

# **The Atlanta Astronomy Club**

## **Charlie Elliot Chapter**

### **Observing 101**

# Observing 101 - January

- Astro Events
- Featured Objects
- Target List

# Astro Events

## Tonight:

- Sunset at 5:44 PM
- Moon sets at 10:01 PM
- Mars sets at 6:09 PM
- Jupiter sets at 11:12 PM
- Uranus sets at 11:10 PM
- Neptune sets at 8:47 PM

# Astro Events

Tomorrow morning:

- Saturn rises at 12:37 AM
- Venus rises at 4:07 AM
- Mercury rises at 5:59 AM
- Sunrise at 7:40 AM

# Our Solar System the week of January 8 -14

- Mercury - Visible low in the E/SE before sunrise
- Venus - Visible in the E/SE 2 before sunrise
- Mars - Hidden in the suns glare at sunset
- Jupiter - Visible in the South at dusk
- Saturn - Rises in the South after midnight
- Uranus - In the South at dusk near Jupiter
- Neptune – In the West at Sunset
- Pluto - Hidden in the suns glare at dawn

# Astro Events

## This month's events ...

- JAN 4 - New moon 4:03AM
- JAN 8 - Venus at Greatest Western Elong
- JAN 9 - Mercury at Greatest Western Elong
- JAN 17- Io / Ganymede transit at 7:42 PM
- JAN 19 - Full Moon
- JAN 25 - Moon, Saturn, & Spica 5:00AM
- JAN 29 – Waning crescent moon between Venus and Antares

# Astro Events

## Other events in January:

- Final conjunction of Jupiter & Uranus
- Asteroid 37 Fides passes through Pleiades
- Comet 103P/Hartley in Canis Major

# Astro Events

## Next month's events ...

- Feb 2 – New moon 9:31 PM
- Feb 4 – Venus  $2^{\circ}$  N of Trifid nebula
- Feb 5 - Next CE Chapter meeting



**Jan 8 – 10**  
*Around 9 pm*

Moon  
Jan 10

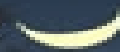


Jupiter 

Moon  
Jan 9



Moon  
Jan 8



**Looking West**

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● Saturn

VIRGO

● Spica

• OPHIUCHUS

Venus

LIBRA

● Antares

Mercury

SCORPIUS

10°

January 8, 45 minutes before sunrise  
Looking southeast

# Jupiter on January 17, 8:00 P.M. EST

Ganymede ●

S

Jupiter

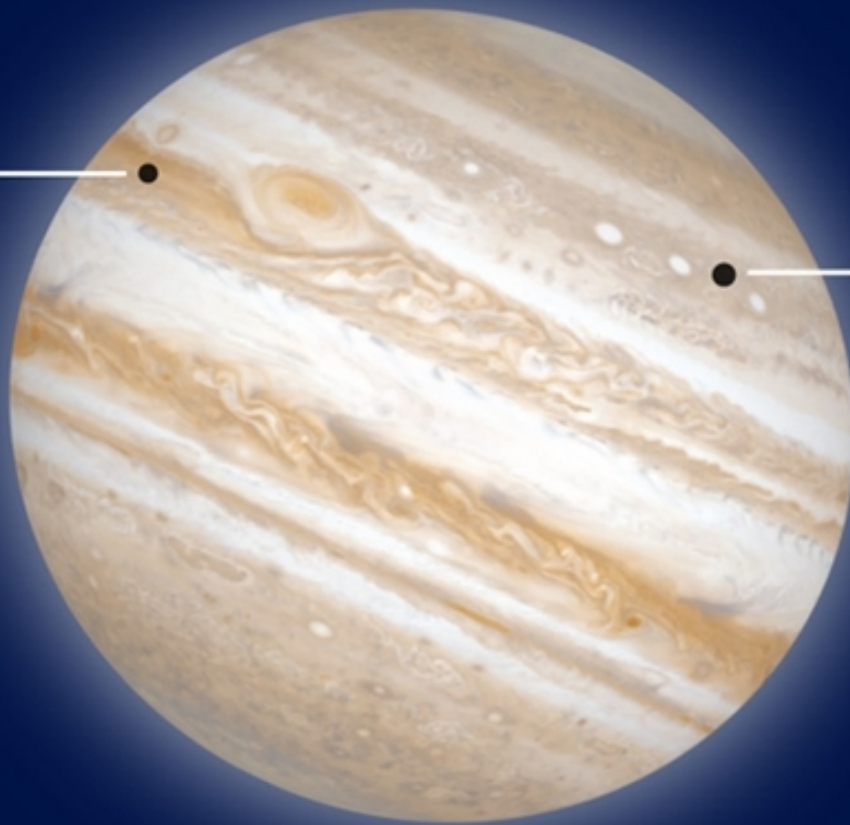
Io ●

**Io's shadow**

**Ganymede's shadow**

W

15"



PISCES

N

λ

21

E

Uranus

Jupiter

29

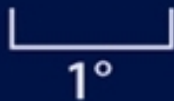
20

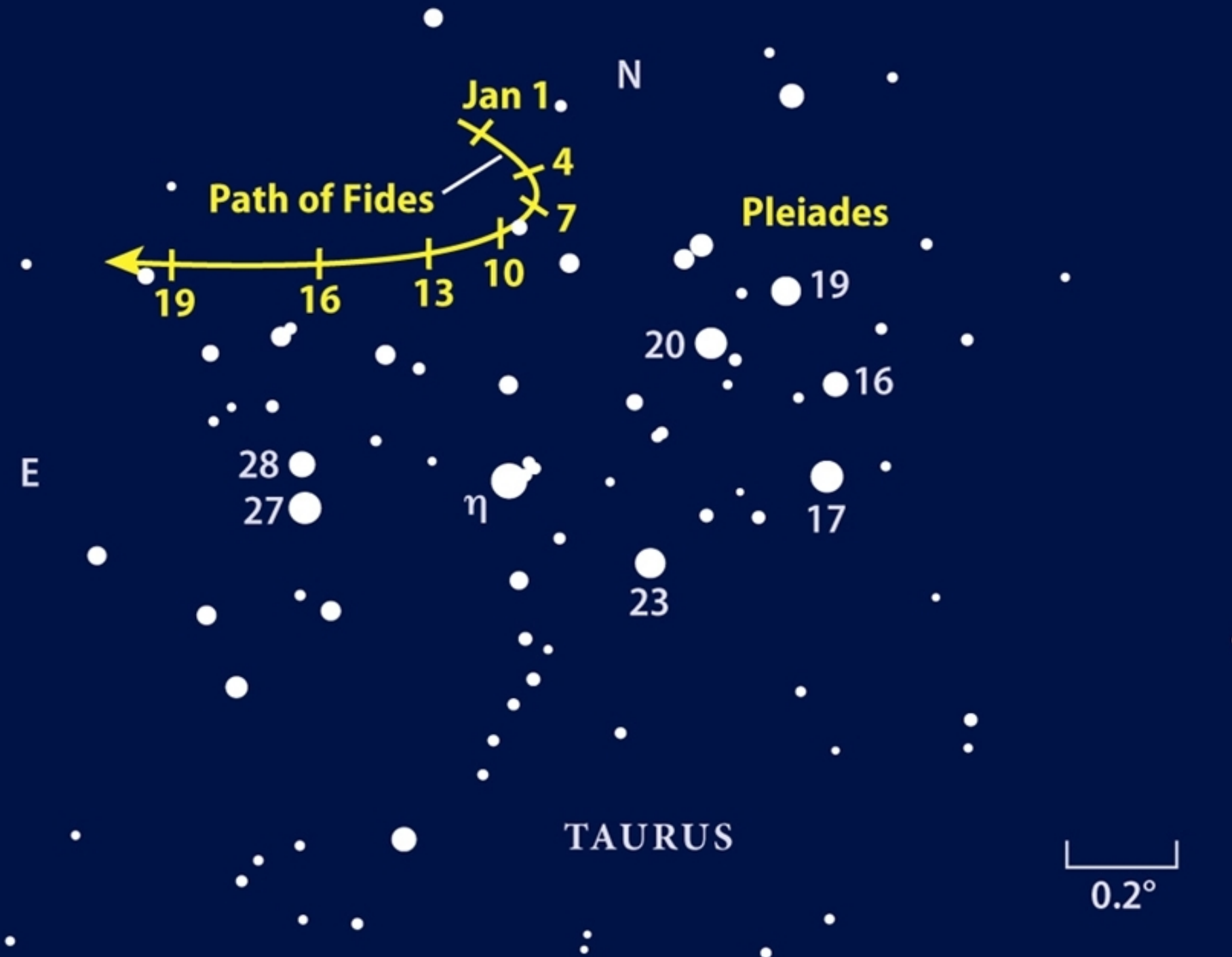
24

27

33

30





MONOCEROS

N

M50

31

26

21

16

11

6

Jan 1

Path of Comet  
103P/Hartley

$\theta$

$\mu$

CANIS  
MAJOR

$\gamma$

Sirius

1°

E

# Target List

## Small Telescopes & Binoculars

Object	Type	Mag	Size	Constellation
M31	Galaxy	4.3	189'	Andromeda
M33	Galaxy	6.2	68'	Triangulum
M1	SNR	8.4	6'	Taurus
M42	Diffuse Nebula	4.0	66'	Orion
M34	Open Cluster	6.0	35'	Perseus
M35	Open Cluster	5.5	28'	Gemini
M36	Open Cluster	6.5	12'	Auriga
M37	Open Cluster	6.0	24'	Auriga
M38	Open Cluster	7.0	21'	Auriga
M45	Open Cluster	1.6	120'	Taurus
Mira	Variable Star	3.5	–	Cetus

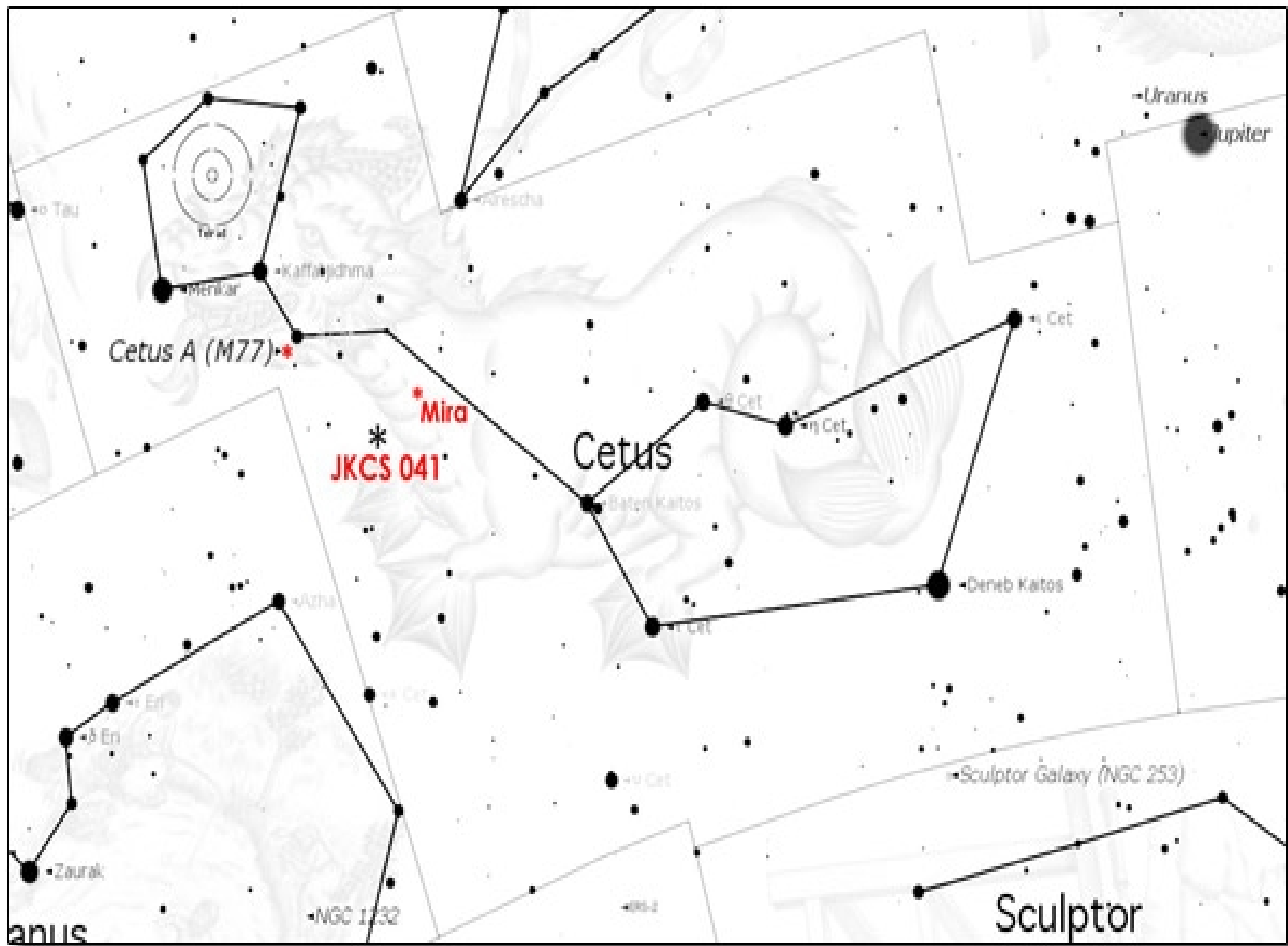
# Mira - Omicron Ceti

- 6 billion year old red giant binary star / Oscillating variable star
- Brightest periodic variable star that is not visible for part of it's cycle
- Variability of Mira was recorded by astronomer David Fabricius in 1596
- Period of Mira's variability was determined by Johannes Hevelius in 1638



# Mira - Omicron Ceti

- Period from maximum to minimum brightness is 332 days
- Maximum average brightness is magnitude 3.5 but has been recorded as high as magnitude 2.0
- Minimum brightness varies from magnitude 8.6 to 10.1
- Estimated distance is 220 to 400 light years
- Mira B is a white dwarf



# Web Links

- Astronomy Magazine  
[www.astronomy.com](http://www.astronomy.com)
- Sky & Telescope  
[www.skyandtelescope.com](http://www.skyandtelescope.com)

**Clear Skies!**