Issue 2017-01

IO – January 2017

The Newsletter of the Eugene Astronomical Society

PO Box 7264
Springfield, OR 97475

Next Meeting: *Thursday, January 19*

Potluck and Swap Meet

(Summary by Jerry Oltion)

Our January 19th meeting will be our annual telescope workshop where we help each other figure out how to use all that fancy gadgetry Santa brought us for Christmas. This is a great opportunity to bring that scope you need help with or just want to show off. We'll advertise our services to the public, so if you don't need help on a scope, bring your expertise. You might be able to help someone else.

This is a great opportunity to spread the word about our club and what we do. Tell anyone you know who might be interested in astronomy that this is the meeting to come to if they have questions about gear or about astronomy in general. The structure of this meeting will be very informal, with lots of opportunity to visit with one another and share our various areas of expertise.

The meeting is at 7:00 on Thursday, January 19th at the Science Factory planetarium. Bring your new gear for show and tell even if you don't need help with it!

Since last month's swap meet was cancelled due to weather, we'll also be holding the swap meet at this month's meeting. Bring any astronomy gear you want to sell or trade, and come prepared to take home a bunch of goodies from the stash donated by Ted Touw. We have boxes of astronomy gear that needs new homes!

EAS

President
Diane Martin (541-554-8570)

Secretary
Jerry Oltion (541-343-4758)

Additional Board members
Jim Murray
John Loper
Andy Edelen

Annual Club Dues $25
Meetings at 7:00 at the Science Factory, Eugene

EAS is a proud member of the Astronomical League

First Quarter Friday Report

Our First Quarter Friday for December 9th was clouded out. For variety's sake, our January 6th First Quarter Friday was perfectly clear, but was cancelled due to hazardous icy roads and slippery conditions on the reservoir.

The remainder of our First Quarter Fridays for 2017 are:

January 6 (64% lit)	February 3 (49% lit)	March 3 (34% lit)	March 31 (21% lit)
May 5 (80% lit)	June 2 (66% lit)	June 30 (51% lit)	July 28 (35% lit)
September 1 (83% lit)	September 29 (69% lit)	October 27 (52% lit)	
November 24 (34% lit)	December 29 (87% lit)		

March, June, and September have two FQFs each, while April and August have none; this is due to the timing of the Moon cycle.

December Meeting Report

Our December meeting—the annual potluck and swap meet—was canceled due to icy road conditions.

Observing Highlight: The Tau Canis Majoris Cluster

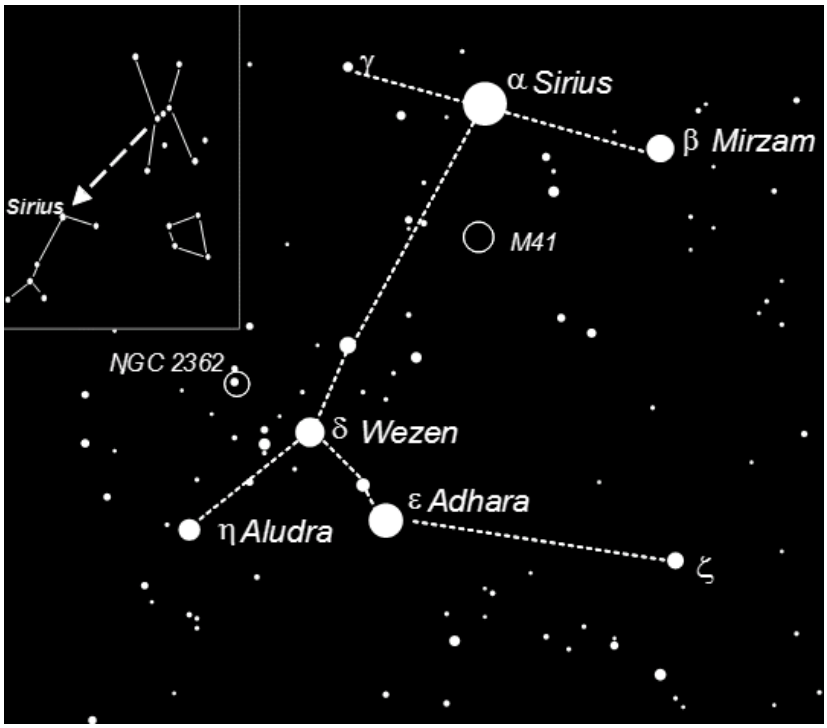
Lurking low in the south on January evenings, just above the hindquarters of Canis Major, Orion's bigger hunting dog, is a spectacular open star cluster that's often missed by cold-weary observers (and indeed, Charles Messier somehow missed it himself). This is NGC 2362, the Tau Canis Majoris Cluster, so named because it surrounds the dim naked-eye star Tau Canis Majoris.

NGC 2362 was originally discovered in 1654 by the Italian astronomer Hodierna, but it was not until 1783 that it was "officially" discovered, by the great William Herschel (Hodierna's observations were lost until the late 20th Century). In a modest-sized telescope (say, 8"), the cluster contains about 60 stars in an area some 8' across—roughly a quarter the size of the Full Moon. These stars are very young blue and white giants, estimated to be no older than about five million years. Astronomers estimate that there may be a couple hundred stars that are actual cluster members, crammed into an area of about 9 light-years. The cluster lies at a distance of about 4800 light-years.

The star Tau Canis Majoris dominates the cluster visually. It's a massive multiple star whose two brightest components are both O-type white giants; together, the pair is about 50 times as massive as our Sun. Their combined magnitude is 4.4—at a distance of 4800 light-years, this means that Tau is one of the brightest stars known, at about 50,000 times the light of the Sun. Three other, fainter stars within the cluster are physically-bound members of the Tau Canis Majoris system.

Finding the cluster isn't super difficult. Start by following Orion's belt southeast (lower left) to Sirius, the brightest star in our sky. Sirius marks Canis Major's dog collar (at least in modern outlines). As Canis Major rises, he appears to be standing on his hind legs, begging. Look below Sirius for a bright right triangle of stars; the more-northern two stars of this triangle (Epsilon and Delta Canis Majoris, known as *Adhara* and *Wezen*, respectively) form Canis Major's hind leg, the third (Eta Canis Majoris, *Aludra*) his tail. Draw a line from Epsilon through Delta and extend it about three-quarters that same distance, then drop slightly south. The cluster may be visible in binoculars as a faint fuzz around Tau.

In the eyepiece, NGC 2362 appears as a vaguely-triangular swarm of tiny blue-and-white pinpoints around the much-brighter "central" star, like bees buzzing around a hive. (It's a shame that there's a Beehive Cluster already, because this cluster really lives up to the name.) Use just enough magnification to separate the individual stars, but not so much that they spread out too far; the cluster seems prettier in lower powers. It's easily one of the most-beautiful clusters in the winter sky. Be sure to catch it when the clouds break!



Left: Finder chart for NGC 2362. Image courtesy Knowle Astronomical Society (https://sites.google.com/site/knowleastro/constellations/canis-major). Right: NGC 2362. Image courtesy Adam Block/Mount Lemmon Sky Center/University of Arizona.

EAS Members' Gallery

Above: The Moon, Jupiter, and Spica, December 21. *Photo by Alan Gillespie.*

Below: Moonrise behind Three-Fingered Jack. *Photo by Bill Basham*.

Top: The zodiacal light from Eagle's Ridge. Bottom: Orion rising, December 18.
Photos by Bill Basham.

Portrait of Orion. *Photo by Alan Gillespie.*

Sun & Moon rise and set for January

Date	Moon Rise	Moon Set	Twilight Begin	Sun Rise	Sun Set	Twilight End
1/1/2017	09:53	20:33	06:03	------	16:45	18:30
1/2/2017	10:27	21:38	06:03	07:47	16:46	18:30
1/3/2017	10:59	22:44	06:03	07:47	16:47	18:31
1/4/2017	11:31	23:51	06:03	07:47	16:48	18:32
1/5/2017	12:02		06:03	07:47	16:49	18:33
1/6/2017	12:36	01:01	06:03	07:47	16:50	18:34
1/7/2017	13:12	02:11	06:03	07:47	16:51	18:35
1/8/2017	13:54	03:23	06:03	07:47	16:52	18:36
1/9/2017	14:41	04:34	06:03	07:47	16:53	18:37
1/10/2017	15:36	05:42	06:03	07:46	16:55	18:38
1/11/2017	16:37	06:45	06:03	07:46	16:56	18:39
1/12/2017	17:43	07:40	06:02	07:46	16:57	18:40
1/13/2017	18:51	08:28	06:02	07:45	16:58	18:41
1/14/2017	19:58	09:08	06:02	07:45	16:59	18:42
1/15/2017	21:04	09:44	06:02	07:44	17:01	18:43
1/16/2017	22:07	10:15	06:01	07:44	17:02	18:44
1/17/2017	23:09	10:44	06:01	07:43	17:03	18:45
1/18/2017		11:12	06:00	07:43	17:04	18:46
1/19/2017	00:09	11:40	06:00	07:42	17:06	18:47
1/20/2017	01:07	12:09	05:59	07:41	17:07	18:48
1/21/2017	02:05	12:40	05:59	07:41	17:08	18:49
1/22/2017	03:02	13:15	05:58	07:40	17:10	18:51
1/23/2017	03:58	13:53	05:58	07:39	17:11	18:52
1/24/2017	04:51	14:37	05:57	07:38	17:12	18:53
1/25/2017	05:42	15:26	05:56	07:37	17:14	18:54
1/26/2017	06:30	16:21	05:55	07:37	17:15	18:55
1/27/2017	07:13	17:21	05:55	07:36	17:16	18:56
1/28/2017	07:53	18:23	05:54	07:35	17:18	18:58
1/29/2017	08:29	19:29	05:53	07:34	17:19	18:59
1/30/2017	09:03	20:36	05:52	07:33	17:20	19:00
1/31/2017	09:35	21:43	05:51	07:32	17:22	19:01
				07:31		

STORAGE JUNCTION

Thank you, Storage Junction

Storage Junction has donated the use of a storage unit for us to hold our loaner telescopes when they're not in use. EAS would like to thank Storage Junction for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. Storage Junction is located at 93257 Prairie Road (at the intersection of Hwy 99 and Hwy 36, 3 miles south of Junction City) Phone: 541-998-5177

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Observing In January

1st Q  Full   Last Q New 

Jan 5, 11:47 AM	Jan 12, 3:34 AM	Jan 19, 2:13 PM	Jan 27, 4:07 PM
Mercury Rise: 6:29 AM	Mercury Rise 6:07 AM	Mercury Rise: 6:08 AM	Mercury Rise: 6:20 AM
Venus Set: 8:49 PM	Venus Set: 9:01 PM	Venus Set: 9:11 PM	Venus Set: 9:19 PM
Mars Set: 9:44 PM	Mars Set: 9:44 PM	Mars Set: 9:44 PM	Mars Set: 9:44 PM
Jupiter Rise: 00:58 AM	Jupiter Rise: 00:34 AM	Jupiter Rise: 00:09 AM	Jupiter Rise: 11:35 PM
Saturn Rise: 6:04 AM	Saturn Rise: 5:40 AM	Saturn Rise: 5:16 AM	Saturn Rise: 4:48 AM
Uranus Set: 1:01 AM	Uranus Set: 00:34 AM	Uranus Set: 00:07 AM	Uranus Set: 11:33 PM
Neptune Set: 9:25 PM	Neptune Set: 8:58 PM	Neptune Set: 8:32 PM	Neptune Set: 8:02 PM
Pluto lost in Sun	Pluto lost in Sun	Pluto Rise: 6:56 AM	Pluto Rise: 6:26 AM

Items of Interest This Month

January

Venus goes from 58% to 40% lit this month.

1/1 Mars and Neptune still within 1°

1/3 Peak of Quadrantid meteor shower

1/4 Earth at perihelion (farthest from Sun)

1/6 First Quarter Friday star party

1/8 Moon approaches Gamma Tauri, occults it just after midnight (12:37 AM on 1/9). Reappearance 1:33 AM. Cruises through Hyades the rest of the night until Moonset (4:34 AM)

1/12 Venus at greatest eastern elongation, passes 0.4° north of Neptune 6:00 PM

1/14 Moon passes 0.8° south of Regulus 9:00 PM