



Astronomical Society of Southern Africa  
**SYMPOSIUM 2002**



# A History of Comet Discovery from South Africa

*Tim Cooper*

*Director Comet and Meteor Section*

# Agenda

- Some interesting facts
- Comets discovered 1600-1800s
- The Heydays of discovery, 1900-1950
- The Later discoveries
- Conclusions

# Comets in Old Cape Records

C/1652 Y1

C/1686 R1

C/1689 X1

C/1733 K1

C/1742 C1

C/1664 W1 observed 1 month earlier from Spain

P/1682 Q1 comet Halley

C/1695 U1 observed 2 days earlier from Brazil

C/1830 F1 only comet co-discovered by a woman  
from South Africa

# Table 1a Discoveries 1652-1910

<u>Comet</u>	<u>Discoverer</u>
C/1652 Y1	van Riebeeck
C/1686 R1	van der Stel
X/1702 D1	Unknown
C/1742 C1	Unknown
C/1882 R1	W Finlay
C/1888 D1	H Sawerthal

<u>Comet</u>	<u>Discoverer</u>
C/1688 E1	Unknown
C/1689 X1	van der Stel
C/1733 K1	Unknown
C/1830 F1	M-A Fallows
C/1886 S1	W Finlay
C/1910 A1	R T A Innes



## Table 1b Discoveries 1915-1936

<u>Comet</u>	<u>Discoverer</u>
P/1915 W1	C Taylor
C/1919 Y1	JF Skjellerup
C/1921 E1	W Reid
P/1922 K1	JF Skjellerup
C/1924 F1	W Reid
C/1925 X1	GE Ensor
C/1927 A1	TB Blathwayt
P/1929 P1	AFI Forbes
C/1932 G1	HE Houghton/GE Ensor
C/1935 A1	EL Johnson
P/1936 S1	C Jackson

<u>Comet</u>	<u>Discoverer</u>
C/1918 L1	W Reid
C/1920 X1	JF Skjellerup
C/1922 B1	W Reid
C/1922 W1	JF Skjellerup
C/1925 F2	W Reid
C/1926 B1	TB Blathwayt
C/1927 B1	W Reid
C/1930 L1	AFI Forbes
C/1932 Y1	AFI Forbes
C/1935 M1	C Jackson

### Table 1c Discoveries 1940-1978

<u>Comet</u>	<u>Discoverer</u>
C/1940 O1	JS Paraskevopoulos

C/1941 K1	H van Gent
C/1943 W1	H van Gent
C/1944 K2	H van Gent
C/1945 L1	D du Toit
C/1946 U1	MJ Bester
C/1947 K1	MJ Bester
C/1947 X1	various
C/1948 R1	EL Johnson
C/1949 K1	EL Johnson
C/1959 O1	MJ Bester
C/1974 V2	JC Bennett

<u>Comet</u>	<u>Discoverer</u>
C/1941 B2	RP de Kock/ JS Paraskevopoulos

P/1941 O1	D du Toit
P/1944 K1	D du Toit
P/1945 G1	D du Toit
C/1945 X1	D du Toit
C/1947 F1	MJ Bester
C/1947 S1	MJ Bester
P/1948 Q1	C Jackson
C/1948 W1	MJ Bester
P/1949 Q1	EL Johnson
C/1969 Y1	JC Bennett
D/1978 R1	J Campos

# Some Interesting Facts

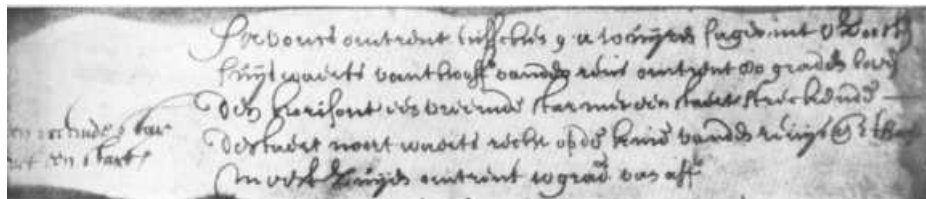
- 57 comets discovered from South Africa
- 12 un-named, 45 named, 19 different South African discoverers
- William Reid and Michiel Bester (6), Daniel du Toit (5)
- No discoveries outside the Cape until Ensor in 1925, no discoveries from the Cape since 1941
- Four discoveries in the 1600s, 3 in the 1700s, 4 in the 1800s and 46 in the 1900s
- Last discovery in 1978
- 9 are periodic comets still observable today

# Van Riebeeck's Comet of 1652, C/1652 Y1



## 1652 Dec 17

At night, about 9 or 10 o'clock saw to the east south east from the head of the giant about 80 degrees above the horizon a strange star with a tail; the tail extending northwards right on the knees of the giant and the head mostly to the south about 10 degrees away.



# Simon van der Stel's Comets, C/1686 R1 and C/1689 X1



## **C/1686 R1 1686 August 12**

This night appeared in the fifth house of the heavens, at 1 o'clock, in the horizon a comet, corresponding in length with Saturn and Venus conjoined, on the left shoulder of the hare.

## **C/1689 X1 1689 Nov 24**

Nov 24, A star with a tail was seen in the south east

Dec 9, This morning at 3 o'clock the tailed star was again seen very clearly  
Dec 24, The tailed star no longer seen

# Mrs Fallows and The Great Comet of 1830

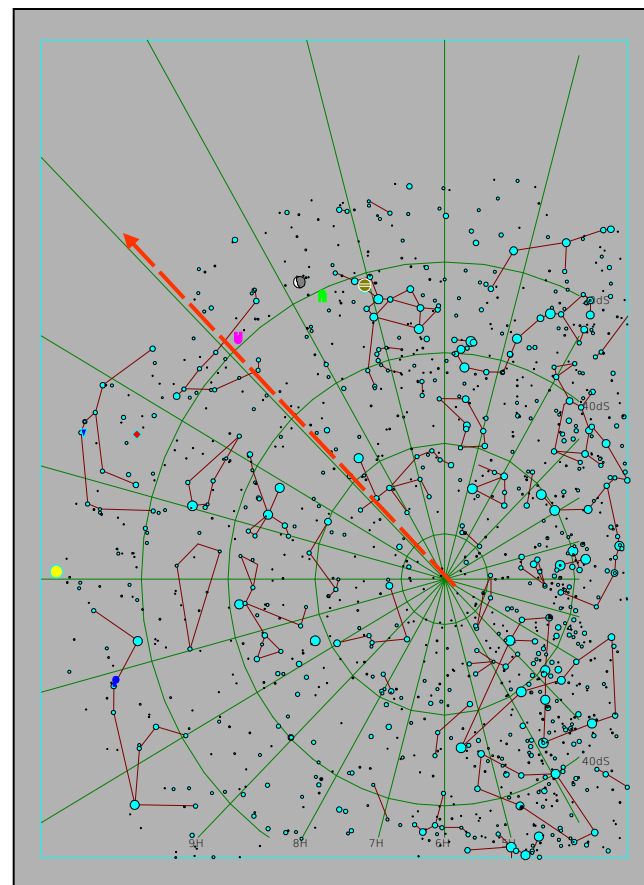
## C/1830 F1

**1830 March 16** first observed by Faraguet in Mauritius

**1830 March 20**, according to a letter by Fearon Fallows to Barrow 'Mrs Fallows discovered a comet in Octans very early in the month of March.

1830 March 22, first observations by Airy.

Discovery magnitude 3, tail several degrees long, mag 2 in Microscopium on April 1 and mag 4 in Pegasus in May.





# William Finlay and the Great Comet of 1882

## C/1882 R1

1882 Sep 7, mag 2-3, short tail, in Hydra

1882 Sep 13, mag -3, 12° tail

1882 Sep 17, perihelion, mag -17, 3° tail

1882 Sep 30, mag 0, 25° tail

Gill observes the nucleus to be split

1882 Oct 9, several points in the nucleus

1882 Oct 31, mag 2, 30° tail

1882 December, mag 3

1883 February, lost to naked eye

## P/1886 S1 = 15P

Peri 2002 Feb 7, magnitude 12  
period 6.8 years



Woodcut by Flammarion  
morning of October 9.  
Upper left is Regulus



# William Finlay and the Great Comet of 1882



Gill (right) in his office at the Cape Observatory 1888 October. The others are Gill's wife Isobel, Agnes Clerke and Henry Sawerthal, discoverer of comet C/1888 D1



Gill's photo of the Great Comet. 100minute exposure on November 7



# Innes and the Daylight Comet of 1910



## **C/1910 A1**

January 12, mag= -1 in morning twilight

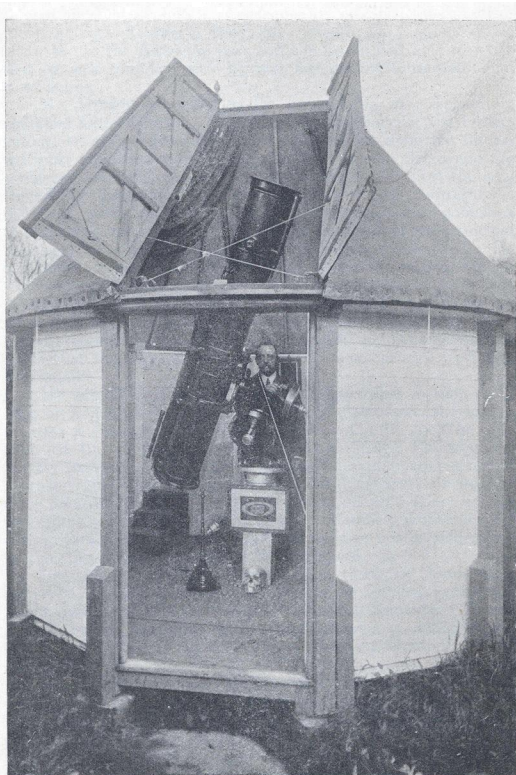
January 17, mag= -5, visible in daylight

January end, mag= 1, 25° tail

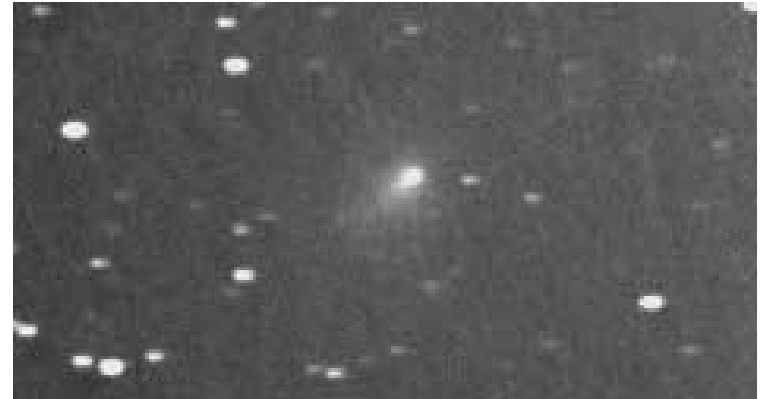
February early, mag= 3, 50° tail

February end, lost to naked eye

# Comet Taylor P/1915 W1



The late Clement Jennings Taylor, in his Observatory, "Herschel View," Claremont.



**P/1915 W1 = 69P**

November 24, mag= 10 in Orion

1916 January 31, perihelion

February 3, nucleus elongated

February 10, two distinct comets

# The comets of William Reid

Comet	Discovery	Magnitude
C/1918 L1	Jun 12	10.5
C/1921 E1	Mar 14	9
C/1922 B1	Jan 20	9.5
C/1924 F1	Mar 25	10
C/1925 F2	Mar 24	8
C/1927 B1	Jan 25	8

‘At first it was a very big undertaking. My knowledge of the southern skies was very limited - it took me some time to get familiar with the many nebulae which could be mistaken for comets, and it was only after I had mapped down hundreds of them that I was able to recognise them as old immovable friends’.

## Skjellerup, Ensor, Houghton and Blathwayt

Comet		Discovery	Magnitude
Skjellerup	C/1919 Y1	Dec 19	8.5
Skjellerup	C/1920 X1	Dec 8	10
Skjellerup	P/1922 K1	May 17	12 = 26P
Skjellerup	C/1922 W1	Nov 26	7
Ensor	C/1925 X1	Dec 13	8
Blathwayt	C/1926 B1	Jan 16	9.5
Blathwayt	C/1927 A1	Jan 11	9
Houghton-Ensor	C/1932 G1	April 1/2	9

# Alexander Forbes



Comet	Discovery	Magnitude
P/1929 P1	Aug 1	11 = 37P
C/1930 L1	May 29	9
C/1932 Y1	Dec 15	8



Telescope 8" f/7.5 refl  
solid wood tube, equatorial

# Johnson and Jackson

## Comets from Union Observatory

Comet	Discovery	Mag
Johnson C/1935 A1	Jan 7	10
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Jackson P/1936 S1 = 58P	Sep 20	12
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Jackson (with pipe) seen with  
A D Thackeray



# Comet de Kock-Paraskevopoulos



**C/1941 B2**

January 15, mag= 5.8  
in field of R Lupi

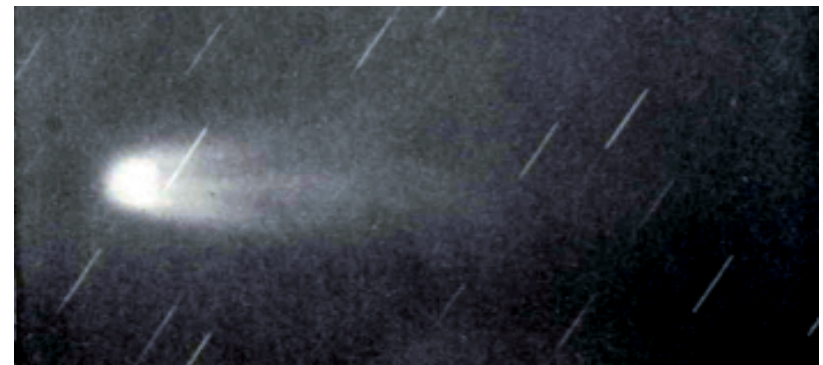


Photo from Stoy, MNRAS Vol.101 No.7 1941  
Cape Astrophoric Refelctor

# Hendrik van Gent

## Comets from Leiden Southern Station

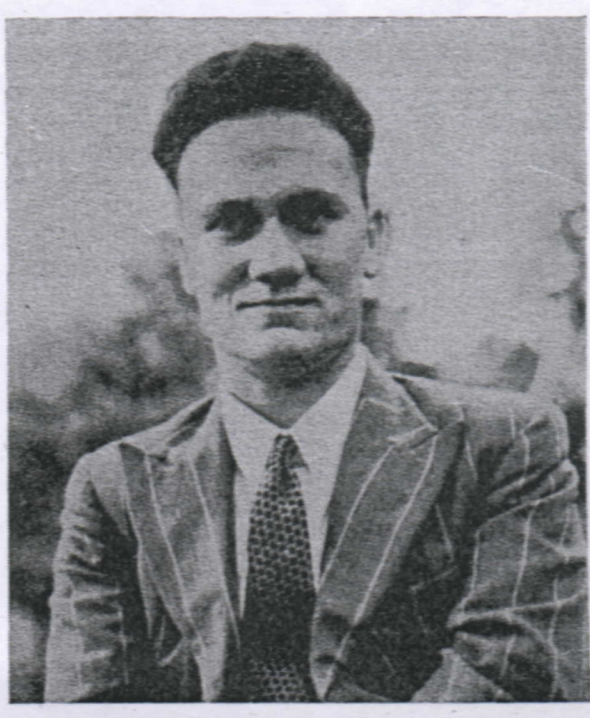
Arrived 1928

Died 1947 March 29 aged 47

Comet	Discovery	Magnitude
C/1941 K1	May 27	11
C/1943 W1	Nov 27	9
C/1944 K2	May 23	12



# Michiel Bester



Michiel Bester in 1948



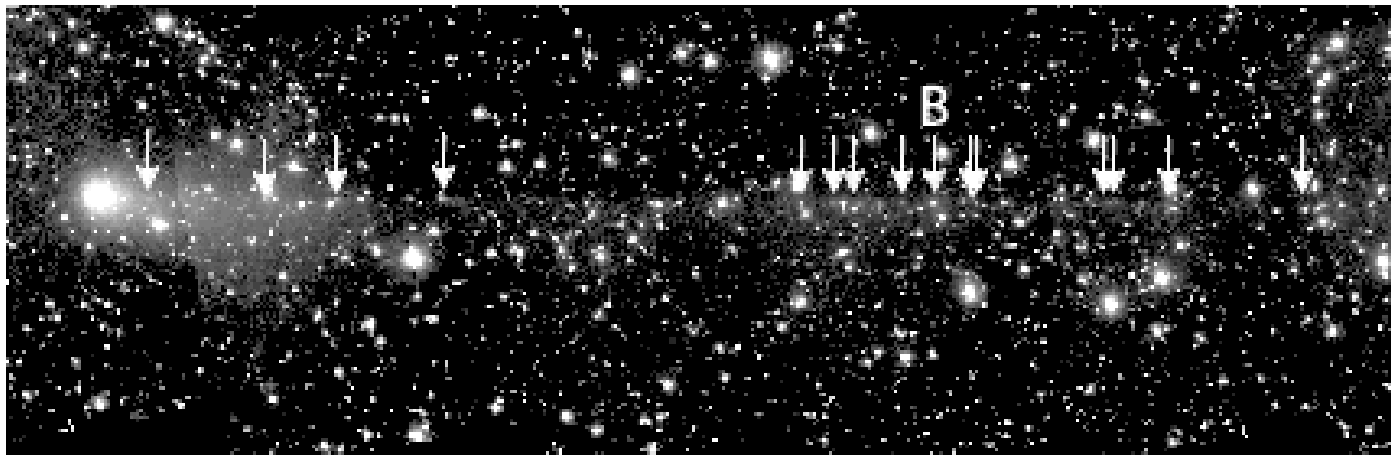
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C/1947 F1	Mar 24	10.5
C/1947 K1	May 18	11
C/1947 S1	Sep 25	11
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# Daniel du Toit

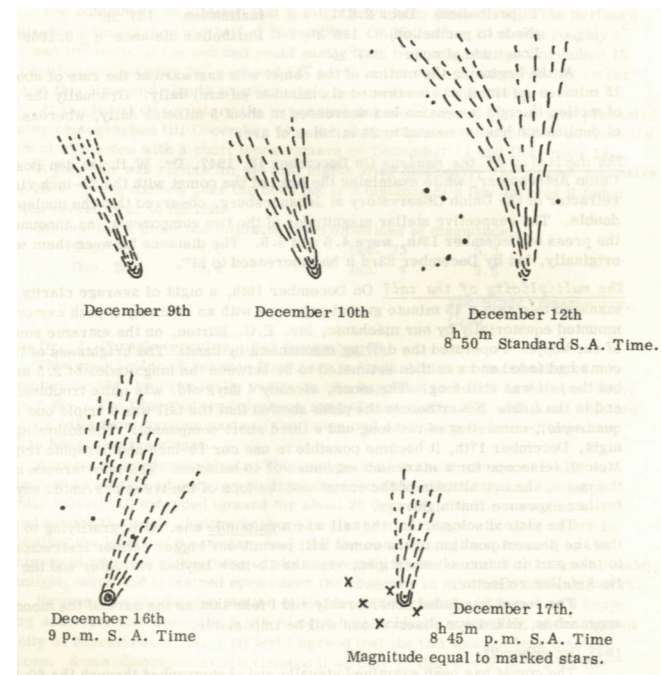
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# The Great Southern Comet of 1947



Picture taken from Milnerton Beach  
1947 December 12. Corona Australis  
is left of comet. Compare to sketch by  
Mrs Wood.



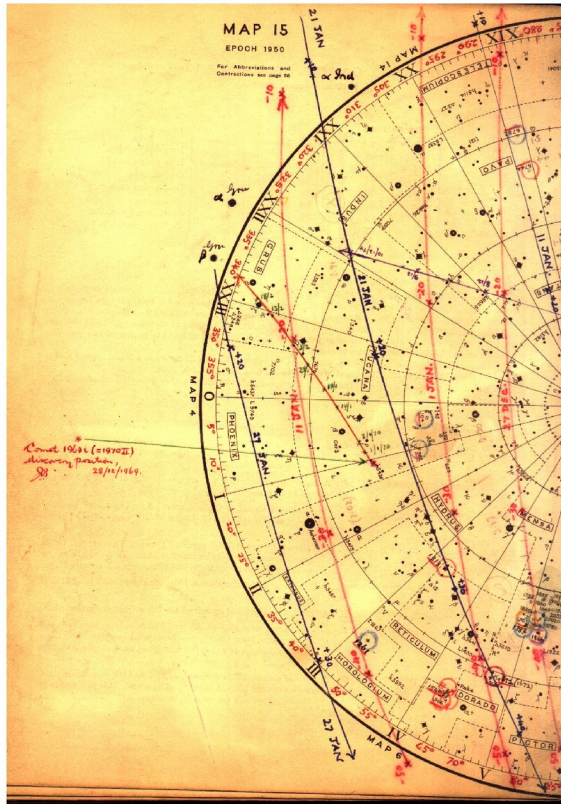
Sketches by Mrs H E Wood



# Jack Bennett

Discovery position of Comet Bennett II (Comet 1969i)

An extract from his Norton's Star Atlas 1954



**C/1969 Y1**

December 28, mag =8.5

**C/1974 V2**

November 13, mag =9





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C/1882 R1	W Finlay	C/1886 S1	W Finlay
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C/1941 K1	H van Gent	P/1941 O1	D du Toit
C/1943 W1	H van Gent	P/1944 K1	D du Toit
C/1944 K2	H van Gent	P/1945 G1	D du Toit
C/1945 L1	D du Toit	C/1945 X1	D du Toit
C/1946 U1	MJ Bester	C/1947 F1	MJ Bester
C/1947 K1	MJ Bester	C/1947 S1	MJ Bester
C/1947 X1	various	P/1948 Q1	C Jackson
C/1948 R1	EL Johnson	C/1948 W1	MJ Bester
C/1949 K1	EL Johnson	P/1949 Q1	EL Johnson
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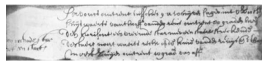


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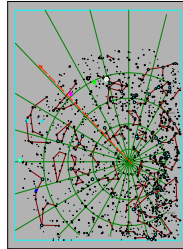
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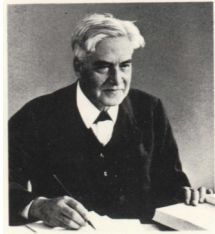
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The late Charles J. Taylor, in his observatory, "Hatched  
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## Alexander Forbes



Comet  
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C/1932 Y1

Discovery  
Aug 1  
May 29  
Dec 15

Magnitude  
11 = 37P  
9  
8



Telescope 8" f/7.5 refl  
solid wood tube, equatorial



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## Johnson and Jackson

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Jackson (with pipe) seen with  
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## Comet de Kock-Paraskevopoulos



**C/1941 B2**  
January 15, mag= 5.8  
in field of R Lupi

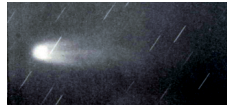


Photo from Stoy, MNRAS Vol.101 No.7 1941  
Cape Astrographic Reflector





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Comets from Leiden Southern Station

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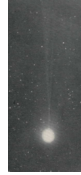
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## Michiel Bester



Michiel Bester in 1948



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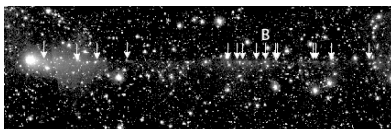


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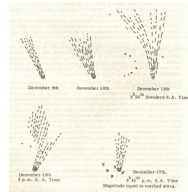
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Picture taken from Milnerton Beach  
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Sketches by Mrs H E Wood



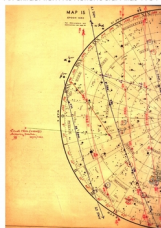
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## Jack Bennett

Discovery position of Comet Bennett II (Comet 1969)

An extract from his Norton's Star Atlas 1954



**C/1969 Y1**  
December 28, mag =8.5

**C/1974 V2**  
November 13, mag =9

