ALPO COMET NEWS FOR OCTOBER 2019
By Carl Hergenrother – 2019-October-4

I'm mixing things up a bit this month. The monthly ALPO Comet News will now be distributed as PDFs on the ALPO Comet Section website (http://www.alpo-astronomy.org/cometblog/). A shorter version of this report is posted on the Cloudy Nights forum at (https://www.cloudynights.com/topic/678913-alpo-comet-news-for-october-2019/). If you'd like to join in the discussion, I encourage you to visit our Cloudy Nights forum.

C/2018 W2 (Africano) starts the month around magnitude 8.5 though it will rapidly fade as the month progresses. C/2017 T2 (PANSTARRS) will still be 11th magnitude at the end of September but should replace Africano as the brightest observable comet. CCD observers can look forward to observing the first confirmed interstellar comet, 2I/2019 Q4 (Borisov).

Bright Comets (magnitude < 10.0)

C/2018 W2 (Africano) - C/2018 W2 (Africano) was at its best recently with both perihelion (September 5 at 1.45 au) and minimum Earth-comet distance (September 27 at 0.49 au) occurring over the past few weeks. During September, the Comet Section received 13 images and sketches of this comet from Michel Deconinck, Efrain Morales Rivera and John D. Sabia and 10 magnitude estimates from Salvador Aguirre, J. J. Gonzalez Suarez, Carl Hergenrother and Chris Wyatt. During the first week of September visual observers reported magnitudes between 9.8 and 10.8. During the last week of September, the comet had brightened to between 8.1 and 8.7. The reported magnitudes show an aperture effect with smaller apertures producing brighter magnitude estimates. A good example of this is the sequence of estimates by J. J. Gonzalez Suarez on September 28. He found Africano to be magnitude 8.6 in a 0.2-m SC (77x), 8.3 in 25x100 binoculars, and 8.1 in 10x50 binoculars. A northward pointing tail was seen visually by J. J. and in many of the images. The coma ranged from 3.6' to 13' though some of this variance may be due to observer, instrument size, magnification, and sky quality.

Now moving away from the Sun and Earth, Africano is expected to rapidly fade during October. Near peak brightness as the month begins, it should fade to magnitude 9.0 by the 6th, 10.0 by the 18th and 11.0 by month's end. The comet is moving south through Pisces (Oct 1-3), Aquarius (3-14), Pisces Austrinus (14-27) and Grus (27-31) as the month progresses. Its southward motion will make it a more difficult object for northern observers by the 2nd half of October.

C/2018 W2 (Africano)
T = 2019-Sep-05 q = 1.45 au
Long-Period comet - dynamically old

Date	Mag	R.A.	Decl.	r	d	Elong	Const	Max El (deg) 40N	40S
2019-10-01	8.6	23 28	+03 23	1.498	0.508	165	Psc	51	49
2019-10-06	9.0	22 57	-10 09	1.517	0.569	149	Aqr	38	62
2019-10-11	9.4	22 32	-20 13	1.538	0.665	134	Aqr	28	72
2019-10-16	9.8	22 14	-27 12	1.563	0.784	122	PsA	22	78
2019-10-21	10.3	22 00	-32 01	1.590	0.916	112	PsA	17	83
2019-10-26	10.7	21 50	-35 24	1.619	1.054	104	PsA	14	81
2019-10-31	11.1	21 43	-37 51	1.650	1.196	97	Gru	12	75
2019-11-05	11.5	21 38	-39 39	1.684	1.338	91	Gru	10	70

Faint Comets (between magnitude 10.0 and 13.0)

29P/Schwassmann-Wachmann - This month 29P/Schwassmann-Wachmann will be at opposition in Pisces. Chris Wyatt observed 29P on 4 nights in September and consistently placed it between magnitude 14.6 and 14.7. Researchers using data obtained with the Zwicky Transient Facility on Mount Palomar report a possible fragmentation event in images taken on Oct 1 and 3. The event manifests itself as an extension of the coma 7" to 9" to the NE (PA~70°) of the central condensation (http://www.astronomerstelegram.org/?read=13164). CCD imagers should be on the lookout for this feature.

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29P/Schwassmann-Wachmann
T = 2019-Mar-07  q = 5.77 au                                          Max El
Centaur comet - 14.8-yr orbital period                                 (deg)
    Date      Mag    R.A.   Decl.      r        d    Elong  Const  40N  40S
2019-10-01  12-14  00 44  +15 44   5.775    4.797   166    Psc    66   34
2019-10-06  12-14  00 42  +15 33   5.775    4.790   169    Psc    66   34
2019-10-11  12-14  00 40  +15 20   5.776    4.791   169    Psc    65   35
2019-10-16  12-14  00 38  +15 07   5.776    4.799   167    Psc    65   35
2019-10-21  12-14  00 35  +14 53   5.777    4.814   163    Psc    65   35
2019-10-26  12-14  00 33  +14 39   5.777    4.838   159    Psc    65   35
2019-10-31  12-14  00 31  +14 25   5.778    4.868   154    Psc    64   36
2019-11-05  12-14  00 30  +14 11   5.778    4.905   149    Psc    64   36
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68P/Klemola – Short-period comet 68P/Klemola is making its 6th observed return. It was discovered by American astronomer Arnold R. Klemola on photographs taken with the 0.5-m double astrograph at the Yale-Columbia Southern Station in Argentina in October 1965. Later apparitions were observed in 1976, 1987, 1998, and 2009. This year 68P will come to perihelion on November 9 at 1.79 au. At its best apparitions the comet has brightened to 12th magnitude. Close approaches to Jupiter (2028 and 2040) and Saturn (2036) will increase its perihelion distance to 1.92 au and then 2.04 au. As a result, this year may be the last time 68P will be seen as bright as 12-13th magnitude.

Chris Wyatt observed 68P to be between magnitude 12.7 and 13.5 in late September. Klemola should peak at around 13th magnitude or a bit brighter as its moves through the evening constellations of Serpens (Oct 1), Scutum (1-18), Sagittarius (18-31).

68P/Klemola
T = 2019-Nov-09 q = 1.79 au
Short-period comet - 11.0-yr orbital period

Date	Mag	R.A.	Decl.	r	d	Elong	Const	Max El (deg) 40N	40S
2019-10-01	13.0	18 20	-13 52	1.838	1.578	87	Ser	32	54
2019-10-06	12.9	18 31	-14 24	1.827	1.610	85	Sct	32	52
2019-10-11	12.9	18 41	-14 51	1.818	1.643	83	Sct	31	50
2019-10-16	12.9	18 53	-15 14	1.811	1.677	80	Sct	31	47
2019-10-21	12.9	19 04	-15 33	1.804	1.712	78	Sgr	30	45
2019-10-26	12.9	19 16	-15 47	1.800	1.747	76	Sgr	30	42
2019-10-31	13.0	19 29	-15 56	1.796	1.784	74	Sgr	30	39
2019-11-05	13.0	19 41	-16 00	1.794	1.822	72	Sgr	29	37

260P/McNaught - Robert McNaught discovered 260P on 2012 May 20 with the 0.5-m Uppsala Schmidt as part of the Siding Spring Survey. With an orbital period of ~7 years (currently 6.9 years), the comet is making its 3rd observed return. It peaked between magnitude 11 and 12 during its last return in 2012. This year's return is very similar with a slightly smaller minimum Earth-comet distance (0.56 vs 0.58 au) and smaller perihelion distance (1.42 vs 1.50 au). Over the past month Chris Wyatt found 260P to be between magnitude 12.2 and 12.7 while J. J. Gonzalez had it brighter (between 11.2 and 11.6). The comet should fade this month after its September 9th perihelion and October 3rd closest approach to Earth. The comet spends all month in Perseus at rather high northern declinations (> +40°). The Section received 8 images and sketches of 260P from Efrain Morales Rivera and Michel Deconinck.

260P/McNaught
T = 2019-Sep-09 q = 1.42 au
Short-Period comet - 6.9-year period

Date	Mag	R.A.	Decl.	r	d	Elong	Const	Max El (deg) 40N	40S
2019-10-01	12.4	02 50	+39 03	1.436	0.563	131	Per	89	11
2019-10-06	12.5	02 51	+41 32	1.447	0.562	133	Per	88	8
2019-10-11	12.6	02 51	+43 45	1.459	0.565	136	Per	86	6
2019-10-16	12.8	02 49	+45 41	1.473	0.571	138	Per	84	4
2019-10-21	12.9	02 47	+47 17	1.489	0.580	140	Per	83	3
2019-10-26	13.1	02 43	+48 31	1.507	0.592	142	Per	81	1
2019-10-31	13.3	02 39	+49 25	1.527	0.607	144	Per	80	0
2019-11-05	13.6	02 35	+49 57	1.548	0.625	145	And	80	0

C/2017 T2 (PANSTARRS) - C/2017 T2 (PANSTARRS) may not become especially bright but will be a nice small telescope target for the rest of 2019 and much of 2020. C/2017 T2 (PANSTARRS) was discovered on 2017 October 7 with the Pan-STARR1 telescope on Haleakala, Maui, Hawaii. At discovery the comet was 20th magnitude and 9.3 au from the Sun which is close to the distance of Saturn. Perihelion happens on 2020 May 4 at 1.62 au. Unfortunately, it never gets very close to Earth with closest approach occurring on 2019 December at 1.52 au. By the time of perihelion, the comet will be 1.69 au from Earth.

The Section received 2 sketches from Michel Deconinck and 5 magnitude estimates from J. J. Gonzalez, Raymond Ramlow and Chris Wyatt. Reported magnitudes for this comet have been all over the place. J. J. Gonzalez's estimates have been on the bright side and found T2 to be between 9.5 to 9.6 in September. Raymond Ramlow and Chris Wyatt found the comet to be fainter at 13.3 to 13.6. Looking at reports submitted to COBS (https://www.cobs.si) most observations fall between magnitude ~11.5 and ~14.0. J. J. does point out that his bright estimates include a large faint outer coma (6'), while a bright inner coma (2') appears fainter at magnitude 11.3. Perhaps some observers are picking up on this faint outer coma while others are missing it and measuring just the condensed inner coma. It will be interesting to see if the comet "brightens" over the next few months as this (assuming its real) outer coma becomes more apparent to more observers.

My prediction below has the comet starting October at magnitude 12.0 and brightening to 11.0 by the end of the month as it moves through Taurus (Oct 1-6) and Auriga (6-31).

C/2017 T2 (PANSTARRS)
T = 2020-May-04 q = 1.62 au

Date	Mag	R.A.	Decl.	r	d	Elong	Const	Max El (deg) 40N	40S
2019-10-01	12.0	05 36	+27 31	3.153	2.783	102	Tau	76	21
2019-10-06	11.8	05 38	+28 32	3.105	2.664	106	Tau	78	21
2019-10-11	11.7	05 39	+29 38	3.057	2.547	111	Aur	80	20
2019-10-16	11.5	05 39	+30 50	3.010	2.434	116	Aur	81	19
2019-10-21	11.4	05 39	+32 08	2.962	2.324	121	Aur	82	18
2019-10-26	11.2	05 38	+33 32	2.914	2.218	125	Aur	84	16
2019-10-31	11.0	05 36	+35 03	2.867	2.117	130	Aur	85	15
2019-11-05	10.9	05 33	+36 40	2.819	2.022	135	Aur	87	13

Sketch by Michel Deconinck

Comets C/2017 T2 (PanSTARRS)
Mewlon 250 CRS f10 - EP 26mm

2019/09/27 - 3h00 UTC
F.O.S.: 50'

http://astro.aquarellia.com

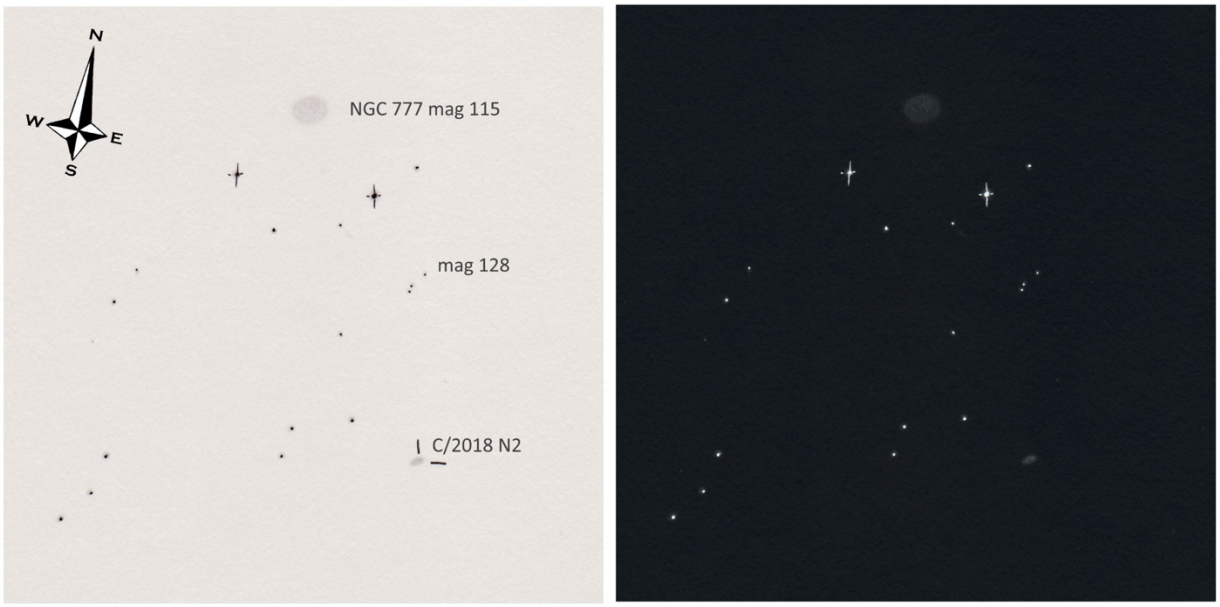
C/2018 N2 (ASASSN) - The section received 7 images and sketches of this comet from Efrain Morales Rivera and Michel Deconinck as well as 7 magnitude estimates from Salvador Aguirre, J. J. Gonzalez and Chris Wyatt.

Comet C/2018 N2 (ASASSN) was discovered over ~1 year ago on 2018 July 7 by the All-Sky Automated Survey for Supernovae (ASAS-SN) program. Since discovery, ASASSN has brightened slowly. ASASSN arrives at perihelion next month on the 11th at a rather distant 3.12 au. During the October Chris Wyatt estimated its brightness at 12.3 to 12.6 while J. J. Gonzalez had it brighter at 10.8 to 11.7. This month, C/2018 N2 is at opposition in Triangulum (Oct 1-11) and Andromeda (11-31). Orbit plane crossing occurs on October 18 so imagers should be on the lookout for enhanced dust tail structures.

C/2018 N2 (ASASSN)
T = 2019-Nov-11 q = 3.12 au Max El
Long-Period comet - dynamically old (deg)

Date	Mag	R.A.	Decl.	r	d	Elong	Const	40N	40S
2019-10-01	11.9	01 53	+32 11	3.150	2.282	144	Tri	82	18
2019-10-06	11.8	01 43	+33 29	3.144	2.250	148	Tri	84	16
2019-10-11	11.8	01 32	+34 40	3.139	2.227	151	Tri	85	15
2019-10-16	11.8	01 21	+35 44	3.135	2.214	152	And	86	14
2019-10-21	11.8	01 09	+36 38	3.131	2.212	152	And	87	13
2019-10-26	11.8	00 57	+37 23	3.128	2.220	151	And	88	12
2019-10-31	11.8	00 45	+37 59	3.126	2.238	148	And	88	12
2019-11-05	11.8	00 34	+38 25	3.125	2.265	144	And	89	11

Sketch by Michel Deconinck



C/2018 N2 (ASASSN)
Mewlon 250 CRS f10 - EP: 40mm

2019/09/27 - 3h30 UTC
F.O.S.: 40'

http://astro.aquarellia.com

Fainter Comets of Interest (probably fainter than magnitude 13.0)

2I/2019 Q4 (Borisov) - The big comet story of September was the discovery of the first confirmed interstellar comet. While some have surmised that 1I/'Oumuamua displayed cometary activity, it was never directly observed to be cometary. 2I/2019 Q4 (Borisov) is a bona fide comet with obvious coma and tail. Gennady Borisov discovered this 17th magnitude comet on August 30 with a 0.65-m f/1.5 astrograph of his own making located at MARGO observatory near Nauchnij, Crimea.

2I will reach perihelion on December 8 at 2.01 au. What gives away its interstellar nature is its large hyperbolic eccentricity of 3.35. Unlike 1I/'Oumuamua, 2I/Borisov will be visible in modest

telescopes for the next few months. It should brighten to ~15th magnitude this December. The Section received 3 images of this comet from Gianluca Masi.

2I/2019 Q4 (Borisov)
T = 2019-Dec-08 q = 2.01 au
Interstellar comet

Date	Mag	R.A.	Decl.	r	d	Elong	Const	Max El (deg) 40N	40S
2019-10-01	16.6	09 26	+23 09	2.518	3.024	51	Leo	33	0
2019-10-06	16.4	09 35	+21 04	2.454	2.920	53	Leo	34	0
2019-10-11	16.3	09 44	+18 51	2.392	2.818	55	Leo	36	2
2019-10-16	16.1	09 54	+16 29	2.334	2.720	57	Leo	38	4
2019-10-21	16.0	10 03	+13 57	2.280	2.625	59	Leo	39	6
2019-10-26	15.8	10 12	+11 17	2.230	2.535	61	Leo	40	8
2019-10-31	15.7	10 21	+08 26	2.185	2.449	62	Leo	41	10
2019-11-05	15.5	10 30	+05 26	2.144	2.368	64	Sext	41	13

P/2008 Y12 = P/2014 K3 (SOHO) - P/SOHO checks a lot of interesting boxes. Very small perihelion distance, check. Member of larger complex of comets and asteroids, check. Progenitor of a meteor shower, check. The one box it hasn't checked yet, being observed from Earth. There was hope that it would be seen from the ground during this favorable apparition but, at least to my knowledge, this hasn't been the case. Luckily, we should be able to observe P/SOHO from our

computers the same way it was observed in 2008 and 2014. The comet may be visible in the SOHO LASCO coronagraphs (https://sohowww.nascom.nasa.gov/data/realtime/realtime-update.html) around the time of perihelion on October 9-10.

289P/Blanpain – 289P/Blanpain will approach to within 0.09 au of Earth this December. It is not expected to get bright due to its low activity, but it has proven to be outburst prone. Jean-Jacques Blanpain discovered 289P in November 1819. Likely experiencing an outburst at the time of discovery, it went unobserved for the next 194 years until it was re-discovered by the Catalina Sky Survey as near-Earth asteroid 2003 WY_{25} in November 2003. Observations in 2005 found it to still be an active comet, albeit at low levels of activity. In July 2013 while far from perihelion (3.9 au vs 1.0 au), Blanpain experienced a major ~9 magnitude outburst that brightened it from 26th to 17th magnitude. The Phoencids meteor shower is associated with this object. Similar to its parent comet, this shower usually shows little activity except for two outbursts in 1956 and 2014.

Many sites using the Minor Planet Center's magnitude parameters currently have this comet at 10th magnitude. Recent observations to COBS place the comet at magnitude 17.7 (Kevin Hills on September 27). Even 17th magnitude is brighter than was expected. Usually 289P is not much brighter than its nuclear magnitude which should be closer to 21st magnitude. We'll need to watch this comet to see if its more active than usual this apparition. The predicted magnitudes below are for the nucleus and provide a faint limit.

289P/Blanpain
T = 2019-Dec-20 q = 0.96 au

Short-period comet – 5.3-yr orbital period								Max El (deg)	
Date	Mag	R.A.	Decl.	r	d	Elong	Const	40N	40S
2019-10-01	20.9	23 06	-23 13	1.459	0.513	147	Aqr	27	73
2019-10-06	20.9	22 57	-24 00	1.414	0.488	141	Aqr	26	74
2019-10-11	20.9	22 49	-24 35	1.369	0.467	134	Aqr	25	75
2019-10-16	20.8	22 42	-24 55	1.324	0.448	128	PsA	25	75
2019-10-21	20.8	22 35	-25 01	1.281	0.431	122	PsA	25	75
2019-10-26	20.8	22 30	-24 51	1.239	0.415	116	Aqr	25	75
2019-10-31	20.8	22 25	-24 26	1.198	0.399	111	Aqr	26	73
2019-11-05	20.7	22 23	-23 46	1.159	0.382	106	Aqr	26	69

New Discoveries, Recoveries and Other Comets in the News

Periodic Comet Numberings – The following comets were numbered in the 2019 August 27 Minor Planet Circulars.

381P/2000 S4 = 2019 K2 (LINEAR-Spacewatch)
382P/2007 R1 = 2019 K3 (Larson)
383P/2006 S1 = 2019 M1 (Christensen)
384P/2014 U2 = 2019 O1 (Kowalski)
385P/2010 U2 = 2019 P1 (Hill)

P/2019 S1 = P/2006 R1 (Siding Spring) Recovery - Pan-STARRS and Gareth Williams (Minor Planet Center) recovered P/2006 R1 (Siding Spring) on September 25 at magnitude 20.4. This

marks the comet's first return on its 13.4-year period orbit since discovery in September 2006. Perihelion is on December 29 at 1.66 au. P/Siding Spring will only brighten to 19th magnitude.

P/2019 R2 = P/2007 T4 (Gibbs) Recovery - H. Sato recovered P/2007 T4 (Gibbs) on September 5 with a 0.43-m f/6.8 astrograph located near Mayhill, New Mexico. The comet was magnitude 18.6 at recovery. P/2007 T4 was discovered by Alex Gibbs with the Catalina Schmidt in October 2007. This time around P/Gibbs reached perihelion on July 23 at 2.01 au. It has likely peaked in brightness. The comet will next reach perihelion in July 2031.

P/2019 R1 = P/2008 Y1 (Boattini) Recovery - In addition to discovering the first confirmed interstellar comet, Gennady Borisov also recovered P/2008 Y1 (Boattini). Borisov recovered this comet on September 2 with his 0.65-m f/1.5 astrograph at a rather bright 15th magnitude. It was originally reported as a new discovery until Gareth Williams (Minor Planet Center) identified it as a return of P/Boattini. The comet reached perihelion on September 6 at 1.27 au. This marks its first return since discovery. Boattini has likely already peaked in brightness.

C/2019 Q3 (PANSTARRS) Discovery - C/2019 Q3 was found by the Pan-STARRS1 telescope on Haleakala, Maui on August 29. At discovery the comet was 21st magnitude and already a year past its 2018 August 20 perihelion. Q3 is a large perihelion long-period comet with perihelion at 7.2 au. At the risk of sounding like a broken record, this comet has also already peaked in brightness.

A/2019 Q2 Discovery - This apparently asteroidal object is on an obvious cometary orbit. A/2019 Q2 was discovered by the ATLAS survey from their Mauna Loa site on August 24 at magnitude 18.8. The object reached perihelion back on July 22 at 1.26 au. It came within 0.43 au of Earth in late August. At that time, it reached a peak brightness of ~17th magnitude. With an absolute magnitude of 18.0 and assumed comet-like albedo of 0.04, A/2019 Q2 may have a diameter of 1.7 km. Its next perihelion passage won't be for ~350 years.

A/2019 Q1 Discovery - A/2019 Q1 is another apparently asteroidal object on a comet-like orbit. Q1 was found by the Mount Lemmon Survey on August 28 at magnitude 20.6. Perihelion won't be till 2020 July 24 when it passes within 4.97 au of the Sun. At that time the object will only have brightened to magnitude 19.5. With an absolute magnitude of 12.5 and assumed comet-like albedo of 0.04, A/2019 Q1 may be a large object with a diameter of ~21 km.

As always, the Comet Section is happy to receive all comet observations, whether textual descriptions, images, drawings, magnitude estimates, or spectra. Please send your observations via email to < carl.hergenrother @ alpo-astronomy.org >. - Carl Hergenrother (ALPO Comet Section Coordinator)

2019 September Magnitude Measurements Contributed to the ALPO Comet Section

Comet Des	YYYY	MM	DD.DD (UT)	Mag	SC	APER	FL	POW T	COMA Dia	COMA DC	TAIL LENG	TAIL PA	ICQ CODE	Observer Name
2019A9	2019	09	03.77	xM 11.5	AQ	40.0L	4	108	1.9	3/			ICQ XX WYA	Christopher Wyatt
2018W2	2019	09	30.19	S 8.4	TK	12.5B		30	4	5			ICQ xx HER02	Carl Hergenrother
2018W2	2019	09	30.15	I[10.1	AC	15.0T		38					ICQ XX*AGUxx	Salvador Aguirre
2018W2	2019	09	28.96	S 8.1	TK	5.0B		10	6	5			ICQ XX GON05	J. J. Gonzalez Suarez
2018W2	2019	09	28.95	S 8.3	TK	10.0B		25	7	4	0.3	20	ICQ XX GON05	J. J. Gonzalez Suarez
2018W2	2019	09	28.94	S 8.6	TK	20.3T	10	77	6	3/	0.2	20	ICQ XX GON05	J. J. Gonzalez Suarez
2018W2	2019	09	24.54	xS 8.7	TK	5.0B		7	13.0	3			ICQ XX WYA	Christopher Wyatt
2018W2	2019	09	23.56	xM 9.5	TK	40.0L	4	59	4.8	6			ICQ XX WYA	Christopher Wyatt
2018W2	2019	09	05.74	xS 10.7	AQ	40.0L	4	59	3.9	3			ICQ XX WYA	Christopher Wyatt
2018W2	2019	09	04.10	S 9.8	TK	20.3T	10	77	6	2/			ICQ XX GON05	J. J. Gonzalez
2018W2	2019	09	03.74	xS 10.8	AQ	40.0L	4	59	3.6	2			ICQ XX WYA	Christopher Wyatt
2018A6	2019	09	24.55	xS 13.9	AQ	40.0L	4	261	1.2	3/			ICQ XX WYA	Christopher Wyatt
2018A6	2019	09	23.58	xS 13.9	AQ	40.0L	4	261	0.5	3			ICQ XX WYA	Christopher Wyatt
2018A6	2019	09	05.71	xM 13.9	AQ	40.0L	4	261	0.5	3			ICQ XX WYA	Christopher Wyatt
2018A6	2019	09	03.76	xM 13.8	AQ	40.0L	4	261	0.9	3/			ICQ XX WYA	Christopher Wyatt
2018N2	2019	09	29.02	S 10.8	TK	20.3T	10	77	3	4			ICQ XX GON05	J. J. Gonzalez Suarez
2018N2	2019	09	29.21	I[11.3	AC	15.0T	10	38					ICQ XX AGUxx	Salvador Aguirre
2018N2	2019	09	24.56	xM 12.5	AQ	40.0L	4	108	1.0	6	4.8m	192	ICQ XX WYA	Christopher Wyatt
2018N2	2019	09	23.57	xM 12.6	AQ	40.0L	4	59	1.6	6	3.7m	193	ICQ XX WYA	Christopher Wyatt
2018N2	2019	09	05.73	xM 12.6	AQ	40.0L	4	108	1.2	6	1.5m	185	ICQ XX WYA	Christopher Wyatt
2018N2	2019	09	04.02	S 11.7	TK	20.3T	10	100	1.5	5			ICQ XX GON05	J. J. Gonzalez
2018N2	2019	09	03.72	xM 12.3	AQ	40.0L	4	108	1.0	6	3.9m	188	ICQ XX WYA	Christopher Wyatt
2017T2	2019	09	29.06	S 9.5	TK	20.3T	10	100	6	2			ICQ XX GON05	J. J. Gonzalez Suarez
2017T2	2019	09	05.76	xM 13.6	AQ	40.0L	4	108	0.9	6	1.5m	228	ICQ XX WYA	Christopher Wyatt
2017T2	2019	09	04.17	S 9.6	TK	20.3T	10	77	6	2			ICQ XX GON05	J. J. Gonzalez
2017T2	2019	09	03.73	xS 13.3	AQ	40.0L	4	108	1.5	5/			ICQ XX WYA	Christopher Wyatt
2017T2	2019	09	01.46	Z 13.4	AQ	10.6R	5a	180	1.7		2.2m	231	ICQ XX RAMaa	Raymond Ramlow
2017B3	2019	09	24.55	xM 14.4	AQ	40.0L	4	108	0.9	6			ICQ XX WYA	Christopher Wyatt
2017B3	2019	09	23.54	xM 14.4	AQ	40.0L	4	108	0.6	6			ICQ XX WYA	Christopher Wyatt
2017B3	2019	09	05.70	xM 14.0	AQ	40.0L	4	108	0.8	5/			ICQ XX WYA	Christopher Wyatt
2017B3	2019	09	03.69	xM 13.8	AQ	40.0L	4	108	1.3	5/			ICQ XX WYA	Christopher Wyatt
29	2019	09	24.53	xS 14.6	AQ	40.0L	4	108	1.0	1/			ICQ XX WYA	Christopher Wyatt
29	2019	09	23.55	xS 14.7	AQ	40.0L	4	108	1.3	1			ICQ XX WYA	Christopher Wyatt
29	2019	09	05.72	xS 14.7	AQ	40.0L	4	108	1.0	1			ICQ XX WYA	Christopher Wyatt
29	2019	09	03.70	xS 14.6	AQ	40.0L	4	108	1.4	1			ICQ XX WYA	Christopher Wyatt
68	2019	09	28.84	S 10.6	TK	20.3T	10	100	3	3			ICQ XX GON05	J. J. Gonzalez Suarez
68	2019	09	24.51	xS 13.5	AQ	40.0L	4	108	1.0	3			ICQ XX WYA	Christopher Wyatt
68	2019	09	23.53	xS 12.7	AQ	40.0L	4	108	1.2	3			ICQ XX WYA	Christopher Wyatt
68	2019	09	03.95	S 10.8	TK	20.3T	10	100	3	3			ICQ XX GON05	J. J. Gonzalez Suarez
260	2019	09	29.04	S 11.2	TK	20.3T	10	100	2	4			ICQ XX GON05	
260	2019	09	24.57	xM 12.6	AQ	40.0L	4	108	0.8	6	3.0m	239	ICQ XX WYA	Christopher Wyatt
260	2019	09	23.59	xM 12.2	AQ	40.0L	4	108	1.0	6	4.0m	238	ICQ XX WYA	Christopher Wyatt
260	2019	09	05.73	xM 12.7	AQ	40.0L	4	59	1.0	6	4.5m	243	ICQ XX WYA	Christopher Wyatt
260	2019	09	04.07	S 11.6	AQ	20.3T	10	133	1.5	4			ICQ XX GON05	J. J. Gonzalez
260	2019	09	03.70	xM 12.7	AQ	40.0L	4	59	1.2	6	2.4m	245	ICQ XX WYA	Christopher Wyatt

Selected 2019 September Images and Sketches Contributed to the ALPO Comet Section

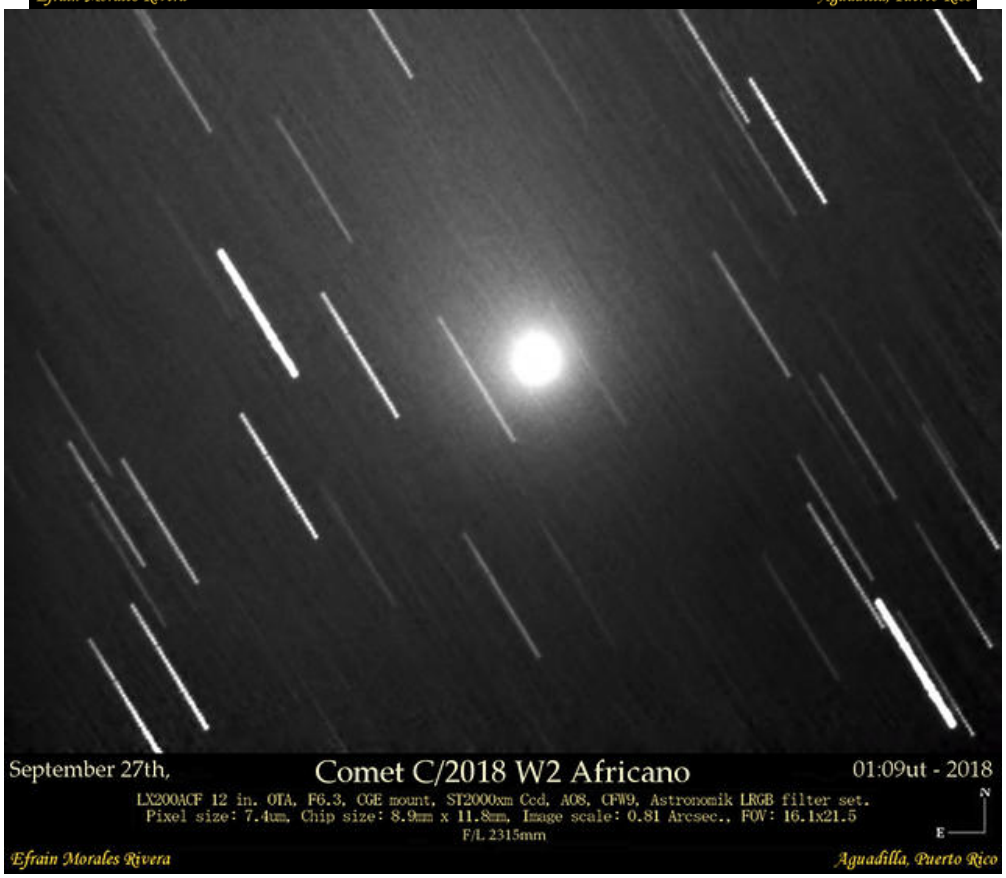
Sketch by Michel Deconinck

Comets 260P (McNaught)
Mewlon 250 CRS f10 - EP 13mm

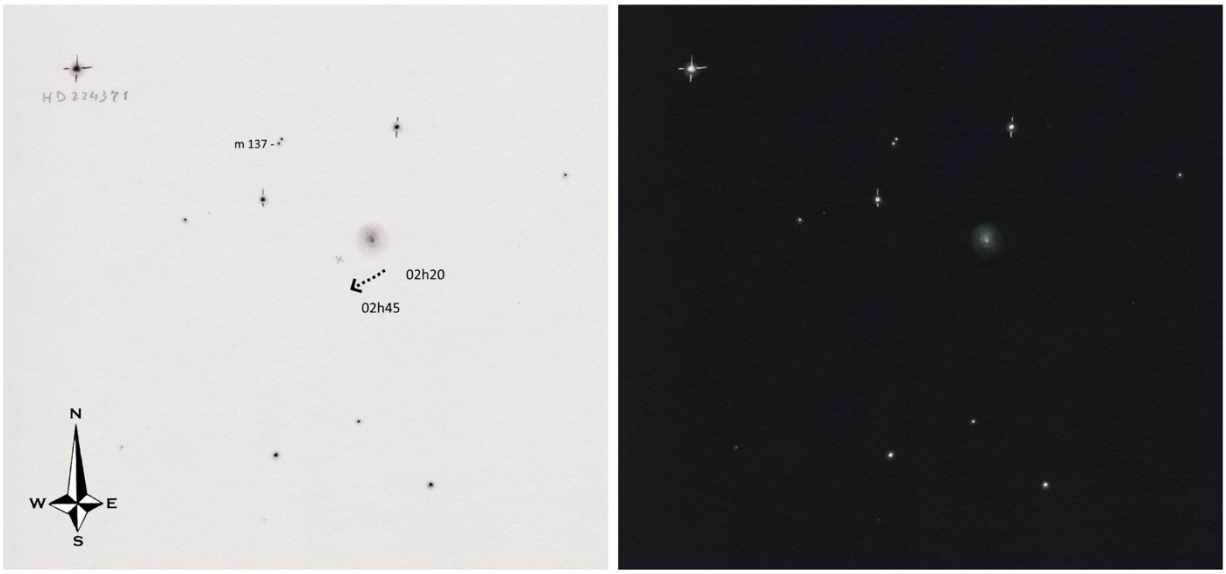
2019/09/27 - 3h17 UTC
F.O.S. 20'

http://astro.aquarellia.com


September 24th,
C/2018 N2 ASASSN
05:19ut - 2019
LX200ACF 12 in. OTA, F6.3, CGE mount, ST2000xm Ccd, AO8, CFW9, Astronomik LRGB filter set.
Pixel size: 7.4um, Chip size: 8.9mm x 11.8mm, Image scale: 0.81 Arcsec., FOV: 16.1x21.5
F/L 2315mm ,14 x 60 sec. Exp.
N
E
Efrain Morales Rivera
Aguadilla, Puerto Rico


September 27th,
Comet C/2018 W2 Africano
01:09ut - 2018
LX200ACF 12 in. OTA, F6.3, CGE mount, ST2000xm Ccd, AO8, CFW9, Astronomik LRGB filter set.
Pixel size: 7.4um, Chip size: 8.9mm x 11.8mm, Image scale: 0.81 Arcsec., FOV: 16.1x21.5
F/L 2315mm
N
E
Efrain Morales Rivera
Aguadilla, Puerto Rico

Sketch by Michel Deconinck



C/2018 W2 (Africano)

2019/09/27 2h20 UT

Mewlon CRS 10" f10 - EP 26mm & 13mm

F.O.S. 35'

http://astro.aquarellia.com


Thomas G Cupillari Observatory
Fleetville, PA
Borg 77mm f/6.62
SBIG ST-i
2019 Sept 18 0:35 02 (mid)UT
C/2018 W2 Africano
24 x 60 seconds
John D Sabia
Keystone College