

ANNUAL REPORT OF THE DIRECTOR
30 SEPTEMBER 1974

Before I present my official annual report as the Director, if I may, I should like to share with you a personal note.

When the Council elected me as your third Director last Fall, I was of course very honored and happy. However I had not fully realized what I was getting into.

The thought of now being in charge of all the responsibilities of the directorship sank in about a week later. When that happened, I have to confess that you had a scared Director, who spent many sleepless nights and had some awful nightmares.

Thankfully, I feel that the above thought has fully sunk in now. I realize what I have on my shoulders and I am trying my best.

My sincere thanks to all of you for accepting and supporting me as your new Director. It was a year of some hard decisions, challenge and maturation. I am confident now that with your support and devotion we can look to the future with high expectations.

It is an honor to present to you my first annual report as the third Director of AAVSO, for the year 1973-74.

As usual the Headquarters was a very busy place this year, as record number of observations from you and requests for AAVSO data from professional astronomers kept pouring in.

The main project of this year was to try to finish Report 30. The listing of all the observations, editing, and computer plotting for them had been done last year. When the light curves were prepared for publication and marks of maxima and minima were being put on the plots, we realized how much time would be saved if this were done by computer. Barbara Welther from Smithsonian Astrophysical Observatory of Center for Astrophysics came to our rescue and improved the plotting program to do just that. The data have now been run using the improved program. All the light curves of Report 30 have been checked and verified and are ready for pasting on large sheets for publication. We hope before long the new report will be in your hands.

Another major job in our data processing has been putting on magnetic tape the published data of Reports 28 and 29. A very efficient program of Smithsonian Astrophysical Observatory has been made available to us by Robert Fitzpatrick to store and use, whenever needed, about 130,000 observations of these two reports, which now occupy only half of one magnetic tape. We have four copies of this tape and for security reasons have placed them in four different locations in Cambridge.

I am happy to announce that we are now entering September 1973 reports on data cards. Along with that, as of April, we have been entering the incoming data each month on computer cards. These cards have then been verified, sorted and listed and the plotting of observations are now being done from these listings.

SPECIAL REQUESTS. As data from wide range of spectrum of light became available through orbiting telescopes, satellites, and rockets, visual data has proven to be vital in order to corre-

late and compare results. We are very proud and happy to be one of the main sources to obtain the visual data.

This year our data on long period variables were particularly in demand due to the infrared findings with orbiting satellites and the water vapor and hydroxyl radio emissions associated with these variables. Particularly α Ceti (Mira) was among the most wanted in the list.

Dr. Stephen P. Maran and his colleagues from NASA requested data on particularly α Ceti, R Aql and also S Ori, S CMi, S Vir and X Oph to correlate with the visual their 2.7 micron findings in the infrared obtained by the Earth-Orbit U.S. Airforce Satellite. Satellite-derived light curves of Mira have enabled them to estimate the phase lag at minimum between the infrared and visual spectrum and have led them to verify an even larger phase lag at maximum light.

Dr. Herbert Kent from AVCO Everett Research Laboratories also requested data on α Ceti and R Leo to correlate the light variability in the infrared, 10μ , with the visual.

Dr. Jean Meeus from Vereniging voor Sterrenkunde in Belgium, needed the exact dates of observed maxima of α Ceti since 1967. The data was essential to him for the 1975 Ephemeris of the Belgium Astronomical Society.

Dr. George Wallerstein from the University of Washington has been monitoring long period variables spectroscopically the past four years. He requested the dates of maxima and minima from 1969 to the present of 21 mostly long period and some semiregular variables. He wrote, "Your data will be very helpful to us in analyzing our long period variable material". The above data were supplied to him. Later he requested further data on U Ori for 1958, 1959, 1963 and 1964 and the dates of deep minima and primary maxima of RV Tauri type variable AC Her.

Dr. Bodil E. Helt from the University Observatory in Denmark has been working on narrow-band photoelectric data on M spectral class stars. He requested information on the phase and behavior of RS Cnc in 1964 in order to determine whether the variable was in phase with the emission lines, including the H γ line.

Cynthia E. Irvine, a graduate student from Case Western Reserve University needed extensive visual data of about 70 long period and semiregular variables in order to determine the phases of these stars at the time of her spectroscopic observations. Data on 66 of these variables were supplied to her. She was grateful to the AAVSO for these data which enabled her to complete the analysis for her Ph.D. thesis.

Another graduate student Robert Wojslow from Indiana University wrote, "Many astronomers at I.U. find your observations to be an essential aid in their work". He requested visual magnitudes of S class star, R Cyg in July and September 1964. From this and other data he later found the relation in which the premaximum emission line radial velocities strongly correlate with magnitude, independent of both phase and height of maxima. This made him want to determine if this relationship holds for other variables and thus recently requested data that go back to the 1930's on 7 LPV's. We were very happy to be able to furnish him with data on 5 of these stars.

Dr. Patrick Henry from the University of California called to ask the behavior of RX And, and U Gem on February 10, 1973 and SY Cyg, TU Leo and KT Per on February 9, 1973. We had observations on those dates and were happy to supply him the information.

Dr. Peter Wehringer of Wise Observatory in Israel requested magnitudes on R Cyg for September 1972 and light curves of TX Cyg for 1973 to correlate his spectroscopic findings. Particularly TX Cygni had shown peculiar spectroscopic activity at minimum. Unfortunately we did not have much data on this long period variable at minimum since it goes down to about 16. However, we have alerted our observers with large telescopes to keep an eye on it especially around minimum.

Drs. Susan Wyckoff and Peter Wehringer are monitoring long period variables spectroscopically to study the spectral variations in them, particularly at minimum light. They, like many other astronomers, indicated that our predictions of maxima and minima dates of long period variables were vital for their observing program.

Şenel Yıldızoğlu from Istanbul University in Turkey has been studying the two symbiotic stars, CI Cyg and Z And spectroscopically, and requested AAVSO light curves on them. She was very happy and nicely surprised, she later wrote, to receive the data and a note in Turkish accompanying it from the AAVSO.

U Gem is one of the most fascinating variables on our observing program, due to its eclipses of varying shapes in addition to its alternating wide and narrow outbursts. Dr. George Mumford from Tufts University requested the dates of outbursts of U Gem since 1970.

Dr. James McLinn of the University of Minnesota requested the light curve of V Hya from 1890 to the present and dates of most recent minima and periods of 12 long period variables and 5 semiregulars.

Dr. Susan Kleinman of M.I.T. who has been doing extensive research in the infrared, has been very interested in our visual light curves of novae. Recently she requested data on seven novae, to correlate the IR findings and guide her in the future observations.

From National Research Council of Canada, Dr. Anne Cowley's spectroscopic observations indicated X Per to be a binary with a period of several years. She requested the AAVSO light curve on this Orion variable to determine whether spectral changes are related to changes in the optical magnitudes.

Dr. Zdenek Urban from the Astronomical Institute of the Czechoslovak Academy of Sciences, is working on the stillstands in the light curve of Z Cam. He was interested in the long term observational data on this variable for statistical analysis; we were very happy to supply him data from discovery to present on this interesting variable.

Dr. Allen Levine from M.I.T. has obtained data on U Gem type stars with the Orbiting Astronomical Observatory. He had received negative data on KT Per, SS Aur, SY Gem, U Gem and SV Cnc on October 11, 1972. He wanted to correlate his data with the visual. Our light curves showed no outbursts for this date on the above stars which helped to explain the reason for his negative results.

Our member Horace Smith, a graduate student from Yale University, requested the light curve of S Per from discovery in 1880 to present, to determine if this semiregular variable had any favorite periods. His power spectrum analysis indicated that in fact S Per does favor the 825^d and 940^d periods.

Besides the above we had various special and urgent requests for observations from astronomers on a number of stars. In such cases alert notices were sent to those AAVSO observers who could observe these stars. The response from our

observers was very satisfactory and the data was gratefully accepted.

The special requests for observations came from Dr. Francis A'hern of David Dunlap Observatory for recent data from January to June 1974 on SS Cyg and V1016 Cyg. He wanted to use the visual data as a guide in his forthcoming radio observations. It just happened that two days before the expected radio-runs SS Cyg went up. Our observers caught the outburst and Dr. A'hern was notified. He was much delighted and thankful.

Dr. Herbig who is one of the leading authorities on T-Tauri type stars placed a standing request for AAVSO'ers to keep an eye on T Tau, UZ Tau and EX Lup and he asked to be notified when T Tau got fainter, EX Lup and UZ Tau brightened. Particularly UZ Tau is a remarkable star with several novalike flares, he is very much interested to get a spectrum at that time. This star was bright in March and he expects another brightening as in 1921, when it had a double max.

Recently Dr. Allen Levine and his colleagues from M.I.T. placed another special request to observe Z Cam, SU UMa, SW UMa, SS Aur, SY Gem and U Gem, before, during and after their rocket flights in late November. An alert notice will be sent out to observers for this request.

Our member David Florkowski, a graduate student from the University of Florida placed a special request to our observers, through John Bortle, our editor of the Circular, for data on Z Cam and o Cet, before and during his radio observations in August at National Radio Astronomy Observatory. Our observers kept a very close eye on them and kept me informed of their behavior which in turn he was informed before and during his runs. Both variables were fading.

As you can see we are getting a very large number of requests for our data. In order to give accurate and complete information on the recent activities of particularly eruptive variables, I urge observers to let Headquarters know of any significant or unusual activity on these variables, as soon as they observe them. Also reports should be sent to HQ as soon as possible each month.

I am very happy to report that our committee chairmen have answered many requests for information about their committees. Particularly, Marvin Baldwin has supplied a large number of valuable data to professionals and members who are working with eclipsing binaries or RR Lyrae stars. My sincere thanks to him and all other chairmen.

We are very happy to see how much in demand our data is, and that we can supply data for all the requests we get. It is your observations, efforts, interest, perseverance and patience that make this possible. Heartfelt thanks go to you, our observers.

MEMBERSHIP. During the 1973-74 year we elected 125 new Annual members and 3 new Sustaining: Gerald E. Butler, James E. Elliot and Robert B. Trombley. In addition, six Annual members changed to Sustaining: Greg Derise, George L. Fortier, John S. Kruszka, Harold J. Stelzar, Robert S. Thompson and Thomas R. Williams. We were saddened by the deaths of eight of our members: Robert J. Davis, Art Gonthier, Sigeru Kanda, Alvin R. Klann, William M. Lindley, Henri Simard, Joseph M. Stegelman, George Van Biesbroeck.

PUBLICATIONS. Vol. 2, No. 2 of the Journal, edited by Dr. William H. Glenn was published the past year. Vol. 3, No. 1 has been delayed partly due to the fact that our Spring Meeting was held about one month later this year. We hope it will be in your hands shortly.

The AAVSO Circular continues to be edited and published by John Bortle, Wayne Lowder and Charles Scovil. Although it does not contain official results from Headquarters, it serves a very useful purpose in giving some indication of the activity of the eruptive variables to the observers at an early date. The list of stars that need more observations was given each month beginning February under The Director's Request in the Circular. This has helped significantly in getting more observations on those stars. A significant number of observers do try to observe at least one star from these lists.

Predicted dates of maxima and minima for 1974 were published in Bulletin 37 along with a Supplement that contains a complete list of stars that are in need of more observations. The stars appearing under The Director's Request in the Circular are mostly from this list.

Based on the Predictions we also published Bulletin 37-A prepared by C.B. Ford, graphically showing when variables were going to be fainter than 13 magnitude and Bulletin 37-B compiled by Wayne Lowder and typed by Florence Bibber at Headquarters showing when they would be brighter than 11.

Special Predictions for some bright variables for the Observers Handbook 1974 of R.A.S.C. and Sky and Telescope, each month were prepared and published.

Also in the Journal of R.A.S.C. Variable Star Notes were published bi-monthly. This year these are on the peculiarities in the AAVSO light curves of LPV's and novae; the behavior of SS Cygni and other U Gem and Z Cam stars; light curves of the recent minima of SU Tau and the outbursts of V1017 Sgr; Annual and Spring Meeting reports and recently an informative article on Nova Search Committee, written by Carmine Borzelli, the Chairman. Along with these articles; the monthly totals of the observations of each observer are listed.

Bulletins and Ephemerides of Eclipsing Binaries and RR Lyrae Stars prepared by Marvin Baldwin and Donald Livingston were published and mailed out to observers bi-monthly.

Solar Bulletins containing notes on solar activity and data on solar flares were published by Casper Hossfield, the Chairman and edited by Carolyn Hurless.

We have recently computerized our membership list. Xerox copies of this year's list will be sent to members upon request for their use only, and for a small fee to cover xerox and postage expenses.

We have received about 400 requests for information about the AAVSO this year. Quite a number of these come from High Schools and Colleges that want to set up an observing program and are interested in variable star observing. We were very happy to send each of them "information kit" which contains a short description of AAVSO activities, list of useful books and atlases for observing, and a Manual for Observing Variables to those who are seriously interested.

ANNUAL SUMMARY OF OBSERVATIONS: We received 1863 reports from 339 observers from 40 States and 23 Countries. 55 observers sent a report for each of the 12 months, 13 missed only one, and 23 missed two months. Annual observations for this year

total an all time record of 152,232. This brings our grand total to 3,398,971 observations.

Table I lists the 23 countries of our contributing observers, and Table II lists the 40 States in the USA. The list of all the observers who contributed in the fiscal year of 1973-74 is given in Table III. This is an alphabetical list giving the observing initials, the name, and geographical location of the contributor; his total number of observations followed by the number of "Inner Sanctum" observations.

This year 17 observers had observations between 1000 and 2000 each; 11 between 2000 and 3000; T. Cragg, C. Hurless, R. Lukas, P. Madden, D. Overbeek, C. Scovil, B. Small, had between 3000 and 4000, each; W. Lowder made 4297 and L. Hiatt 4876; E. Mayer was third runner up with 5102 observations; U. Surawski the second with 5419 and U. Hopp the top observer with 6140 observations. Ernst Mayer who specializes in observing faint and hard to observe variables had the greatest inner sanctum observations of 1781, followed by C. Scovil with 1561, and T. Cragg 839. Howard Landis contributed photoelectric observations and H. Specht and C. Scovil photometric work.

Although I am very pleased with the totals, I have the feeling that some of the observers are striving for quantity rather than quality. Some of our top observers of this year have been observing bright LPV's night after night. One has built his totals up by sending his last fiscal year's observations.

I should like to bring to your attention once again that what counts is not quantity but quality.

GIFTS: Our late member George Van Biesbroeck shortly before his death expressed his desire to donate his 8" reflector telescope to the AAVSO. This telescope has recently been sent to the AAVSO by Van Biesbroeck's daughter, Mrs. Micheline Wilson. We are very moved that we were remembered by our devoted member this way and are grateful for the donation. The telescope has been left under the custody of Mike and myself to confirm and verify observations and make them whenever possible.

Our special thanks go to Clinton B. Ford for his very generous grant which made it possible to undertake the AAVSO Atlas Project. Many thanks to Margaret and Newton Mayall for their generous contribution to print the forthcoming Report 30.

Our thanks to Dr. Richard McCrosky, the Director of Agassiz Station of Harvard Observatory who donated about 200 copies of Variable Stars, by C.P. and S. Gaposchkin and several copies of old AAVSO Quarterlies to be added to our book sale.

PERSONNEL: My special thanks to Margaret Mayall who has been most encouraging and always ready and willing to help me in every way possible to make the transition of this astronomically big responsibility as smooth as possible. It is very fortunate that she could be at HQ full time through the first part of the year and part time now.

Our AAVSO assistant Florence Bibber continues to be an indispensable help at HQ, with her devotion and continuous energy.

During the year we had several part time students who helped us with the keypunching. Our main projects are usually accomplished in the summer. We were very happy to have Richard Strazdas from M.I.T., Robert Hill from Harvard and Nathan Cohen from Brandeis University as our summer assistants who performed excellently in entering data on cards, verifying, plotting, com-

puterizing membership list and helping with Report 30. Debbie Ross, who is a fourth generation Campbell was with us part time and was a big help with office work.

I am happy to announce an addition to our full time staff. Our member Carl Ericsson will be with us this year. He is very conscientious, hard working and very interested in variable star astronomy.

Our special thanks to Smithsonian Astrophysical Observatory of Center for Astrophysics for allowing time to the AAVSO on their computer and to Owen Gingerich for making this possible and for always supporting the AAVSO, to Barbara Welther for her continuous help in improving and revising our computer programs.

My heartfelt thanks go to my husband for all the help and encouragement he has given me. It is not easy to put up with a director as a wife, I think.

To all the officers, committee chairmen, members and observers, my sincerest thanks to you all for your astronomical and financial contributions.

Respectfully submitted,

Janet Akyüz Mattei

TABLE I - COUNTRIES

Country	No. Observers	Total Obs.	Country	No. Observers	Total Obs.
Argentina	3	2555	Mexico	4	2222
Australia	4	431	Norway	6	262
Austria	1	88	Rhodesia	1	244
Brazil	2	318	South Africa	3	3603
Canada	17	5802	Sweden	1	23
Czechoslovakia	1	51	Switzerland	2	1826
France	1	271	Taiwan	1	4
German Dem. Rep.	2	1252	United Kingdom	12	3929
Greece	2	1026	U.S.A.	230	97095
Hungary	22	3794	Uruguay	1	251
Italy	3	676	Venezuela	1	61
Japan	3	764	West Germany	16	25684
			TOTAL	339	152232

TABLE II - UNITED STATES

	No. Observers	Total Obs.		No. Observers	Total Obs.
Arizona (AZ)	5	303	Montana (MT)	1	50
California (CA)	22	13291	Nebraska (NE)	2	404
Connecticut (CT)	16	8491	New Hampshire (NH)	2	22
Colorado (CO)	2	1214	New Jersey (NJ)	9	2448
Delaware (DE)	1	53	New Mexico (NM)	4	409
Florida (FL)	13	11109	New York (NY)	17	12638
Georgia (GA)	1	58	North Carolina (NC)	6	324
Hawaii (HI)	1	22	North Dakota (ND)	1	137
Idaho (ID)	1	8	Ohio (OH)	27	12748
Illinois (IL)	9	579	Oregon (OR)	5	551
Indiana (IN)	3	77	Pennsylvania (PA)	10	2306
Iowa (IA)	3	348	South Carolina (SC)	4	365
Kansas (KS)	3	1603	Tennessee (TN)	3	437
Louisiana (LA)	2	3070	Texas (TX)	10	1290
Maine (ME)	2	538	Utah (UT)	1	12
Maryland (MD)	6	2595	Vermont (VT)	1	9
Massachusetts (MA)	8	1484	Virginia (VA)	6	7520
Michigan (MI)	5	1959	Washington (WA)	2	455
Minnesota (MN)	4	711	West Virginia (WV)	1	1537
Missouri (MO)	5	2602	Wisconsin (WI)	6	3318
			TOTAL	230	97095

TABLE III - AAVSO OBSERVERS 1973-74

ADA G.L. Adamoli, Italy	424		DV G. Davidson, KS	443	
ADJ J.E. Adams, NJ	408		DAV H.H. Davis, Canada	15	
AD R.M. Adams, MO	1923-	409	DAJ J. Davis, MD	22	
ADW W. Adams, CT	17		DAR R.J. Davis, OH	164	
AH P. Ahnert, Ger.Dem Rep.	415		DEL A.S. DeLaurentis, FL	5	
ALP P.S.R. Alonso, Brazil	59		DEA R. DeMartino, CT	60-	2
AJ J.A. Anderer, IL	95		DRG R. Diethelm, Switz.	899-	13
AC C.E. Anderson, MN	639-	1	DIL W.G. Dillon, VA	187	
AJR J.R. Anderson, OH	309-	3	DRA A.V. Dralle, PA	113	
ANN R.J. Annal, CA	2878-	162	DRU R. Druker, NJ	102	
ARI R.B. Ariail, SC	232-	2	DUM M.K. Dudman, Australia	97	
ATW P.F. Atwood, CT	68		EG G. East, MA	153	
BAI J.A. Bailey, U.K.	124		ECK C. Eckert, W. Germany	928-	13
BEY G.D. Bailey, SC	45		EDG B.J. Edgerton, MA	10-	4
BM M.E. Baldwin, IN	1877		EGA A. Egri, Hungary	77	
BRM R.M. Bales, OR	18		FAN J. Fanson, WI	1	
BJ J. Banks, NC	50		FRW W.B. Farrar, VA	411	
BAK K.P. Barr, KS	7		FEN A. Fenyvesi, Hungary	375	
BBS R. Bass, TX	3		FEH H. Ferguson, NH	11	
BTT L.G. Battin, IN	2		FE C.F. Fernald, FL	260	
BAU J. Bauer, W. Germany	2045-	25	FER Y.A. Fernandez, Uruguay	251-	10
BUJ J.H. Baumert, NC	33-	5	FIK K.W. Fickle, IN	30	
BBA B.B. Beaman, IL	100		FD C.B. Ford, CT	2322-	640
BED D.F. Beard, MD	10		FT G.L. Fortier, Canada	76	
BKO R.L. Beck, Canada	12		FOW M. Fowler, IA	17	
BET C.D. Bertwell, ID	8		FRB B.M. Frank, MN	7	
BIL G. Bilodeau, CA	287-	153	FN D. Friedman, CA	42	
BKN A. Birkner, IL	20		FRI L.A. Frigon, CA	328-	11
BSV S.V. Bishop, OH	9		FR E.E. Friton, MO	75	
BZZ M.R. Blizzard, OR	5		GAB B. Gabor, Hungary	24	
BLO A. Blouch, PA	7		GAD D. Galdun, OH	16	
BLU B. Blundell, NY	5		GAJ J.R. Garcia, Argentina	270	
BOH D. Böhme, Ger.Dem.Rep.	837		GAP P. Garnavich, MD	187	
BOO P. Borovszky, Hungary	10		GSR R. Geschwind, OH	74	
BRJ J.E. Bortle, NY	2509-	271	GLF F. Glenn, NY	446-	1
BRD R.M. Braid, IL	34		GLW W. Glenn, NY	468	
BMS P.J. Bremseth, Norway	203		GLG G.W. Gliba, OH	196	
BNN T. Brenner, NH	11		GNC C. Gondell, Argentina	90	
BRH D. Brown, OH	151		GAS E.R. Grasshoff, TX	304	
BRT T. Brown, AZ	1128		GRB B. Grenig, OH	2	
BRY J.T. Bryan, NE	356-	70	GRI J.W. Griesé, CT	318-	100
BUO A.T. Bueno, CA	1536-	32	HK E.A. Halbach, WI	1326-	122
BUW R. Buhrow, AZ	4		HMR R. Ham, CO	1199	
BMO R. Burnham, Canada	8		HP W.R. Hampton, CT	56	
BTA R.J. Buta, OH	39-	3	HAN J. Hannon, CT	122	
CRL M. Carlsson, Sweden	23		HRR P. Harrington, CT	153	
CF F. Chapman, NY	3		HAT P.M. Hartigan, MN	45	
CHC J. Chesman, NY	27		HRW W. Hartmann, W.Germany	34	
CHM M. Chesman, NY	27		HRJ J. Harvin, FL	182	
CKE K.E. Chilton, Canada	15		HZL L. Hazel, NY	1289-	385
CHI R. Chipman, MA	16-	6	HY A.S. Heasley, OH	84-	1
CHP D.P. Christensen, OR	14		HEE E. Heiser, W.Germany	691-	34
CST G.J. Christensen, OR	508		HNG G.W. Henry, OH	83-	2
CHS J. Christensen, OR	6		HED D. Hensel, W.Germany	5	
CHU D. Church, IL	2		HEH H. Hernandez C., Mexico	19	
CLL S. Clancy, NM	1		HEJ J. Hernandez C., Mexico	29	
CLK W. Clark, MO	50		HER J. Hernandez O., Mexico	2	
COH N. Cohen, MA	1		HEV Z. Hevesi, Hungary	228	
CNS M.G. Connors, Canada	18		HE L. Hiett, VA	4876	
COO L.M. Cook, TX	239		HIL R.L. Hill, NC	17	
CRN D. Cortner, TN	26		HIR Y. Hirasawa, Japan	310	
CSD D. Costanzo, VA	217		HDG R. Hodgson, IA	72	
CR T.A. Cragg, CA	3870-	839	HLC C. Holton, ME	1	
CSG G. Csapó, Hungary	63		HOP U. Hopp, W.Germany	6140	
CUN D. Cunningham, Canada	18		HRB P.W. Hornby, U.K.	46	
CRY J.D. Currie, OH	116		HSF C. Hossfield, NJ	44	
DLT J.E. Dalton, CT	51		HOS R. Hossfield, MA	14	
DS J.M.L. daSilva, Brazil	259		HOU D. Hough, NJ	58	

TABLE III, AAVSO OBSERVERS - cont.

HU	W.S. Houston, CT	22		MEN	P.T. Menoher, CT	367	
HOW	I.D. Howarth, U.K.	2019-	678	MEZ	C. Mezosi, Hungary	534	
HBE	E. Hubbard, MI	18		MOH	G. Mohacsi, Hungary	26	
HUK	K.C. Huber, IL	20		MOR	R.L. Monske, PA	717	
HR	C.J. Hurless, OH	3668-	810	MNG	G. Montag, CA	12	
HUR	G.M. Hurst, U.K.	38-	1	MJ	A.C. Montague, MI	1607-	18
ING	S.F. Ingate, Australia	76		MAJ	A.J. Morehouse, MI	7	pg
ISH	T. Ishihara, Japan	442		MM	F.P. Morgan, Canada	244	
ITO	M. Ito, Japan	12		MOJ	J.E. Morgan, AZ	42-	1
JCK	A. Jackson, OH	4		MRR	C.S. Morris, MI	64	
JEN	C. Jenkins, S.Africa	292-	6	MB	A. Morrisby, Rhodesia	244	
JOG	G.E. Johnson, MD	139		MRO	P.D. Morrison, MA	931	
JT	R.B. Johnston, Canada	345		MUN	C.R. Munford, U.K.	50	
JNM	M.I. Jones, TX	59-	7	MUR	P. Murn, WI	1301-	115
JOR	R. Jones, CA	73-	48	MUM	M.J. Murphy, NM	162	
JRD	D. Jordahl, PA	496		NEW	M.V. Newberry, MI	263-	2
JUH	T. Juhász, Hungary	902		NIC	M. Nichols, NC	2	
KEL	A. Keil, W.Germany	15		NBY	J. Nordby, ND	137	
KLY	G.W. Kelley, VA	1443-	77	OF	A. Oberstatter, France	271	
KIM	M. Kiehl, W.Germany	1800		OCN	S.D. O'Connor, Canada	1291	
KIR	P.E. Kirby, OH	451		OLJ	J. Olsen, Norway	4	
KBS	H.T. Kirby-Smith, NC	203		OME	S. O'Meara, MA	6	
KIG	V.G. Kiszal, Hungary	5		OV	E.G. Oravec, NY	2937	
KLK	K. Kleibert, W.Germany	829		ORO	R. Orr, FL	168	
KPL	P. Kniepp, LA	67		ORW	R.W. Ortel, VT	9	
KPP	P. Knupp, MT	50		OB	M. Overbeek, S.Africa	3160-	84
KOE	E. Kohalmi, Hungary	22		PAS	S. Padilla	288	
KHJ	H.J. Koller, Canada	232		PKJ	J.A. Parker, TX	30	
KRD	T.N. Kridlo, PA	2		PSP	P.F. Pastore, NY	46	
KIS	G. Krisch, W.Germany	900		PAA	A.M. Pattee, NY	16	
KRK	K.L. Krisciunas, IL	222-	1	PAR	R.H. Patterson, NY	61-	1
KRO	B. Krobusek, OH	236-	1	PN	A.E. Pearlmutter, MA	353	
KRU	J. Kruta, Czechoslovakia	51		PTI	N. Peattie, CA	85	
KWD	C.F. Kwadrat, PA	66		P	L. Peltier, OH	1319-	325
LND	H.J. Landis, GA	58	PEP	PEZ	C. Pezzarossa, Italy	145	
LGH	H.A. Lange, Canada	394		PFF	G. Pfeiffer, W.Germany	1970	
LAT	L.J. Latzel, NE	48-	1	POK	A.K. Porter, U.K.	222-	1
LUT	T.R. Lauer, NJ	295		PFJ	F.J. Price, NY	114	
LAW	P. Lawrence, OH	51-	3	PRI	L.H. Price, HI	22	
LWS	M. Lawson, TX	5-	1	PTF	K.E. Ptacek, OH	17	
LEI	T. Leigh, CA	13		PUT	R. Putnam, CA	29	
LMA	D. Lemay, Canada	72		PYE	D.W. Pye, U.K.	244-	167
LEK	R. Lervik, Norway	32		REH	D. Rehner, OH	45	
LEV	A.J. LeVeque, CA	72		RNT	C.C. Reinhart, OH	18-	2
LVY	D.H. Levy, Canada	4		RNN	T. Renner, WI	625-	55
LWC	C.W. Lewis, NJ	323		ROM	J. Romanucci, CA	68	
LNB	G.G. Lindbloom, PA	776		RMI	C. Romoli, Italy	107	
LK	K. Locher, Switzerland	927-	38	RB	D.W. Rosebrugh, FL	863	
LX	W.M. Lowder, NY	4297-	1	RST	A. Rostás, Hungary	2	
LOW	J.K. Lown, VA	386		RR	R.E. Royer, CA	144-	26
LS	D. Lucas, OH	141-	12	RPH	H. Rumball-Petre, CA	35	
LKS	R. Lukas, W.Germany	3029		RYA	A. Ryan, Norway	8	
MAI	I. Maczinko, Hungary	2		SNL	J.G. Sandel, SC	82	
MDD	P.J. Madden, LA	3003-	9	SAW	D.R.B. Saw, U.K.	806-	179
MAN	C.P. Mahnkey, Mexico	2172		SCC	J.D. Scarl, NJ	12	
MLT	T. Mallama, OH	4		SHU	E. Schauer, W.Germany	61	
MCO	M. Marcario, CA	217-	22	SLG	R. Schlesinger, NY	28	
MAS	A. Marosi, Hungary	6		SHJ	J. Schmidt, Hungary	255	
MRX	H. Marx, W.Germany	1543		SDM	E.J. Schwendeman, PA	21	
MSY	P. Massey, CA	19		SWI	M.T. Schwitters, CO	15	
MIE	R. Mathieu, DE	53		SCE	C.E. Scovil, CT	3727-	1561 P
MAT	M. Matson, TX	2		SEE	E. Seifert, AZ	74	
MTZ	O. Matzek, Austria	88		SDA	D. Sharpe, FL	105-	1
MYR	E.H. Mayer, OH	5102-	1781	SHS	S.B. Sharpe, Canada	2671-	1
MCB	R. McCallum, Canada	171		SSA	A.P. Sharpless, FL	97	
MOM	M. McConnell, NY	186		SHC	C.A. Shelley, UT	12	
MCI	B.J. McInnerny, U.K.	159		SRC	R. Shinkfield, Australia	200	
MED	K.J. Medway, U.K.	50		SKL	K. Simmons, FL	558	

TABLE III, AAVSO OBSERVERS - cont.

SPN A.P. Simpson, NM	238-	2	TOA A. Toth, Hungary	8	
SLB B.F. Small, FL	3926		TOI I. Toth, Hungary	9	
SMI A.L. Smith, U.K.	123-	6	TWN A.W. Townsend, TN	398	
SHA H.A. Smith, CT	902		TFN F.N. Traynor, Australia	58	
SJ J.R. Smith, TX	375-	85	TRO O. Trondal, Norway	1	
STL M.B. Smith, NM	8		TUC C. Turk, S.Africa	151	
SOU R.G. Southwick, WA	425		TYS R.L. Tyson, NY	179	
SPA G.H. Spalding, U.K.	48		UJV A. Ujvárosy, Hungary	4	
SH H.E.M. Specht, CT	61	pg	UND E. Underhay, CA	253	
SPO J. Spongsveen, Norway	14		VAM M. Vattuone, Argentina	2195	
STR R.H. Stanton, CA	56-	28	VIS G. Visocki, IL	36	
STU W.E. Staruk, CT	244-	6	WLL H.J. Walls, TX	270	
STI P.C. Steffey, CA	2875		WRT T. Ward, OH	78	
SET C. Stephan, OH	369		WRN R. Warden, PA	72-	2
STF G. Stephanopoulos, Gr.	979		WBD D.F. Weber, OH	2	
SDJ D.J. Stevens, SC	6		WEB J.W. Weber, WA	30	
STQ N. Stoikidis, Greece	47		WER R.J. Weber, KS	1153-	1
STO P.M. Stone, MO	68		WHE W.C. Wheeler, CT	1	
SU M.C.P. Su, Taiwan	4		WNS D. Weins, MN	20	
SUL C.E. Sullivan, MD	360		WI D.B. Williams, IL	50	
SUR U. Surawski, W.Germany	5419		WLM T.R. Williams, NJ	616	
SUS D. Süssman, W.Germany	275		WJA J.A. Wilson, MO	486	
SVN P. Sventek, ME	537		WSN T.W. Wilson, WV	1537-	21
SZC B. Szentmartoni, Hungary	12		WNB B. Wingate, NJ	590	
SZJ J. Szewczak, NC	19		WTN B.C. Witten, AZ	55-	1
SZO E. Szoboszlai, Hungary	13		WOS D. Wolters, FL	16	
SBO Z. Szoboszlai, Hungary	3		WOW W.P. Worzel, TX	3	
TVN V. Tangney, WI	32-	1	YEL T. Yelin, CA	103	
TRY M.J. Taylor, FL	2099		YOU K. Young, IA	259	
TAY P.O. Taylor, FL	2312		YON R.R. Young, PA	36	
THF F.O. Thomas, IN	45		ZAF J. Zaffi, Venezuela	61	
THM J.V. Thomas, TN	13		ZAG G. Zajacz, Hungary	1214	
TPR R.R. Thompson, Canada	216		ZT R. Zit, WN	33	
THS R.S. Thompson, FL	518				