CONCLUSION

Melissopalynological studies carried out with pollens in the samples collected from apiaries in North 24 Paraganas showed a spectrum of pollens corresponding with the vegetation of the localities, under study, and the seasons of their flowering. The annual pollen spectrum obtained during three consecutive years of study was comprised of 56 plant species from 33 families, altogether. Although only six species were found to be predominant in nine different months of study and 3 species as 'secondary', a host of other 19 species, appeared as 'important minor pollen', were supposed to succour well in honey production and maintenance of bee colonies. Besides these other 17 species, recorded as the 'minor', also contributed to a lesser extent. The results showed considerable species diversity among the nectariferous and polliniferous plants in the locality and simultaneously the specificity in species preference of bees, with the availability of the chosen species. In absence of the most preferred species the bees were noted to opt for the second one from the species in the category of 'secondary' and 'important minor pollen' blooming during the period concerned. These phenomena envisaged a hierarchical status of different plant species available in the locality in respect of the preference of *Apis mellifera* as the sources of nectar and pollen. In addition, the results also provided a foraging calendar of *Apis mellifera* in the locality of North 24 Paraganas. Though there is a common and regular practice by the apiarists to feed honey bees sugar syrup during monsoon and consequently the productivity goes down both in respect of quality and quantity of honey during this time, the abundance of pollens of *Trema orientalis* in the honey samples collected in monsoon proves to be quite promising. This host of information is quite valuable for the people engaged in apiary and melissopalynological research. Based on these findings measures may be taken for the improvement and expanding the apiary practices in the locality. The study also revealed the beneficiary plant species, pollination, as well as successful reproduction and propagation of which are being made successful by *Apis mellifera*, in course of foraging.