In this issue

Racial divergence in *Drosophila*

One of the important aspects of studying evolution is to understand how new species are formed and their uniqueness maintained. *Drosophila nasuta nasuta* and *D. n. albomicans* are a pair of sibling allopatric chromosomal races of *nasuta* subgroup of *Drosophila* and have resulted in the evolution of two new karyotypic strains called Cytorace 1 and Cytorace 2. These

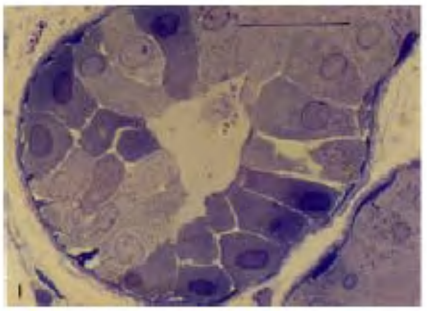
two races are considered as the members of the newly evolved *nasuta–albomicans* complex of *Drosophila*, which are allo-sympatric populations and are useful stocks to understand the early events of raciation under laboratory conditions. The newly evolved Cytoraces possess more number of foreleg bristles than their parents. Thus, the allo-sympatric races, which are at different stages of raciation, have shown divergence in their bristle number. This could be due to the transgressive segregation of genes responsible for foreleg bristle number during the evolution of these Cytoraces. The rapid divergence recorded in the chromosomes, karyo types, body size, bristles and fitness traits of Cytoraces illustrate the power of evolution after the event of hybridization under laboratory conditions. Harini and Ramachandra (**page 1444**) report on the racial divergence.

Dating of zircon

The records of the very early evolution of the planet Earth are imprinted in some of the oldest crustal components present in the different continents. The Indian shield is one of the few places where well-preserved Archean continental crusts are present. The present configuration of this shield is attributed to a combination of geological processes spanning over an extended time from ~3.5 Ga to ~2.5 Ga. These processes may be delineated by conjunctive use of geological, geochemical and geochronological data of the various crustal blocks comprising the Indian shield. Maibam *et al.* (**page 1482**) present chronological data for several rock units from a specific area of the Dharwar Craton, that form a major part of the southern Indian shield, using the Pb–Pb dating of individual zircon grains. Zircon is present in trace amounts in most rocks and is rich in uranium that decays to lead and it is also highly resistant to perturbation in the U–Pb system due to possible younger geological events experienced by the rock samples. The authors synthesized all the available data along with theirs and conclude that the evolution of the Dharwar Craton during the early Archean was episodic and extended over a time period of several hundred million years starting from about 3.5 billion years.

Elephant temporal gland ultrastructure

Elephants are unique in that they have a temporal gland that becomes periodically active in males, secreting a fluid called musth that is testosterone rich. The extremely aggressive nature of males in musth has arguably resulted in the animal not being fully domesticated in spite of elephants playing a part in medieval wars and being employed in logging operations and temple festivals up to the present times. At the cultivation/



forest interface, wild musth elephants are a terror to the populace. The musth elephant is reproductively very successful and hence musth gland activity has an important bearing on natural elephant populations. There have been many studies on the chemical constituents of musth in relation to elephant behaviour, but the physiology at the cellular level remains to be elucidated. Rajaram and Krishnamurthy (**page 1467**) examine the cellular features in musth condition and discuss the variations present with respect to other androgen-secreting glands.