SUMMARY

- This revision of subgenus *Lophoceraomyia* in India was done based on the examination of about 3180 specimens (891 males, 684 females, 491 larvae, 688 larval skins and 425 pupal skins). This included 290 adults with associated larval and pupal skins and 21 adults with associated larval skins only.

- Specimens collected in the present study came from 15 States and 2 Union Territories of the country and from which 25 species were recognized. Together with specimens of 1 species examined from material that was available and 1 species known from literature, the subgenus *Lophoceraomyia* in India is now considered to include 27 species. Prior to this revision, the number of species in subgenus *Lophoceraomyia* known to occur in India was only 21.

- The subgenus is represented in India by all the three known groups namely, *Fraudatrix* Group, *Mammilifer* Group and *Wilfredi* Group. Except for the *Brevipalpus* Subgroup of the *Mammilifer* Group, all the other subgroups are also represented in the country.

- A taxonomic treatment that includes full data for the original description of both the valid name and synonyms, including all available data for the type specimens; description of all available stages in the order of male, male genitalia, female, larva and pupa; distribution in India based on specimens examined and that known from literature; taxonomic discussion; and bionomics for all the 27 species recognized has been provided.

- The occurrence of *infantulus* in many of the States recorded in the present study showed that this species is widespread and coexist with *minutissimus* in India. This supports the hypothesis that most of the previous records of *minutissimus* from several localities in India by earlier workers could actually be *infantulus*.

- Extensive collections made in this study have shown that *minor* is restricted to the Andaman and Nicobar Islands and only *bicornutus* is present in mainland
India. Based on the presence of only *bicornutus* in mainland *plantaginis* is removed from synonymy with *minor* and placed in synonymy with *bicornutus*.

- Topotype specimens of *flavicornis* from type locality Nilgiris in Tamilnadu have been collected based on which description of the species was done.

- From specimens collected in the present study *raghavani* is determined as distinct from *flavicornis*. The larva of *raghavani* has also been revalidated based on specimens collected in the present study that clearly showed that larva of *raghavani* also possess the character of prominent spiculation like *uniformis*, but it can be differentiated from larva of *uniformis* by the character of 8-P double and subequal to 7-P in *raghavani* compared to 8-P 4-5 branched, minute and inconspicuous in *uniformis*.

- Keys for the identification of all Indian species of the subgenus *Lophoceraomyia* have been formulated.

- From collections made in this study 5 species namely, *aculeatus, cubitatus, demissus, gracicornis* and *paraculeatus* were recorded for the first time in India forming new country records.

- A new species in the subgenus, *Culex (Lophoceraomyia) singhbhumensis* has been described.

- Following the present revision the subgenus *Lophoceraomyia* has become the predominant subgenus of the genus *Culex* in India.

- Of the 27 species, the distribution of 4 species namely, *flavicornis, raghavani, seniori* and *singhbhumensis* are restricted to India.

- The most widely distributed species in the country are *minutissimus, infantulus, bicornutus* and *rubithoracis*. 
• The overall distribution of subgenus *Lophoceraomyia* in India indicates that the *Fraudatrix* Group is mostly present in the eastern part of the country while the *Mammilifer* Group has exploited the western part as well.

• A characteristic feature related to the larval habitat was very evident in the present study with the *Fraudatrix* Group found only in ground pools, and the *Mammilifer* Subgroup found in both container habitats and ground pools.

• Based on searches made in pitcher plants in the State of Meghalaya it is confirmed that species of the *Brevipalpus* Subgroup of subgenus *Lophoceraomyia* that breeds only in pitcher plants is absent in India.

• As a part of DNA barcoding of mosquitoes of India, 12 species of subgenus *Lophoceraomyia* collected in this study have been DNA barcoded for the first time.