, of course, its tail. 3462 is in the 11<sup>th</sup> magnitude, but work hard to pick up U5983. By the way, a rule of thumb is that a 12.5 inch telescope can find every NGC object.

<https://images.mantrapskies.com/searchdesignation=arp+206>

<https://www.astrobin.com/search/?q=ngc+3432>

U5983 is 17<sup>th</sup> magnitude. All things being equal and average, your 30" F/5 Dobsonian will just barely reach 17<sup>th</sup> magnitude. I you take an image of these guys, please let me know. Thanks, Dave

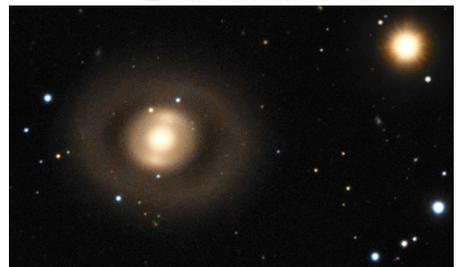
NGC 3486 is a nice almost appearing face-on galaxy. It is in the 10<sup>th</sup> magnitude range. I inverted the image to show the extended spiral arms and the bright specs of star formation, areas you can pick up. <https://images.mantrapskies.com/catalog/NGC/NGC3486/index.htm>



<https://images.mantrapskies.com/search?designation=ngc+2859>

NGC 2859 is a little small, with an apparent magnitude in the 11's and about 4'x4'. Is is described as a barred lenticular galaxy but its big deal is its ring.

NGC 3158, 59, 63 is a group in the northern part of LMi. It is found by looking at the apex of an equilateral triangle with Beta LMi and 21 Lmi.



You will need some glass for this grouping, 3158 is in the 13<sup>th</sup> and the others exist around the 14<sup>th</sup>. 3160 is an odd galaxy, probably do to a collision and possible merging. 3163,59 and 31 seem to be grouped together and close in images will show them surrounded by a ring and a tail on 3159. <https://images.mantrapskies.com/search?designation=ngc+3158>

The proper **names of stars** in Leo that have been officially approved by the International Astronomical Union (IAU) are:  
 Adhafera—Arabic- Lock of hair,  
 Algieba-Arabic Al jeb-bah- the forehead ,  
 Alterf- Arabic-the Glance.

Let it be noted that many of the Arabic names are for stars in their particular constellation of Leo, which stretched from Virgo through to Gemini.

Chertan – Ribs  
 Denebola-*Deneb Alased* -tail of the Lion,  
 Formosa, Formosa is the historical name of Taiwan used in the 17th century, meaning beautiful in Portuguese.  
 Subra- right knee, and  
 Zosma-girdle.  
 Regulus-Prince or Little King,

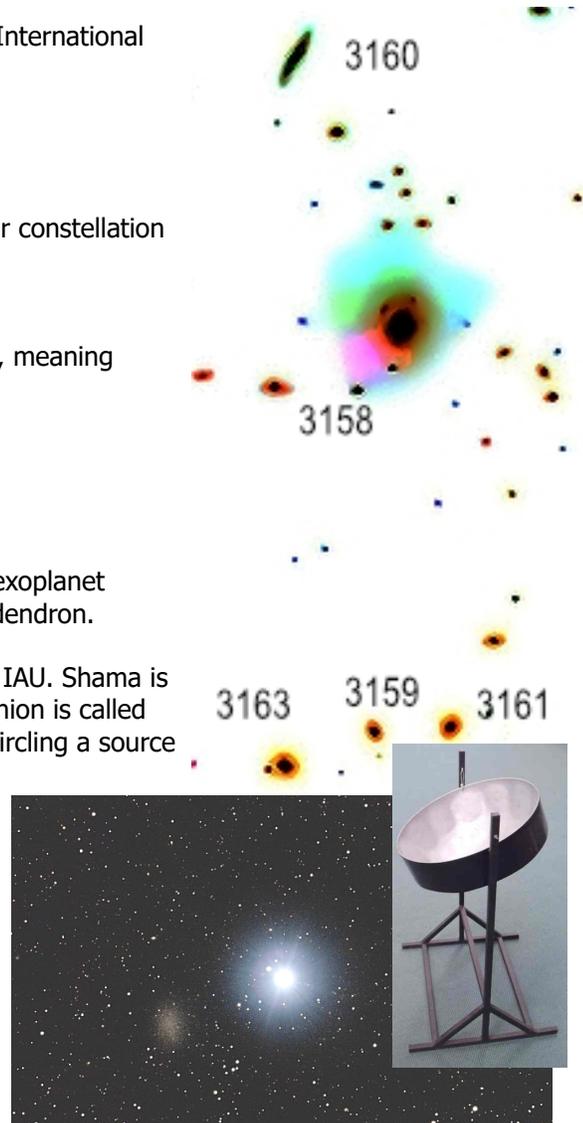
There are over 50 exoplanetary systems in Leo, several named.

Sagarmatha-HD 100777-is the Nepali name of Mt. Everest and the exoplanet revolving it was named as Laligurans, the Nepali name of the flower Rhododendron.

The star HD 99109 is named Shama. The name was selected in the **NameExoWorlds** campaign by Pakistan, during the 100th anniversary of the IAU. Shama is an Urdu literary term meaning a small lamp or flame. The exoplanet companion is called Perwana, meaning 'moth' in Urdu, alluding to the eternal love of an object circling a source of light.

Dingolay means to dance, twist and turn in elaborate movements, symbolizing the culture and language of the ancestors of the people of Trinidad and Tobago. Ramajay means to sing and make music in a Steelpan. The Steelpan is a musical instrument invented in Trinidad and Tobago. Steelpan musicians are called Pannists, image off of the Internet.

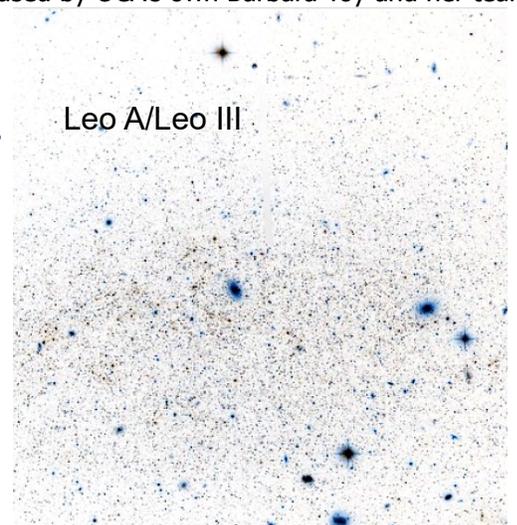
Noquisi is the Cherokee for star, Rasalas is the northern star of the lion's head. Noquisi and Awohali come from the Cherokee language, meaning "star" and "eagle," respectively. These are the first that a star or exoplanet has officially carried a name in the indigenous language of a North American people. <https://www.flickr.com/search/?text=Leo I galaxy> Tom Wildoner

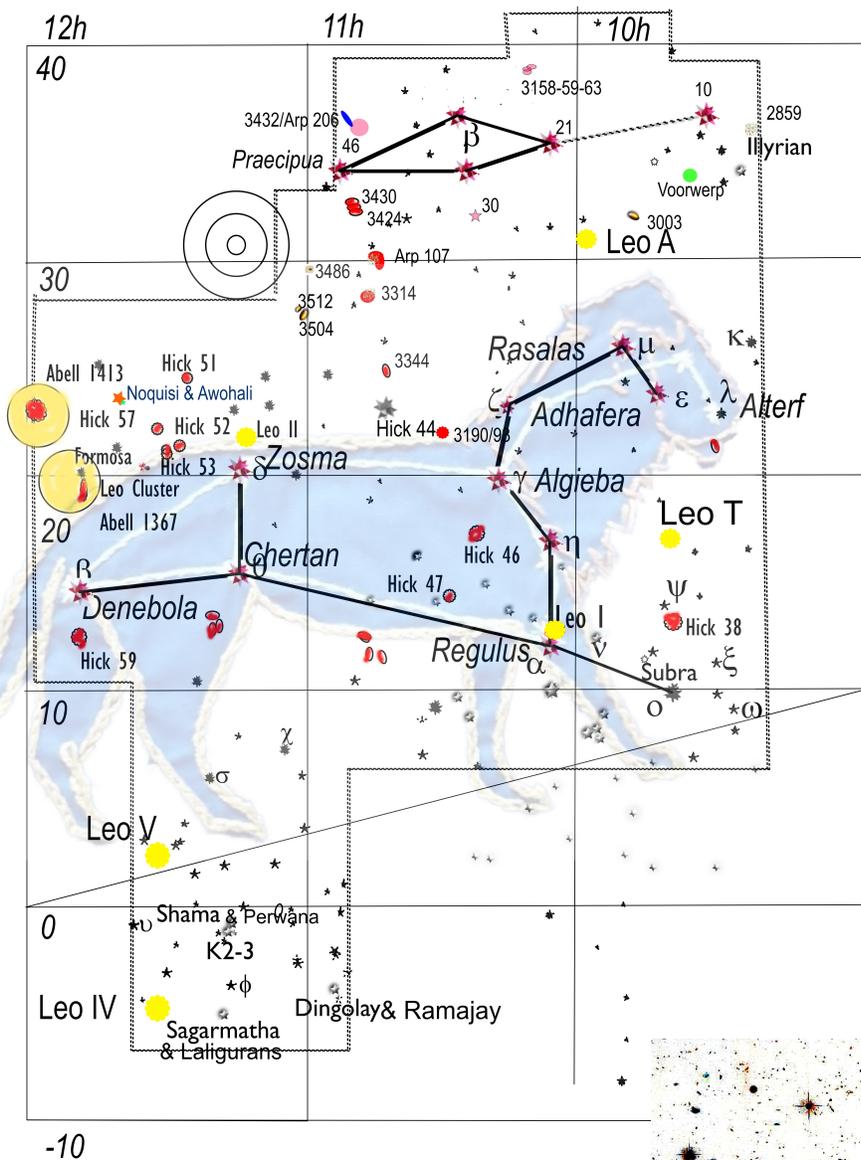


Leo I is 11.2 magnitude and is one of the most distant satellites of the Milky Way galaxy. It was discovered in 1950 on plates from the *Palomar Observatory Sky Survey*, taken with the 48-inch Schmidt camera. I found it rather easily in my 17.5. You will need to put Regulus outside the field of your eyepiece. This technique was used by OCA's own Barbara Toy and her team to observe Sirius B. Leo I could be the youngest dwarf spheroidal satellite galaxy of the Milky Way. Just look at that image, ain't it pretty.



<https://www.flickr.com/search/?text=Leo II galaxy>  
 ←  
 Leo II will be harder. It is smaller and dimmer but still find-able. Last I read, Leo II and apparently most dwarf galaxies have very high stellar masses but





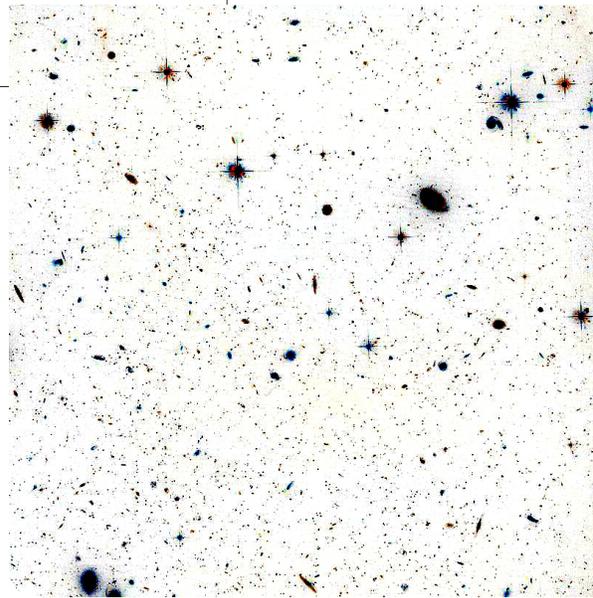
9h relatively low stellar counts. Professionals are positing they are the best source to study Brown dwarfs and the enigmatic Dark Matter. **The circles on the chart represent 1<sup>o</sup>, 2.5<sup>o</sup>s and 5<sup>o</sup>s.**

The other dwarf galaxies in Leo are challenging to unobtainable to most of our amateur telescopes. When you get an opportunity to use some big glass under a dark sky, try them out.

Leo III, also known as Leo A, is mag 12 but I never searched for it. It is also metal poor and irregular. Leo III is a see through galaxy.

I couldn't find any amateur images of Leo III, Leo VI, Leo V and Leo T. You will find an image of Leo III taken by Subaru. Leo IV and V are down near the southern tip of Leo under his rear paws. Leo IV is a dwarf discovered in 2006 by the Sloan Digital Sky Survey. It has an approximately round shape.

<https://apod.nasa.gov/apod/ap041110.html>. Also look at this image by Judy Schmidt on flickr. [https://www.flickr.com/search/?text=Leo III galaxy](https://www.flickr.com/search/?text=Leo%III%galaxy) a Hubble image amateur processed by Judy Schmidt



Leo IV



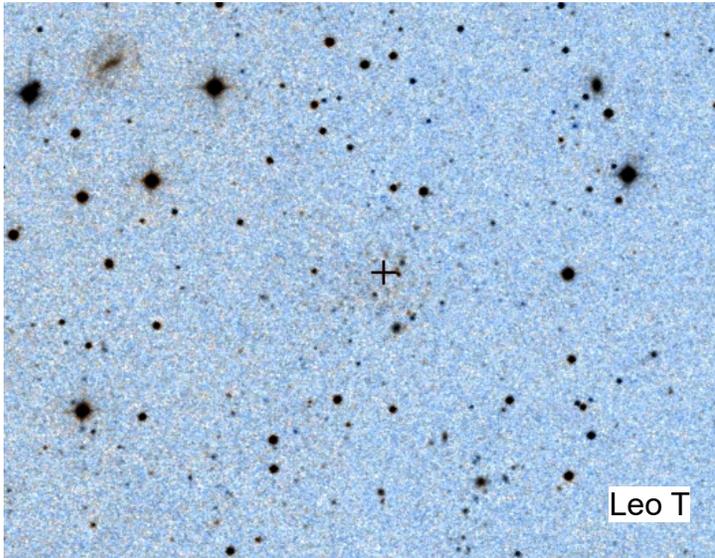
<http://resonaances.blogspot.com/2016/>

Leo IV and Leo V are two of the smallest and faintest satellites of the Milky Way. When dark matter is discussed in reference to these two galaxies, its because each galaxy shines with only about 10 or 15 thousand times the luminosity of our sun but have masses of of 1.5 million in the case of Leo IV and 330,000 in the case of Leo V. I have a Hubble image of IV but V is apparently made of unobservableium. Best I could do is get you is a finder image from Simbad.

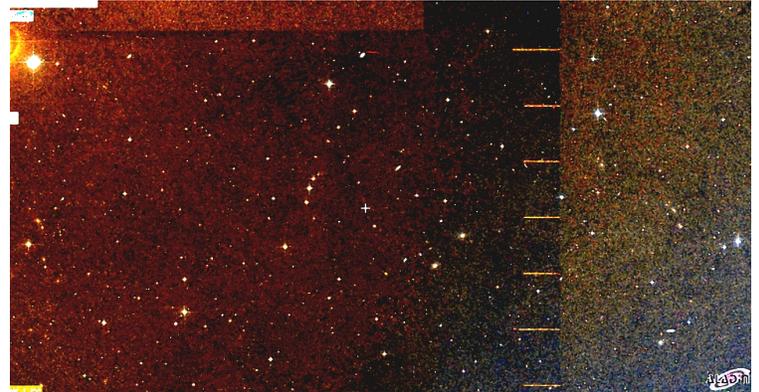
I went to the Sloan Digital Sky Survey to see this guy but all I got is the same basic finder chart I got from Simbad. Overall magnitude is less than 16. I went into the Sloan image as far as I could, but still could not pull anything identifiable from the background.

These two guys are only a few degrees from each other, so theoretically they could be partners. A least one survey suggests a bridge between the two. Both images have been manipulated.

Much like VI and V, faint, sparse and metal poor, Leo T is found under Leo's nose. It was discovered by Sloan. This is not much more than a finders chart. Its probably less than 16<sup>th</sup>. Once again, T has a mass to light ratio of about 140, making it another prime candidate <http://simbad.u-strasbg.fr/simbad/sim-basic?Ident=NAME+Leo+V> for dark matter.



Leo T



<https://simbad.u-strasbg.fr/simbad/sim-id?Ident=Leo+T&NbIdent=1&Radius=2&Radius.unit=arcmin&submit=submit+id>

This reverse image of Leo T is from Simbad. I was pleasantly surprised to find enough information in the image to bring it out. The galaxy, which isn't apparent on the original image is Leda 87165. Leda is the Lyon-Meudon Extragalactic Database, the data

from Leda was used to create the PGC catalog. More info at Wikipedia - [https://en.wikipedia.org/wiki/Lyon-Meudon\\_Extragalactic\\_Database](https://en.wikipedia.org/wiki/Lyon-Meudon_Extragalactic_Database)

Dark Skys Dave