# New variable stars in the southern globular cluster NGC 6362

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tude of the other variables is 15.99, lies in our diagram well below the giant branch, but it seems probable that we measured the star near minimum and therefore its mean or maximum magnitude could possibly fit the giant branch.

Prof. KUKARKIN communicated to us values for the period of 20 variables, while MANNINO (1961) just published periods for 10 variables. Although their results do not agree for the variables Nos 2, 3 and 8, it seems clear that NGC 6171 belongs to those globular clusters for which the mean value of the periods is short for both *c*- and *a*-type variables. This confirms the general trend in the relation between the population of the horizontal branch and the mean value of the periods of the variables, as indicated in Table 4 of the paper by SANDAGE and WALLERSTEIN (1960).

All three diagrams show some stars which do not fit one of the branches and they also must be considered as field stars. OOSTERHOFF remarked in his article that the variables, at least near maximum, belong to the brightest stars in the cluster, as hardly any stars are brighter than $15^m.2$. This remark is confirmed by Figure 4, where the stars in the intermediate region have been plotted with the blue reading *O* as ordinate. As OOSTERHOFF used blue plates for his star counts, these results are directly comparable.

I thank Dr OOSTERHOFF for allowing me to measure the two plates which were so kindly put at his disposal by Dr ARP.

REFERENCES

E. M. BURBIDGE and A. SANDAGE 1958, *Ap. J.* **127**, 527.
G. MANNINO 1961, *Publ. Bologna* **7**, No. 18.
P. Th. OOSTERHOFF 1937, *B.A.N.* **8**, 273 (No. 310).
A. SANDAGE and G. WALLERSTEIN 1960, *Ap. J.* **131**, 607.
H. SHAPLEY 1930, "Star Clusters", *Harv. Obs. Mon.* No. 2.

## NEW VARIABLE STARS IN THE SOUTHERN GLOBULAR CLUSTER NGC 6362

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During a stay in South Africa OOSTERHOFF obtained in 1950 a small number of plates of the southern globular cluster NGC 6362. The co-ordinates of this object are;

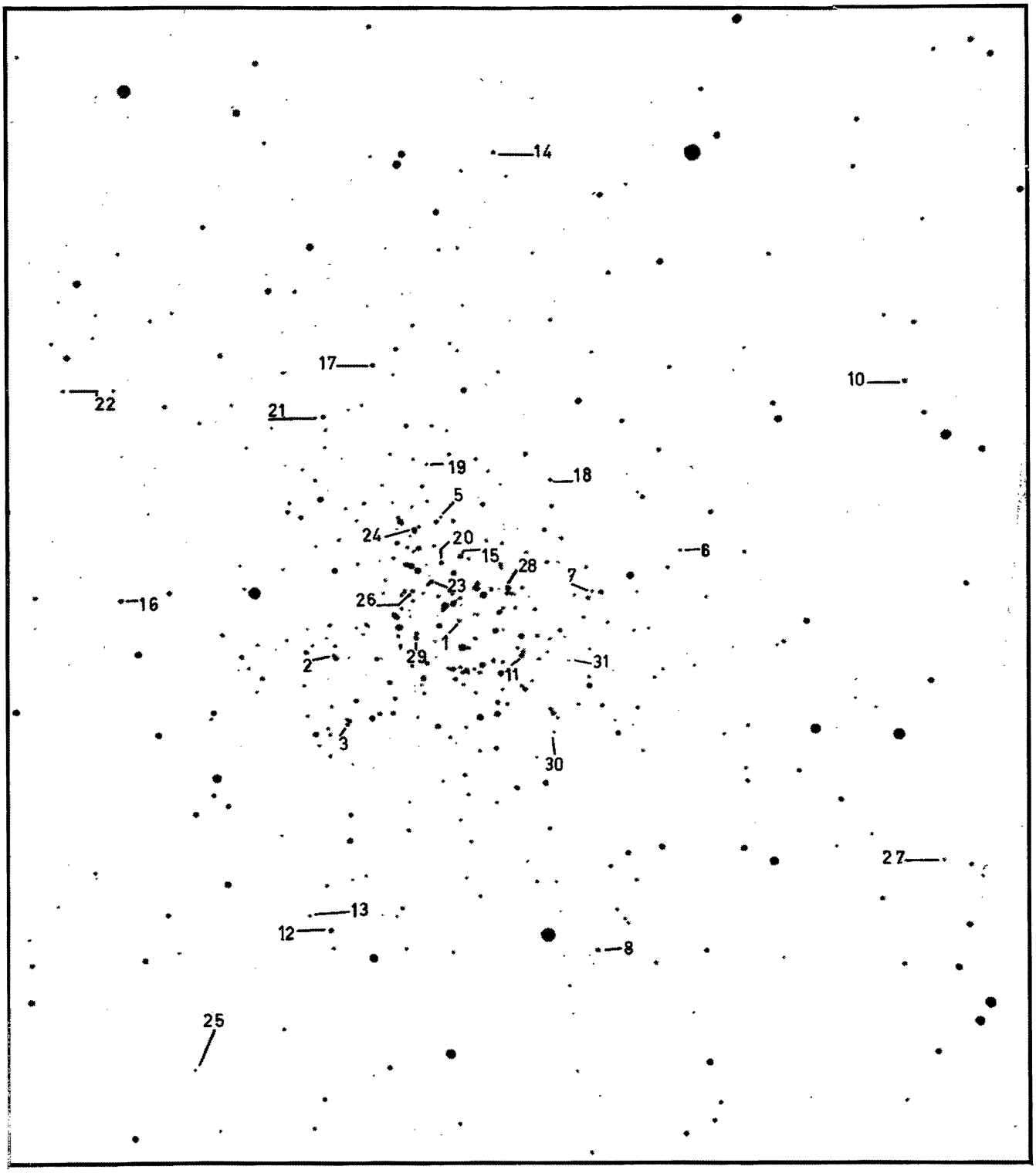
RA (1950) = $17^h\ 26^m.6$ $l^I = 293°$ $l^{II} = 326°$
Decl (1950) = $-67°\ 01'$ $b^I = -18°$ $b^{II} = -18°$

These co-ordinates are for the assumed centre of the cluster. The observations were made at the Newtonian focus of the 74-inch Radcliffe reflector on Ilford Zenith Special Astronomical plates. The exposure time was 10 minutes. During the month of May 12 plates were obtained and 1 in August.

In the first and second *Catalogue of Variable Stars in Globular Clusters* by HELEN B. SAWYER (1939, 1955) there are 17 variables listed for NGC 6362. The centre is placed on the variable star No 1. For two of the variable stars mentioned in that catalogue no data have been published. The 17 variables were found by Mrs I. E. WOODS and Mr BAILEY in 1918 on three plates obtained with the 13-inch Boyden telescope at Arequipa.

The 13 plates obtained by OOSTERHOFF have been used for a *search* for variable stars only, since this num-

| NGC 6362 | Rectangular co-ordinates | | NGC 6362 | Rectangular co-ordinates | |
|---|---|---|---|---|---|
| No. | x″ | y″ | No. | x″ | y″ |
| 1 | 00 | 00 | 17 | +201 | − 68 |
| 2 | − 26 | −100 | 18 | +110 | + 72 |
| 3 | − 83 | − 90 | 19 | +123 | − 25 |
| 4 | — | — | 20 | + 45 | − 15 |
| 5 | + 81 | − 15 | 21 | +160 | −108 |
| 6 | + 54 | +174 | 22 | +182 | −313 |
| 7 | + 22 | +104 | 23 | + 30 | − 23 |
| 8 | −263 | +108 | 24 | + 71 | − 36 |
| 9 | — | — | 25 | −356 | −212 |
| 10 | +186 | +353 | 26 | + 22 | − 38 |
| 11 | − 29 | + 48 | 27 | −113 | +384 |
| 12 | −246 | −103 | 28 | + 24 | + 37 |
| 13 | −234 | −120 | 29 | − 15 | − 35 |
| 14 | +369 | + 28 | 30 | − 89 | + 74 |
| 15 | + 49 | 00 | 31 | − 33 | + 80 |
| 16 | + 16 | −270 | | | |




NGC 6362

ber is clearly too small to derive periods. We investigated in the blink comparator 11 plates in 15 pairs that had comparable stellar images.

The total number of variable stars has increased to 31. Since we do not know the positions of the two unpublished variable stars it is not clear whether we rediscovered them. Of the 15 variable stars listed in H. B. SAWYER's catalogue we found all except the numbers 4 and 9.

All variable stars we found in this survey have been marked on the plate accompanying this note. For all variable stars discovered rectangular co-ordinates in seconds of arc were obtained in the system of Mrs SAWYER's catalogue.

REFERENCES

H. B. SAWYER 1939, *Publ. David Dunlap Obs.* **1**, No. 4.
H. B. SAWYER 1955, *Publ. David Dunlap Obs.* **2**, No. 2.

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## ERRATA in *B.A.N.* **14**, No. 484

All the measures of V 741 Sgr should be deleted. The variable was discovered by E. HERTZSPRUNG. It is variable *z* of *B.A.N.* **9**, No. 340. An identification chart is given on page 203 of this publication. Mr C. J. VAN HOUTEN and Mr K. K. KWEE have drawn attention to the fact that on this chart the wrong star has been indicated as the variable. The Cepheid is situated on the chart just below and to the right of the circle marked with V.

Consequently the measures given in *B.A.N.* No. 484 do not refer to the Cepheid V 741 Sgr, but to a field star.

In the first small table in the left-hand column of page 119 the value of log *P* for UX Nor should read .378 instead of .538.

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## ERRATUM in *B.A.N.* **15**, No. 500:

p. 183, eq. (104), for $10^2$ read: $10^6$.

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## ERRATA in *B.A.N.* **15**, 237 (1960), No. 503,

"Temperature determinations for nuclei of thirteen planetary nebulae", by H. ZANSTRA.

Table 1 should have the following entries.

HeII 4686/*l*, 0.140 and 0.40 A1, for NGC 6572; 0.19 A1 for NGC 6826.

In Table 3:

$T_{\mathrm{HeII}}/1000°$, 66.4; $T_{\mathrm{HeII\,(H)}}/1{,}000°$, 60.9.

These temperatures should also be indicated in Figure 1.

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