

## Abstract

In summary, all the evidences collectively suggest that 4-5 syllables producing Bansinagar population belong to different species. While classical taxonomy failed to delineate *Teleogryllus* sp., acoustic analysis provided the first evidence individuals from the Bansinagar population are a different species than all others. Further evidence from behavior based on phonotaxis experiments strongly suggeststhat 4-5 syllables producing Bansinagar population belongs to a different species while IISER Mohali population and 2-3 syllable sproducing Chandanchowki population belongs to same species. However,both these toolshavefailed to provide a clear pictureabout Kadari population.While acoustic analysis indicates that the call features of Kadari are no different than that of IISER Mohali, behavior experiment with both IISERMohali females and Kadari females showed a mixed response towards calls ofKadari and IISER Mohali males, respectively.From these results it seems that Kadari and IISERMohali population are currently on the verge of divergence. All this is speculative andto further deal with thisproblem of delineating Kadari population, other lines of evidence from internal morphology (genital dissection), postanalysis of calls, behavioral assays and molecular analysis (gene sequencing) needs to be gathered. We could also use other tools from biological species concept, that is, pre zygotic isolation and post zygotic isolation to test the formation of viable offsprings, which could provide an ultimate evidence of speciation but conducting such studies offer its own share of constraints because of the long generation and development time of crickets.