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Diversity at Three Tetrameric STR Loci in a Substructured Golla Caste Population of Southern Andhra Pradesh, in Comparison to Other Indian Populations

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KEY WORD 3 STR loci; CSF1P0; TPOX; TH01; 7 Golla subgroups; Mongoloid populations; tribes; other castes; varied social hierarchy.

ABSTRACT Genomic diversity based on 3 STR loci, CSF1P0, TPOX and TH01 is studied among the 7 subpopulations of the pastoral caste, Golla, of southern Andhra Pradesh, India. The 169 blood samples analysed for the present study are drawn from 30 villages distributed in 9 taluks (administrative unit below the level of a district) of Chittor district, a culturally homogeneous area within which marriages generally took place. A comparative analysis of the GST values and the phylogenetic position of the Gollas vis-à-vis the other Indian populations was made based on the 3 STRs with 16 other Indian populations. There is consistent increase in the magnitude of GST value, reflecting the degree of differentiation/heterogeneity with increasing complexity of the Indian populations so far studied for these loci. The cluster of populations in the UPGMA diagrams portrays the underlying social, ethno-historical and geographical backgrounds of the Indian populations well, both at the local, regional and national levels. Not only are the Mongoloid populations clearly separated from the non-Mongoloid populations, lower castes from the upper and middle castes, but the local Golla populations from the extreme south are distinctly separated from the eastern as well as northern populations. Even the microgeographic variations within the Gollas seem to have been faithfully depicted. Overall, the results of the present study are consistent with those of our earlier study, based on a much larger sample and with more number of loci among the same set of populations.