

Fig. 3.3

A schematic representation of an H-R diagram showing the names of the major population zones. The zero-age-main-sequence (ZAMS) is the line on the diagram where newly formed stars of differing mass attain an equilibrium, whereby their self-collapsing gravitational energy is balanced by the energy liberated from hydrogen fusion reactions in their cores. All labelled regions represent particular phases of stellar evolution. Whether a particular star will pass through various phases depends primarily upon its mass.

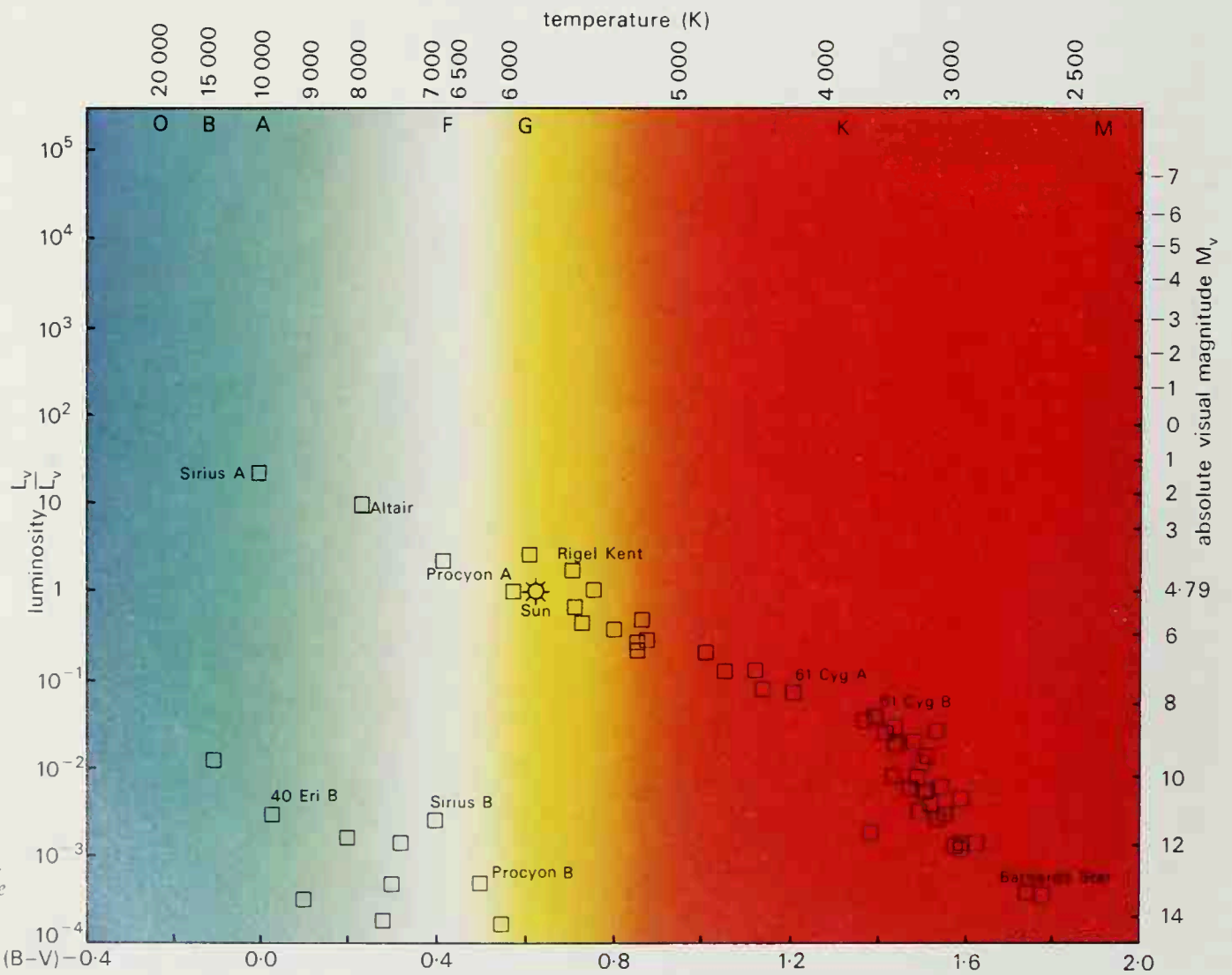
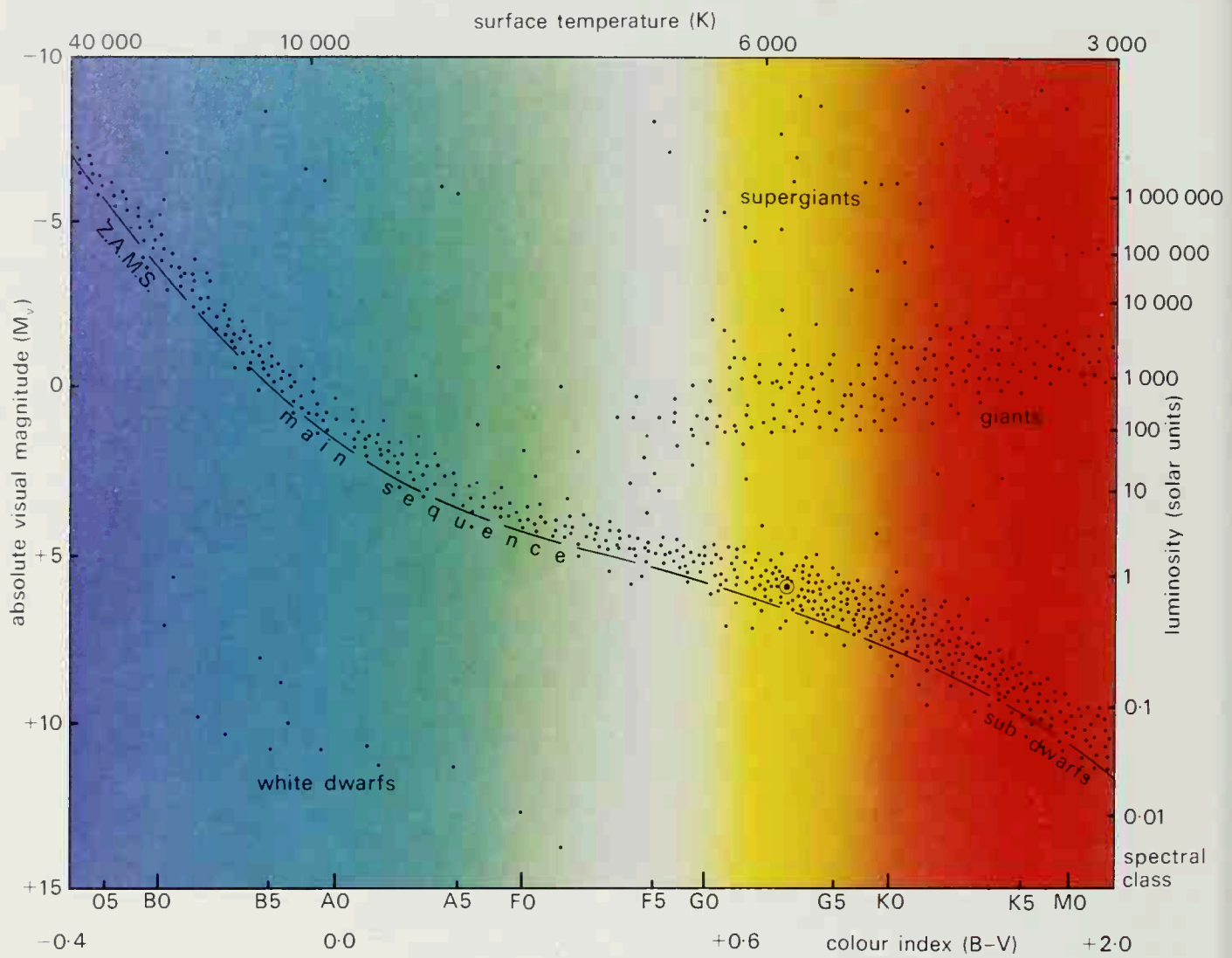


Fig. 3.5

H-R diagram for the nearest stars showing that in the solar neighbourhood of 6.5 parsecs, virtually all the stars except Altair, Sirius and Procyon are less luminous than the Sun. They are also smaller and cooler.