

33 Doubles in Canis Major and Canis Minor

Observed 1988-1996 with a C-8 (Celestron) from Columbia, Missouri (USA) and Kansas City, Missouri.

Observer: Richard Harshaw

Dates and sky conditions were not logged at this time in my observations.

South 516 (HD 44144; SAO 171562)							Rating: 3
Position: 0619-2459		Year of last measure: 1959		Assumed distance (l.y.): 770		Assumed luminosity (suns): 155	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>	
A	7.3	n/a	n/a	A1 V	W	60	
B	8.2	62	7		B	25	
C	7.1	302	243		W	70	
Observations:							
Observed at 104x. Rich field.							
Notes:							
Hipparcos/Tycho data show different distances for these stars; they may be an optical system. The stars have different proper motions.							
South 518 (ADS 5034; HD 45016; SAO 151462)							Rating: 2
Position: 0624-1614		Year of last measure: 1917		Assumed distance (l.y.): 890		Assumed luminosity (suns): 123	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>	
A	7.0	n/a	n/a	A9 V	W	100	
B	8.6	16	88	A	B	23	
Observations:							
Observed at 83x. Rich field.							
Notes:							
Hipparcos/Tycho data show different distances for these stars; they may be an optical system.							
h3863 (ADS 5128; HD 45941; SAO 171831)							Rating: 3
Position: 0629-2236		Year of last measure: 1959		Assumed distance (l.y.): 1,190		Assumed luminosity (suns): 237	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>	
A	6.8	n/a	n/a	A2 V	Y	200	
B	8.7	3	119		Y	37	
Observations:							
Observed at 280x. Rich field.							

Notes:

First measure: 2.7" @ 119 (Doolittle).

h2321 (ADS 5164)**Rating: 2**

Position: 0631-2038	Year of last measure: 1946			Assumed distance (l.y.): 130	Assumed luminosity (suns): 1.2	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	7.9	n/a	n/a	F2	Y	0.9
B	9.2	6	307		B	0.3

Observations:

Observed at 104x. Rich field.

h3869 (HD 46547; SAO 196919)**Rating: 2**

Position: 0633-3202	Year of last measure: 1930			Assumed distance (l.y.): 323	Assumed luminosity (suns): 30	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.2	n/a	n/a	B3 IV	W	27
B	8.7	24	258	A0	dB!	3

Observations:

Observed at 83x.

Notes:

The stars share a small common proper motion.

h3871 (ADS 5214; HD 46813; SAO 171963)**Rating: 2**

Position: 0634-2938	Year of last measure: 1955			Assumed distance (l.y.): 409	Assumed luminosity (suns): 32	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.8	n/a	n/a	A2 V	Y	25
B	8.2	8	354		O	7

Observations:

Observed at 83x. It is very nice at low powers. It is the NE vertex of a triangle with 8.2m SAO 171949 (8' W) and 7.9m SAO 171939 (14' SW).

Sh 73 (Nu 1 CMa; 6 CMa; Hh 239; H IV 81; ADS 5253; HD 47138; SAO 151694)**Rating: 1**

Position: 0636-1840	Year of last measure: 1926			Assumed distance (l.y.): 277	Assumed luminosity (suns): 34.4	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	5.7	n/a	n/a	G8 III	Y!!	32
B	8.5	17 -	262 -		dB!!	2.4

Observations:

Observed at 83x. Webb saw them as Y, pV. Other observers have reported a bewildering range of colors, including Y and G, Y and bG, Y and pB, D and bG, Y and dB.

Notes:

Star A is a spectroscopic binary.

First measure: 17.5" @ 263.
The stars show similar proper motions.

South 534 (ADS 5377; HD 48501; SAO 172204)

Rating: 3

Position: 0643-2227	Year of last measure: 1951			Assumed distance (l.y.): 159	Assumed luminosity (suns): 6.7	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.3	n/a	n/a	F2 V	W	6
B	8.6	18	143		G?	0.7

Observations:

Observed at 83x. Rich field.

Notes:

Hipparcos/Tycho data show different distances for these stars; they may be an optical system. However, the stars have similar proper motions. South measured the pair in 1825.

h3891 (HP CMa; HD 49131; SAO 197176)

Rating: 4

Position: 0646-3057	Year of last measure: 1959			Assumed distance (l.y.): 1,600	Assumed luminosity (suns): 1,289	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	5.6	n/a	n/a	B3 V	Y	1,200
B	8.4	5	223 +		R?	89

Observations:

Observed at 280x. Difficult.

Notes:

The primary is a spectroscopic binary.
First measure: 4.7" @ 221 (Doolittle).

H V 65 (17 CMa; ADS 5585; HD 51055; SAO 172569)

Rating: 2

Position: 0655-2024	Year of last measure: 1915			Assumed distance (l.y.): 610	Assumed luminosity (suns): 153	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	5.8	n/a	n/a	A2 IV	W	140
B	9.3	44	147	K5	R	6
C	9.0	50	184		B	7

Observations:

Observed at 83x. It forms a nice isosceles triangle.

Notes:

The stars share a small common proper motion.

South 541 (HD 51457; SAO 172606)

Rating: 3

Position: 0657-2239	Year of last measure: 1929			Assumed distance (l.y.): 960	Assumed luminosity (suns): 104	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	7.4	n/a	n/a	K0 III	Y	80
B	8.7	23	44	F	L	24

Observations:

Observed at 83x.

Notes:

The stars share common proper motion.

STF 1011 (ADS 5695; HD 52482; SAO 152238)**Rating: 4**

Position: 0701-1519 Year of last measure: 1980 Assumed distance (l.y.): 403 Assumed luminosity (suns): 9

	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	8.4	n/a	n/a	A2	W	6
B	9.2	4 -	298 +		W	3

Observations:

Observed at 207x. It forms a triangle with two 8m stars.

Notes:

First measure: 4.5" @ 296.

h3934 (ADS 5863; HD 55271; SAO 173152)**Rating: 3**

Position: 0711-2148 Year of last measure: 1937 Assumed distance (l.y.): 3,620 Assumed luminosity (suns): 2,150

	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.9	n/a	n/a	B5 V	W	1,800
B	8.7	14	236		B	350

Observations:

Observed at 83x.

Brisbane 2 (HD 56731; SAO 197789)**Rating: 3**

Position: 0717-3054 Year of last measure: 1928 Assumed distance (l.y.): 481 Assumed luminosity (suns): 67

	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.3	n/a	n/a	A9 II	W	55
B	8.0	37	182	A5	W	12

Observations:

Observed at 83x.

Notes:

This star is probably a foreground object in front of Collinder 132.

The stars share common proper motion.

h3945 (Innes 45; ADS 5951; HD 56577; SAO 173349)**Rating: 1**

Position: 0717-2319 Year of last measure: 1959 Assumed distance (l.y.): 6,300 Assumed luminosity (suns): 45,100

	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	4.8	n/a	n/a	K4 III	O!!	39,000
B	6.8	27	53 -!	A0 Vm	pB	6,100

Observations:

Observed at 83x. A superb pair.
 Webb saw them as W and B or R and G.
 Very rich field.

Notes:

The primary is an infra-red source.
 This system may be a member of the Omicron CMa Group.
 First measure (1837), by J. Herschel. Innes later measured 27.3" @ 61.
 Hipparcos/Tycho mission data show different distances for these stars; they may be an optical system. The stars have different proper motions.

OS 170 (ADS 5958; HD 56515; SAO 115211)

Rating: 5

Position: 0718+0918	Year of last measure: 1962		Assumed distance (l.y.): 143		Assumed luminosity (suns): 4.5	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.7	n/a	n/a	G0	W	3.4
B	7.9	1.5	91 -!		W	1.1

Observations:

Notched at 280x.

Notes:

First measure: 1.2" @ 121. 1911 (Bowyer): 1.5" @ 108.

h3950 (Lalande 53; ADS 5986; HD 57190; SAO 173466)

Rating: 3

Position: 0719-2203	Year of last measure: 1949		Assumed distance (l.y.): 381		Assumed luminosity (suns): 29	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	7.0	n/a	n/a	A2 V	W	18
B	7.5	4	346		W	11

Observations:

Observed at 207x. There are dozens of "look alikes". Good hunting, and good luck!
 Extremely rich field.

Notes:

The stars have different proper motions.

STF 1073 (ADS 6002; HD 57290; SAO 96803)

Rating: 3

Position: 0721+1011	Year of last measure: 1927		Assumed distance (l.y.): 630		Assumed luminosity (suns): 24	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	7.8	n/a	n/a	A0	W	20
B	9.8	9	67		R	4

Observations:

Observed at 104x. Rich field.

STF 1076 (ADS 6006; HD 57363; SAO 115309)

Rating: 3

Position: 0721+0403	Year of last measure: 1978
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	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	9.3	n/a	n/a	A0	B	
B	9.3	3 =	110 +		B	

Observations:
Observed at 207x.

Notes:
First measure: 2.7" @ 107.

STF 1082 (ADS 6035; HD 57930; SAO 96855)						Rating: 3
Position: 0724+1042		Year of last measure: 1927		Assumed distance (l.y.): 435		Assumed luminosity (suns): 9
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	8.4	n/a	n/a	A3	W	7
B	9.5	20 +	326 -	K0	rO	2

Observations:
Observed at 104x.

Notes:
The stars share common proper motion.
First measure: 19.9" @ 327.
Companion to B, 13.5m, 15.6" @ 22.

STF 1095 (ADS 6088; HD 58782)						Rating: 4
Position: 0727+0845		Year of last measure: 1932				
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	7.4	n/a	n/a	A2	B	
B	8.9	10 =	78 =		O	

Observations:
Observed at 104x.

Notes:
First measure: 9.8" @ 78.
The stars share a small common proper motion.

STF 1099 (ADS 6120; HD 59226; SAO 96949)						Rating: 2
Position: 0729+1132		Year of last measure: 1962				
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	8.4	n/a	n/a	A0	W	
B	9.4	4 =	343 =		W	

Observations:
Observed at 104x.

Notes:
First measure: 4" @ 343.

STF 1103 (ADS 6140; HD 59538; SAO 115532)						Rating: 2
Position: 0731+0515		Year of last measure: 1949		Assumed distance (l.y.): 760		Assumed luminosity (suns): 90
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.9	n/a	n/a	B9	W	80
B	9.2	4 =	243 -		R?	10
Observations:						
Observed at 207x. Webb saw them as W and W. Rich field.						
Notes:						
First measure: 4.3" @ 245.						
STF 1114 (SAO 115582)						Rating: 4
Position: 0732+0939		Year of last measure: 1965		Assumed distance (l.y.): 466		Assumed luminosity (suns): 5
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	9.4	n/a	n/a	G0	W	3
B	9.9	7 =	54 =		R	2
Observations:						
Observed at 104x. Bright but moderate field.						
Notes:						
First measure: 6.5" @ 54. The stars show a similar, but small, proper motion.						
STF 1126 (ADS 6263; HD 61563; SAO 115773)						Rating: 4
Position: 0740+0514		Year of last measure: 1968				
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	6.1	n/a	n/a	A0 III	B	
B	6.9	1	169 +		B	
C	10.8	44	249		?	
Observations:						
Observed at 280x. You must get Procyon out of the field first. Some observers report W for both stars.						
Notes:						
Star A is a spectroscopic binary and rotates at 100 kps. First measure (1829) by F. W. Struve. The stars have common proper motion.						
STF 1149 (ADS 6391; HD 63536; SAO 115981)						Rating: 3
Position: 0749+0313		Year of last measure: 1927		Assumed distance (l.y.): 550		Assumed luminosity (suns): 25
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>
A	7.7	n/a	n/a	G0	W	20

	B	9.3	21	132	A5	B	5
Observations:							
Observed at 83x. Webb saw them as Y and B. "Pretty," he said.							
Moderate field.							
Notes:							
The stars share common proper motion.							

STF 1182 (ADS 6571; HD 66801; SAO 116324)					Rating: 2		
Position: 0805+0550		Year of last measure: 1944		Assumed distance (l.y.): 2,400		Assumed luminosity (suns): 646	
	<u>Mag</u>	<u>Sep</u>	<u>PA</u>	<u>Spectra</u>	<u>Colors Seen</u>	<u>Luminosity</u>	
A	7.2	n/a	n/a	B9	Y	600	
B	10.0	5 +	73 =		R	46	
Observations:							
Observed at 207x.							
Notes:							
First measure: 4.4" @ 73.							