PREFACE

The readers of this thesis will be introduced to a fascinating important immigrant community of India the Sindhi. The population is not only well known for its distinct culture or morphology but also for harboring high frequency of β-thalassaemia gene. The distribution of its people throughout the length and breadth of India is thin except certain pockets of high concentration. Their new settlement pattern and contact with the local inhabitants has its effect on the system of mating, which they used to practice during the period prior to their migration to India at their homeland Sindh now in Pakistan. My presence in Nagpur, one of the major habitats of the Sindhi in India, provided me enough opportunities to interact with and know more about them. As Junior and Senior Research Fellow of the Anthropological Survey of India, posted in its Regional Centre at Nagpur, I was associated with projects to investigate into the prevalence of Hemoglobinopathies in central India. These assignments helped me to know about the high incidence of β-thalassaemia among the Sindhi and inspired me to carry on further investigation on the community, whose population structure, I thought would be important for population genetic studies. When I discussed the matter with Dr. V. R. Rao, the then Deputy Director of Anthropological Survey of India in its Central Regional Centre at Nagpur, he gave his expert comments and explained to me how important the study would be if I give special emphasis on β-thalassaemia Trait persons. Finally, after having a detail discussion with my Ph. D. supervisor Prof. P. N. Sahu of the Department of Anthropology, Sambalpur University, I launched the present investigation in September 1997. Since the identification of genes involves a number of sophisticated laboratory tests, I had to cross many barriers and difficulties while transporting the blood samples to the laboratory at Nagpur, while storing, and even while running the tests in the laboratory. In the process a number of sample got hemolysed at different stages under unavoidable circumstances. Because of this it was not possible to maintain the same sample size for all genetic markers and hematological parameters.

I have presented my observation in six chapters. In Chapter I, the subject matter of population genetics and β-thalassaemia were introduced and significance and objectives of the present study were discussed. Chapter II describes detail methodology for the adopted samplings,
tests, and statistical analysis of various types of data. A brief ethnographic profile of the Sindhi including their distribution in India and history of migration was presented in Chapter III. Chapter IV-A was devoted to the observed system of mating among the Sindhi of Nagpur City. Rest of the observation has been presented under four sections in Chapter IV. Distribution of allele frequencies of genetic markers was presented in Chapter IV-B, genetic diversity among the subgroups of Sindhi in Chapter IV-C, hematological parameters in Chapter IV-D, and index of the opportunity for natural selection in Chapter IV-E. Major findings were discussed and compared with those of some selected populations in Chapter-V. Summary of the present investigation and the conclusion derived from it were presented in Chapter-VI.

During the course of my thesis preparation at different stages a number of persons have helped me in various ways, to whom I wish to express my heartfelt thanks. Without their help, cooperation and guidance it would not have been possible to complete the thesis preparation.

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