

SEARCH FOR NEW VARIABLE STARS AT THE BORDERS
OF THE GLOBULAR CLUSTER NGC 3201

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By means of the same method previously used with ω Centauri a search for new variable stars at the borders of the globular cluster NGC 3201 has been made. To this end the author had at disposal 98 blue photographic plates taken with the "Carte du Ciel" astrograph of the La Plata Observatory during the years 1952-61. The size of the plates were; N° 1-74, 9x12 cm. and N° 75-98, 16x16 cm. In the first set of plates a field of $1^\circ \times 1^\circ$ was investigated and in the latter set a field was of $2^\circ \times 2^\circ$, the cluster being always at the center. The region investigated was subdivided into cells of $10' \times 10'$. As usual, every care was taken in order to absolutely avoid any fake discovery due to human error or to a plate defect.

Now there exist great differences of apparent aspect between the two globular clusters, Centauri and NGC 3201. The apparent diameter of the first globular cluster reaches almost 100' thus occupying a considerable fraction of $120' \times 120'$, which was the size of the region investigated. On the contrary, the apparent diameter of NGC 3201 reaches a maximum of only 40' although it is probable that it does not reach even 30'; thus it only occupies a small fraction of the total region that was investigated. If the size were actually as small as 30', of the 87 variable stars known up to now only 73 should certainly be members of the cluster, whereas the remaining 14 should be now considered field variables.

Our search of new stars resulted in: 10 new variable stars found. However, 3 out of these 10 new variables are undoubtedly members of the cluster on account of their small distance from the center. On the other hand, nearly all the other 7 variables are so distant from the center of the cluster that they should be considered as field variables. Our investigation has therefore increased the total number of field variables in the surroundings of NGC 3201 to 21 variables.

The ratio between the number of variables in the field and in the cluster thus reaches 21:76. NGC 3201 becomes an interesting globular cluster because it is the one that has the largest number of variable stars at its borders.

Un estudio cuidadoso de una región de $2^\circ \times 2^\circ$ con el cúmulo en el centro dio por resultado el descubrimiento de 10 estrellas variables nuevas.