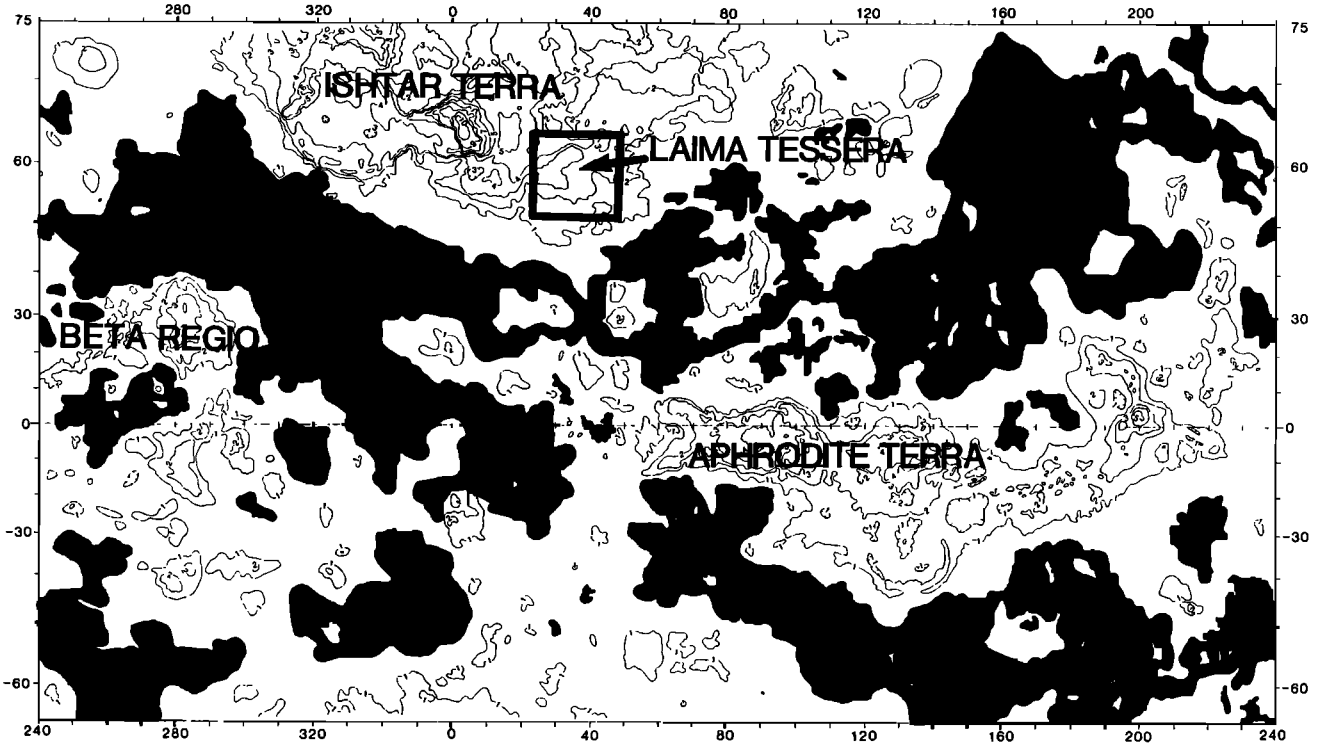

Fig. 1*a*. Location and setting maps. Global map of Venus showing the location of Laima Tessera and its relation to Ishtar Terra to the north and to Aphrodite Terra to the south. Areas indicated in black lie below the 0-km datum. Contour interval is 1 km. Box shows location of Figure 1*b*.

Bindschadler and Head [1988*b*; also Models for the origin and evolution of tessera terrain, Venus, submitted to *Journal of Geophysical Research*, 1989] to propose a three-part classification scheme, outlined in order of increasing complexity of structural patterns: (1) subparallel ridged terrain (subparallel linear ridges with narrow zones of disruption oriented at a variety of angles to the ridges; type area Western Fortuna Tessera); (2) trough and ridge terrain (large troughs in one direction, smaller ridges and valleys in the other, generally orthogonal direction; type area Eastern Laima Tessera); and (3) disrupted terrain (complex and chaotic orientation of short to intermediate length ridges and troughs; type area central Tellus Regio). In this analysis, the general characteristics of the type example of the trough-and-ridge terrain (Eastern Laima Tessera) (Figure 1) are assessed.

Laima Tessera covers over 2 x 10^6 km^2 and lies south of Fortuna Tessera and Eastern Ishtar Terra (Figure 1). It is bounded on the east by a generally north-south trending ridge belt (Kamari Dorsa), and along the rest of its borders it has a transitional boundary where the topography descends toward the surrounding plains and appears to be embayed by them, particularly to the south and west (Figure 1*b*). The major morphologic pattern associated with Laima Tessera is a structural fabric composed of two elements (Figures 1*b*-1*c*). One of these elements consists of WNW to NW trending long and throughgoing lineaments and faults [*Basilevsky et al.*, 1986; *Sukhanov et al.*, 1987] and large troughs up to 30 km in width. The second is a NNE to NE trending set of much shorter linear elements of alternating ridges and valleys spaced 6 to 12 km apart and oriented locally orthogonally to the larger WNW trending structures.

The troughs/lineaments (Figures 1 and 2*a*-2*c*) are characterized by their linearity, significant length, and morphologic variability along strike. The individual features themselves (Figures 2*b*-2*c*) have three modes of expression: (1) trough-shaped in cross section, with inward dipping walls and a flat floor which usually appears to be covered by smooth plains units of probable volcanic origin [*Basilevsky et al.*, 1986; *Sukhanov et al.*, 1987] (Figures 2*b*-2*c*, marked T); (2) grooved-shaped in cross section, where the inward dipping walls converge without the development of a flat floor (Figures 2*b*-2*c*, marked G); and, (3) lineaments, where a linear feature is observed, but topography is not as distinct as in the case of the troughs and grooves (Figures 2*b*-2*c*, marked L). Troughs range

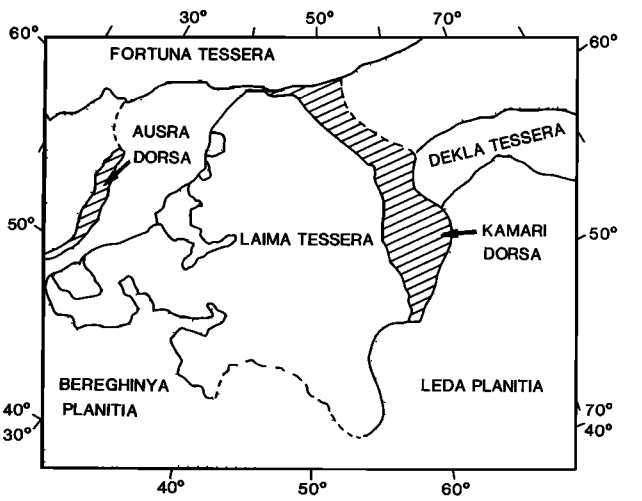

Fig. 1*b*. Sketch map showing the location of Laima Tessera and nomenclature of adjacent features and structures. Dorsa are linear belts of deformation. Planitia are plains interpreted to be of volcanic origin.