

# Venusian craters, size distribution, and the origin of coronae

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## **ABSTRACT**

Morphological and statistical data suggest that many of the more than 500 coronae on Venus are not the surface expression of diapiric activity but impact craters that have been distorted by geomorphic processes or that formed under atmospheric and geological conditions differing markedly from those of today. Whereas the gravitational evidence bearing on corona genesis is ambiguous, the geographical distribution of the coronae shows parallels with that of impact craters on the Moon, and only 19% have cross-sections that would be out of place in a lunar survey. Venus' inferred atmospheric history suggests that there are numerous older craters to be discovered. A marked increase in the impact crater population would imply that, contrary to the accepted view, Venus did not undergo resurfacing ca. 500 Ma and, in the absence of plate tectonics, that it now loses heat by conduction through the crust and along rifts more than at hotspots.