

New Variable Stars in Lacerta: Area of $2^{\circ}.3 \times 2^{\circ}.3$, Centered at $\alpha=22^{\text{h}}50^{\text{m}}$, $\delta=50^{\circ}00'$ (2000.0). Part III.

[E. G. Lapukhin](#)^{#1}, [S. A. Veselkov](#)^{#1}, [A. M. Zubareva](#)^{#2,3}, [E. D. Starovoi](#)^{#1}, [I. V. Kolbasina](#)^{#1}

#1. Siberian State Aerospace University, Krasnoyarsk, Russia;

#2. Institute of Astronomy, Russian Academy of Sciences, Moscow, Russia;

#3. Sternberg Astronomical Institute, Lomonosov Moscow State University, Moscow, Russia

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(E-mail for contact: slovoktk@mail.ru)

#	Name	Other	Coord (J2000)	Type	Max	Min	System	Period	Epoch (JD)	type	Sp	Comment	L.Curve	Find.Chart	Data
1		USNO-A2.0 1350-17459316	22 51 55.23, +50 03 36.9	EA	16.1	16.8		1.6598	2455824.559	Min		Comm. 1	lc2251.png	ch_2251.png	out2251.txt
2		USNO-A2.0 1350-17462675	22 52 02.51, +48 59 03.2	EW	15.45	15.81		0.41099	2455790.752	Min		Comm. 2	lc00830.png	ch_00830.png	out00830.txt
3		USNO-A2.0 1350-17469822	22 52 18.35, +50 47 22.9	EA	15.23	16.10		1.3944	2455818.724	Min		Comm. 3	lc27665.png	ch_27665.png	out27665.txt
4		USNO-A2.0 1350-17476147	22 52 32.04, +48 55 17.8	EW	14.45	14.64		0.25489	2455835.098	Min		Comm. 4	lc49386.png	ch_49386.png	out49386.txt
5		USNO-A2.0 1350-17476709	22 52 33.28, +50 50 51.1	EW	13.88	14.24		0.43732	2455829.130	Min		Comm. 5	lc26989.png	ch_26989.png	out26989.txt
6		USNO-A2.0 1350-17479069	22 52 38.31, +48 53 34.8	LB:	12.85	13.11:				other		Comm. 6	lc61599.png	ch_61599.png	out61599.txt
7		USNO-A2.0 1350-17479767	22 52 39.83, +49 59 20.6	EW	11.95	12.09		0.41560	2455800.081	Min		Comm. 7	lc42835.png	ch_42835.png	out42835.txt
8		USNO-A2.0 1350-17481302	22 52 43.27, +50 29 09.9	LB	12.68	12.85				other		Comm. 8	lc31695.png	ch_31695.png	out31695.txt
9		USNO-A2.0 1350-17481388	22 52 43.47, +50 32 54.2	DSCTC	12.78	12.81		0.07990	2455795.263	Max			lc30883.png	ch_30883.png	out30883.txt
10		USNO-A2.0 1350-17481809	22 52 44.50, +50 46 38.6	EW	14.02	14.26		0.49640	2455819.377	Min		Comm. 10	lc27872.png	ch_27872.png	out27872.txt
11		USNO-A2.0 1350-17481943	22 52 44.81, +50 31 36.3	BY:	13.71	13.76		0.82559:		Max		Comm. 11	lc31097.png	ch_31097.png	out31097.txt
12		USNO-A2.0 1350-17483211	22 52 47.55, +50 27 39.5	DSCTC	12.74	12.77		0.113953	2455828.185	Max			lc31997.png	ch_31997.png	out31997.txt
13		USNO-A2.0 1350-17485503	22 52 52.45, +51 05 51.3	EA	13.46	13.55		5.032:	2455820.32	Min			lc44317.png	ch_44317.png	out44317.txt
14		USNO-A2.0 1350-17486565	22 52 54.89, +49 22 02.6	HADS	12.24	12.44		0.128294	2455821.118	Max			lc42388.png	ch_42388.png	out42388.txt
15		USNO-A2.0 1350-17488242	22 52 58.56, +49 24 11.4	L	12.87	12.92				other		Comm. 15	lc06115.png	ch_06115.png	out06115.txt
16		USNO-A2.0 1350-17491180	22 53 05.18, +50 19 11.4	EW	15.62	16.06		0.53008	2455822.141	Min		Comm. 16	lc24002.png	ch_24002.png	out24002.txt
17		USNO-A2.0 1350-17493620	22 53 10.63, +49 02 25.7	EA	15.54	16.00		0.46006	2455823.510	Min		Comm. 17	lc01480.png	ch_01480.png	out01480.txt
18		USNO-A2.0 1350-17493882	22 53 11.20, +49 08 04.8	EA	14.65	15.14		2.64:	2455823.65	Min		Comm. 18	lc02705.png	ch_02705.png	out02705.txt
19		USNO-A2.0 1350-17495142	22 53 14.03, +50 38 02.2	EW	15.57	15.80		0.40532	2455822.321	Min		Comm. 19	lc29620.png	ch_29620.png	out29620.txt
20		USNO-A2.0 1350-17497989	22 53 20.31, +50 44 32.6	EW	16.24	16.48		0.3081	2455823.069	Min		Comm. 20	lc22207.png	ch_22207.png	out22207.txt
21		USNO-A2.0 1350-17502797	22 53 30.88, +49 11 10.6	EW	16.64	17.3		0.3705	2455820.526	Min		Comm. 21	lc1233.png	ch_1233.png	out1233.txt

22	USNO-A2.0 1350-17505207	22 53 36.28, +49 10 38.2	EW	14.24	14.41		0.75235	2455819.540	Min		Comm. 22	lc03249.png	ch_03249.png	out03249.txt
23	USNO-A2.0 1350-17507138	22 53 40.51, +49 47 35.1	DSCTC	12.98	13.01		0.06350	2455821.316	Max			lc11242.png	ch_11242.png	out11242.txt
24	USNO-A2.0 1350-17508292	22 53 43.21, +50 03 51.1	EA/RS:	13.05	13.19:		11.75	2455825.825	Min		Comm. 24	lc15047.png	ch_15047.png	out15047.txt
25	USNO-A2.0 1350-17509346	22 53 45.53, +50 07 52.0	EW	15.4	15.55		0.30763	2455825.342	Min		Comm. 25	lc16064.png	ch_16064.png	out16064.txt
26	USNO-A2.0 1350-17509430	22 53 45.71, +49 37 12.5	BY	15.55	15.69		0.75119		Max		Comm. 26	lc09095.png	ch_09095.png	out09095.txt
27	USNO-A2.0 1350-17510714	22 53 48.54, +49 48 13.2	EA	14.52	14.74		2.618	2455795.731	Min		Comm. 27	lc11492.png	ch_11492.png	out11492.txt
28	USNO-A2.0 1350-17513845	22 53 55.54, +50 11 12.5	BY:	14.16	14.23		17.3		Max		Comm. 28	lc16754.png	ch_16754.png	out16754.txt
29	USNO-A2.0 1350-17514208	22 53 56.31, +49 47 37.3	EW	15.5	15.7		0.26834	2455823.343	Min		Comm. 29	lc11374.png	ch_11374.png	out11374.txt
30	USNO-A2.0 1350-17517479	22 54 03.29, +49 09 16.7	EA	13.89	14.54		0.432550	2455823.244	Min		Comm. 30	lc02923.png	ch_02923.png	out02923.txt
31	USNO-A2.0 1350-17520150	22 54 09.12, +50 44 30.4	EA	14.40	14.64		2.230	2455833.137	Min		Comm. 31	lc28399.png	ch_28399.png	out28399.txt
32	USNO-A2.0 1350-17522059	22 54 13.42, +50 43 03.3	EW	12.59	12.66		0.31684	2455795.285	Min		Comm. 32	lc28676.png	ch_28676.png	out28676.txt
33	USNO-A2.0 1350-17522898	22 54 15.32, +49 38 00.8	BY	13.87	13.92		2.71		Max		Comm. 33	lc09197.png	ch_09197.png	out09197.txt
34	USNO-A2.0 1350-17522988	22 54 15.54, +49 24 23.0	EB	13.89	14.07		1.4861	2455827.812	Min		Comm. 34	lc06117.png	ch_06117.png	out06117.txt
35	USNO-A2.0 1350-17525752	22 54 21.53, +49 56 04.3	EW	16.65	17.15		0.44057	2455850.145	Min		Comm. 35	lc2213.png	ch_2213.png	out2213.txt
36	USNO-A2.0 1350-17525777	22 54 21.59, +49 49 27.9	EW	12.35	12.56		0.36675	2455790.197	Min		Comm. 36	lc11707.png	ch_11707.png	out11707.txt
37	USNO-A2.0 1350-17526565	22 54 23.31, +50 55 07.5	EW	15.84	16.24		0.41461	2455829.234	Min		Comm. 37	lc3241.png	ch_3241.png	out3241.txt
38	USNO-A2.0 1350-17527499	22 54 25.22, +49 48 38.6	EA	13.44	13.66		1.29603	2455827.956	Min		Comm. 38	lc11400.png	ch_11400.png	out11400.txt
39	USNO-A2.0 1350-17537214	22 54 46.21, +49 39 34.6	EA	14.82	15.13		4.524	2455820.858	Min		Comm. 39	lc09521.png	ch_09521.png	out09521.txt
40	USNO-A2.0 1350-17539087	22 54 50.42, +49 05 06.5	EA	15.06	15.26		1.505:	2455845.704	Min		Comm. 40	lc01965.png	ch_01965.png	out01965.txt
41	USNO-A2.0 1350-17540406	22 54 53.27, +49 35 05.8	EW	12.57	12.66		0.47174	2455822.212	Min		Comm. 41	lc08433.png	ch_08433.png	out08433.txt
42	USNO-A2.0 1350-17540419	22 54 53.30, +49 26 34.4	EA	14.90	15.53:		3.2635	2455826.26	Min		Comm. 42	lc06615.png	ch_06615.png	out06615.txt
43	USNO-A2.0 1350-17546912	22 55 07.58, +48 59 31.7	DSCTC	12.68	12.71		0.08002	2455819.355	Max			lc00621.png	ch_00621.png	out00621.txt
44	USNO-A2.0 1350-17547322	22 55 08.51, +50 25 00.2	EW	15.47	15.66		0.2470	2455819.381	Min		Comm. 44	lc3221.png	ch_3221.png	out3221.txt
45	USNO-A2.0 1350-17548386	22 55 10.79, +50 57 19.7	SR:	12.95	13.10		40:	2455825.0	Max		Comm. 45	lc25234.png	ch_25234.png	out25234.txt
46	USNO-A2.0 1350-17555371	22 55 26.43, +49 57 12.2	EB	14.18	14.39		1.0513	2455828.937	Min		Comm. 46	lc13485.png	ch_13485.png	out13485.txt
47	USNO-A2.0 1350-17556451	22 55 28.75, +50 54 09.1	EW	17.1	17.9		0.32948	2455822.336	Min		Comm. 47	lc3213.png	ch_3213.png	out3213.txt
48	USNO-A2.0 1350-17558402	22 55 33.14, +48 54 38.3	LB:	13.88	14.10				other		Comm. 48	lc62888.png	ch_62888.png	out62888.txt
49	USNO-A2.0 1350-17561276	22 55 39.55, +49 40 21.2	EA	13.14	13.22		1.0596	2455795.108	Min		Comm. 49	lc09599.png	ch_09599.png	out09599.txt
50	USNO-A2.0 1350-17563606	22 55 44.80, +51 10 08.2	EW	16.8	17.4		0.37495	2455819.373	Min		Comm. 50	lc3214.png	ch_3214.png	out3214.txt
51	USNO-A2.0 1350-17568949	22 55 56.90, +50 36 38.4	BY:	14.65	14.88:		31.7		Max		Comm. 51	lc30111.png	ch_30111.png	out30111.txt
52	USNO-A2.0 1350-17572012	22 56 03.84, +49 57 14.1	EA	12.63	12.79:		6.171:	2455792.51	Min		Comm. 52	lc13354.png	ch_13354.png	out13354.txt
53	USNO-A2.0 1350-17574515	22 56 09.48, +49 02 14.4	EW	16.25	16.7		0.42231	2455825.298	Min		Comm. 53	lc01299.png	ch_01299.png	out01299.txt
54	USNO-A2.0 1350-17575743	22 56 12.21, +50 34 45.8	EW	16.26	16.54		0.29541	2455824.056	Min		Comm. 54	lc30560.png	ch_30560.png	out30560.txt
55	USNO-A2.0 1350-17579297	22 56 20.25, +48 51 05.6	LB:	12.24:	12.43:				other		Comm. 55	lc59635.png	ch_59635.png	out59635.txt
56	USNO-A2.0 1350-17582667	22 56 27.71, +49 24 26.6	EA/RS:	13.68	13.89		4.43	2455826.684	Min		Comm. 56	lc49013.png	ch_49013.png	out49013.txt

57	USNO-A2.0 1350-17586681	22 56 37.14, +50 14 47.1	EW	12.07	12.36		0.85377	2455802.066	Min		Comm. 57	lc74973.png	ch_74973.png	out74973.txt
58	USNO-A2.0 1350-17588175	22 56 40.53, +49 28 51.0	EW	16.2	16.6		0.35980	2455832.153	Min		Comm. 58	lc50916.png	ch_50916.png	out50916.txt
59	USNO-A2.0 1350-17588316	22 56 40.85, +50 37 45.8	RRC	16.08	16.26		0.2347	2455819.505	Max		Comm. 59	lc3216.png	ch_3216.png	out3216.txt
60	USNO-A2.0 1350-17589283	22 56 43.15, +49 59 43.8	EW	15.48	15.62		0.35359	2455822.030	Min		Comm. 60	lc51484.png	ch_51484.png	out51484.txt
61	USNO-A2.0 1350-17590815	22 56 46.56, +49 43 45.2	EW	16.7	17.9		0.40566	2455822.449	Min		Comm. 61	lc2217.png	ch_2217.png	out2217.txt
62	USNO-A2.0 1350-17596466	22 56 59.62, +50 14 44.7	EW	14.34	14.64		0.48887	2455825.533	Min		Comm. 62	lc55558.png	ch_55558.png	out55558.txt

Comments:

1. $\text{Min}_{\text{II}} = 16^{\text{m}}.82$.
2. $\text{Min}_{\text{II}} = 15^{\text{m}}.78$.
3. $\text{Min}_{\text{II}} = 15^{\text{m}}.30$.
4. $\text{Min}_{\text{II}} = 14^{\text{m}}.63$.
5. $\text{Min}_{\text{II}} = 14^{\text{m}}.22$.
6. $J = 9.701$, $H = 8.762$, $K = 8.431$ (2MASS).
7. $\text{Min}_{\text{II}} = 12^{\text{m}}.08$.
8. $J = 9.257$, $H = 8.282$, $K = 7.954$ (2MASS).
10. $\text{Min}_{\text{II}} = 14^{\text{m}}.21$.
11. $J = 11.879$, $H = 11.296$, $K = 11.174$ (2MASS).
15. $J = 10.952$, $H = 10.464$, $K = 10.308$ (2MASS).
16. $\text{Min}_{\text{II}} = 16^{\text{m}}.02$.
17. $\text{Min}_{\text{II}} = 15^{\text{m}}.69$. O'Connell effect.
18. $\text{Min}_{\text{II}} = 15^{\text{m}}.06$.
19. $\text{Min}_{\text{II}} = 15^{\text{m}}.80$.
20. $\text{Min}_{\text{II}} = 16^{\text{m}}.47$.
21. $\text{Min}_{\text{II}} = 17^{\text{m}}.1$.
22. $\text{Min}_{\text{II}} = 14^{\text{m}}.40$. A twice shorter period with RRC type is possible.

24. $\text{Min}_{\text{II}} = 13^{\text{m}}.14.$
25. $\text{Min}_{\text{II}} = 15^{\text{m}}.55.$
26. $J = 13.765, H = 13.145, K = 13.000$ (2MASS).
27. $\text{Min}_{\text{II}} = 14^{\text{m}}.72.$
28. $J = 12.185, H = 11.573, K = 11.452$ (2MASS).
29. $\text{Min}_{\text{II}} = 15^{\text{m}}.6.$
30. $\text{Min}_{\text{II}} = 14^{\text{m}}.53.$
31. $\text{Min}_{\text{II}} = 14^{\text{m}}.45.$
32. $\text{Min}_{\text{II}} = 12^{\text{m}}.64.$
33. $J = 12.526, H = 12.266, K = 12.168$ (2MASS).
34. $\text{Min}_{\text{II}} = 14^{\text{m}}.02.$
35. $\text{Min}_{\text{II}} = 17^{\text{m}}.1.$
36. $\text{Min}_{\text{II}} = 12^{\text{m}}.53.$
37. $\text{Min}_{\text{II}} = 16^{\text{m}}.15.$
38. $\text{Min}_{\text{II}} = 13^{\text{m}}.49.$
GSC 03630-00738. Bakos et al. (2002) found $P = 0^{\text{d}}.18.$
39. $\text{Min}_{\text{II}} = 15^{\text{m}}.08.$
40. $\text{Min}_{\text{II}} = 15^{\text{m}}.17.$
41. $\text{Min}_{\text{II}} = 12^{\text{m}}.65.$
42. $\text{Min}_{\text{II}} = 15^{\text{m}}.00.$
44. $\text{Min}_{\text{II}} = 15^{\text{m}}.66.$
45. $J = 9.803, H = 8.853, K = 8.565$ (2MASS).
46. $\text{Min}_{\text{II}} = 14^{\text{m}}.35.$
47. $\text{Min}_{\text{II}} = 17^{\text{m}}.8.$

48. $J = 11.999$, $H = 11.369$, $K = 11.237$ (2MASS).

49. $\text{Min}_{\text{II}} = 13^{\text{m}}.20$.

50. $\text{Min}_{\text{II}} = 17^{\text{m}}.3$.

51. $J = 12.827$, $H = 12.200$, $K = 12.035$ (2MASS).

52. $\text{Min}_{\text{II}} = 12^{\text{m}}.65$.

53. $\text{Min}_{\text{II}} = 16^{\text{m}}.6$.

54. $\text{Min}_{\text{II}} = 16^{\text{m}}.48$.

55. $J = 8.940$, $H = 7.999$, $K = 7.739$ (2MASS).

56. $\text{Min}_{\text{II}} = 13^{\text{m}}.80$. O'Connell effect.

57. $\text{Min}_{\text{II}} = 12^{\text{m}}.31$.

GSC 03630-00750. Bakos et al. (2002) found $P = 0^{\text{d}}.43$.

58. $\text{Min}_{\text{II}} = 16^{\text{m}}.5$.

59. A twice longer period with EW type is possible.

60. $\text{Min}_{\text{II}} = 15^{\text{m}}.61$.

61. $\text{Min}_{\text{II}} = 17^{\text{m}}.6$.

62. $\text{Min}_{\text{II}} = 14^{\text{m}}.62$.

Remarks:

On August 16 – October 30, 2011, we obtained about 1600 images with 30-second exposures of a field in Lacerta for discovery and investigation of new variables stars. The field has the coordinates $\alpha = 22^{\text{h}}50^{\text{m}}$, $\delta = +50^{\circ}00'$ and size $2.3^{\circ} \times 2.3^{\circ}$. Here the third part of our results is presented.

Our observations were performed in the city of Krasnoyarsk with a Hamilton telescope ($D = 400$ mm, $F = 915$ mm) equipped with an unfiltered FLI ML-9000 CCD camera (3056×3056 pixels, pixel size $12 \mu\text{m}$). For basic reductions for dark current, flat fields, bias, and for removing cosmic-ray hits, we used MaxIm DL software. The magnitudes were referred to red magnitudes of comparison stars from the USNO-A2.0 catalog (Monet et al. 1998). For search and photometry of the majority of new variable stars, we applied [VaST](#) software (developed by K. Sokolovsky and A. Lebedev, described by Kolesnikova et al. 2008). Some of the variable stars were found with [C-Munipack](#) package. To search for periods, we applied [WinEfk software](#) provided by V.P. Goranskij. We also determined types and periods for two known variable stars (GSC 03630-00738 and GSC 03630-00750).

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