

## FOUR NEW INDIAN GALL MIDGES OF *ANARETELLA* ENDERLEIN [DIPTERA : CECIDOMYIIDAE : LESTREMIINAE]

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### INTRODUCTION

The genus *Anaretella* Enderlein was established in 1911 with its type species *Lestremia defecta* Winnertz by original description, subsequently *Naptunimyia* Felt [1912] and *Plocimas* Enderlein [1936] were merged with *Anaretella*. Grover [1964] *Lestremia orientalis* [based on males] from Allahabad, but while revising the Indian Lestremiinae she transferred the species of the genus *Anaretella* recording the genus for the first time from India.

The genus *Anaretella* is recognized by the following combination of characters : Male antenna with 2 + 14 segments, female with 2 + 9; each flagellar segment with two well developed whorls of long bristles medially and a pair of digitate sensoria distally on basal 5 to 7 segments, last antennal segments of female entire, not constricted near tip. Wing with vein Cu1 hardly extending back beyond the bend of Cu2; branches of median fork evenly divergent; male styles without terminal teeth; roots of gonocoxites directed anteriorly; tegmen broad.

While studying the gall midges from Maharashtra we encountered four new species of *Anaretella* which are described here. All the types are retained for the time being in first author's collection at Science College, Nanded [Maharashtra].

#### 1. *Anaretella spinosa* sp. nov.

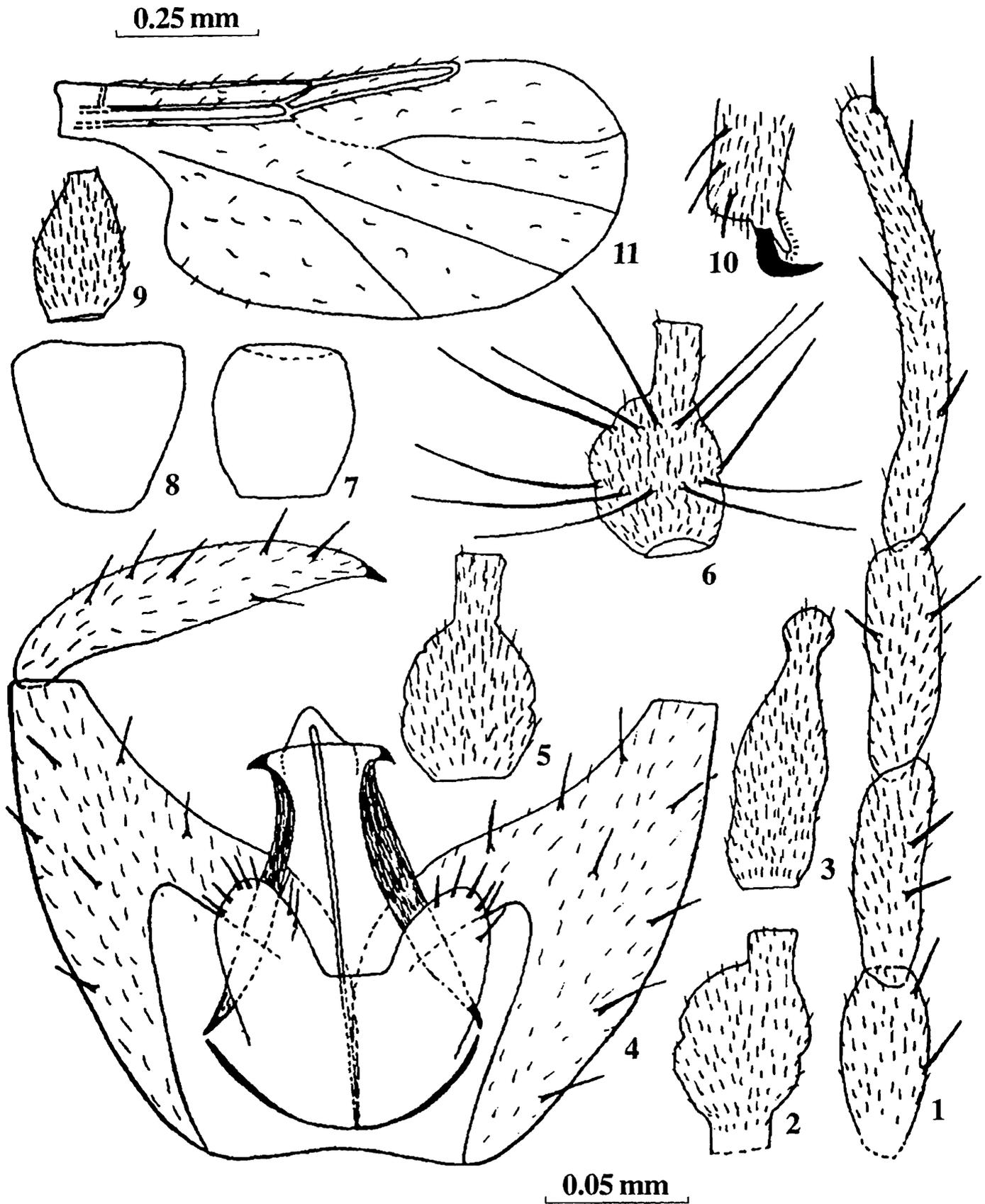
(Figs. 1–11)

*Male* : Body 1.00mm long. Ocelli two. Trophi normal. Palpus quadriarticulate, densely hairy; first segment oval, short, 2.16x its maximum thickness [13 : 6]; second segment subcylindrical, longer and thinner than first, 3.20x its maximum thickness [16 : 5]; third segment subcylindrical, as long as second and 3.20x its maximum thickness; fourth palpal segment longest of all and 10.6x its maximum thickness [32 : 3]. Antenna : shorter than body, with 2 + 14 segments, segments cylindrical with

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Figs. 1-11. *Anaretella spinosa* : 1. Palpus; 2. Third antennal segment; 3. Terminal antennal segment; 4. Genitalia; 5. Fourth antennal segment; 6. Fifth antennal segment; 7. Pedical; 8. Scape; 9. Penultimate antennal segment; 10. Claw; 11. Wing.

short apical stems, enlargements with whorls of long setae and short digital sensorial processes medially; scape [13 : 13] cup shaped; pedicel [10 : 11] subglobose; Third segment [15], not confluent with and as long as fourth, with a short basal prolongation, enlargement [11 : 9] 0.74 the length of the segment and 1.22x its maximum thickness, apical stem [3 : 4] 0.27 the length of the segment; fourth segment [15] with enlargement [10 : 9] 0.57 the length of the segment and 1.66x its maximum thickness, apical stem [5 : 3] 0.33 the length of the segment; fifth segment [16] longer than fourth; penultimate segment [10 : 6] shortest of all, without stem, 1.66x its maximum thickness, terminal segment [20 : 6] longest of all, 3.33x its maximum thickness, stem in the form of a round nipple like prolongation. Wing : [36 : 15] roughly rectangular, 2.40x as long broad, vein Rs distinct at an oblique angle, vein R5 short, wing margin interrupted at the union of R5 with costa at three-fourth of wing, vein M1+2 present, fork of M1+2 longer than its stem, later obsolete, vein M3+4 complete, vein Cu simple. Legs : long, densely hairy, metatarsus [80], nearly as long as the following segments combined together [81], claw simple on all legs, evenly curved, empodium 0.60 the length of the claw [3 : 5]. Genitalia : dark brown, sparsely setose; basal clasp segment without lobe, root directed upwards, 2x its maximum thickness [40 : 20]; terminal clasp segment tapering towards the tip, ending in a tooth, 0.67 the length of the basal clasp segment and 5x its maximum thickness [30 : 6]; dorsal plate [12 : 23] bilobed, deeply lobed, lobes oval and covered with stiff bristles; subdorsal plate [31 : 10], flask shaped, enlarged submedially, with a pair of spines apically and submedially, emarginate laterally, tip truncated, longer than dorsal plate; tegmen [34], shorter than basal clasp segment, genital rod elongated, longer than subdorsal plate and nearly as long as tegmen, 33x as long as thick [33 : 1], tip rounded.

*Female* : Unknown.

*Material examined* : *Holotype* : Male dissected and mounted on slide labeled, “at light, MSEB Office, Bhokar, Dist. Nanded, Maharashtra, T. H. Shaikh coll., dated 13.v.1994”

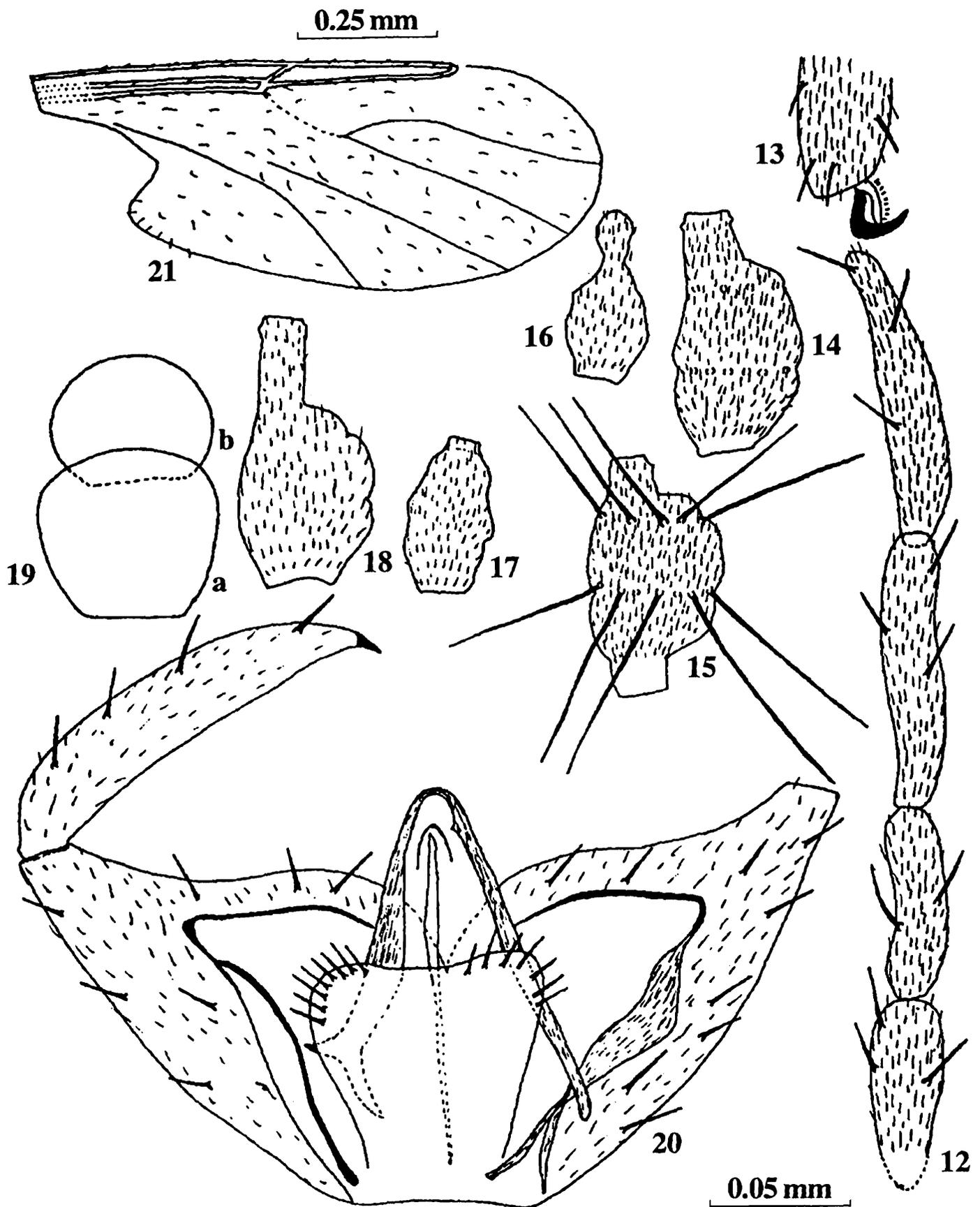
*Paratype* : Three males dissected and mounted on slides labeled as in *Holotype*.

*Etymology* : The specific epithet refers to spines present on subdorsal plate.

## 2. *Anaretella deepica* sp. nov.

(Figs. 12–21)

*Male* : Body 1.15mm long. Ocelli two. Trophi normal. Palpus quadriarticulate, long densely setose; first segment subcylindrical, 2.60x its maximum thickness [13 : 6]; second segment cylindrical, slightly longer and thinner than first, 3.50x its maximum thickness [14 : 4]; third segment cylindrical, longer than second and 5.00x its maximum thickness [20 : 4]; fourth palpal segment longest of all, cylindrical, 5.50x its maximum thickness [22 : 4]. Antenna : shorter than body, with 2+14 segments, segments cylindrical with short apical stems, enlargements with two whorls of long setae and short digital sensorial processes medially; scape [12 : 13] cup shaped, wider than long; pedicel [9 : 11],



Figs. 12-21. *Anaretella deepica* : 12. Palpus; 13. Claw; 14. Fourth antennal segment; 15. Third antennal segment; 16. Terminal antennal segment; 17. Penultimate antennal segment; 18. Fifth antennal segment; 19a. Scape; 19b. Pedicel; 20. Genitalia; 21. Wing.

subglobose, shorter than scape; third segment [17] not confluent but as long as fourth, with short basal prolongation [2 : 5], enlargement [12 : 9] 0.79 the length of the segment and 1.33x its maximum thickness, stem [3 : 4] 0.18 the length of the segment and thicker than long; fourth segment [17] with enlargement [13 : 9] 0.76 the length of the segment and 1.33x its maximum thickness, stem [4 : 4] 0.23 the length of the segment and as long as thick; fifth segment [19] slightly longer than fourth, penultimate segment [11 : 6] enlargement 0.90 the length of the segment and 1.66x its maximum thickness, stem [1 : 2] very short; terminal segment [12] with enlargement [9 : 6] 1.5x its maximum thickness, stem [3 : 3] ending into a nipple like prolongation. Wing : [35 : 14], hyaline, roughly rectangular, 2.50x as long as broad; vein R1 meeting costa before middle of the wing, vein Rs distinct, vein R5 unites with costa at three-fourth of the wing, fork of vein M1+2 longer than stem, the latter obsolete, vein M3+4 complete, vein Cu simple. Legs : long, densely hairy, metatarsus [60], longest of all, shorter than the following segments combined together [66]; Claw simple, evenly curved, empodium 0.66 the length of the claw [3 : 5]. Genitalia : dark brown, sparsely setose, basal clasp segment [44 : 22], without lobe, broad medially, length 2x its maximum thickness, roots directed outwards; terminal clasp segment [35 : 7], tapering towards tip, ending in a tooth, 0.75 the length of the basal clasp segment and 5x its maximum thickness; dorsal plate [17 : 20] broader than long, very shallowly incised, lobes small, rounded outwardly, covered with stiff bristles; subdorsal plate [32 : 6], broad basally, narrowed apically, emerginate laterally, with a pair of spine submedially, longer than dorsal plate, tip rounded; tegmen with genital rod, later narrow and pointed basally, 26x its maximum thickness [26 : 1], shorter than tegmen, tegmen shorter than subdorsal plate.

*Female* : Unknown.

*Material examined* : *Holotype* : Male dissected and mounted on slide, labelled, “at light, MSEB Office, Bhokar, Dist. Nanded, Maharashtra, T. H. Shaikh coll. dated 22.v.1993”

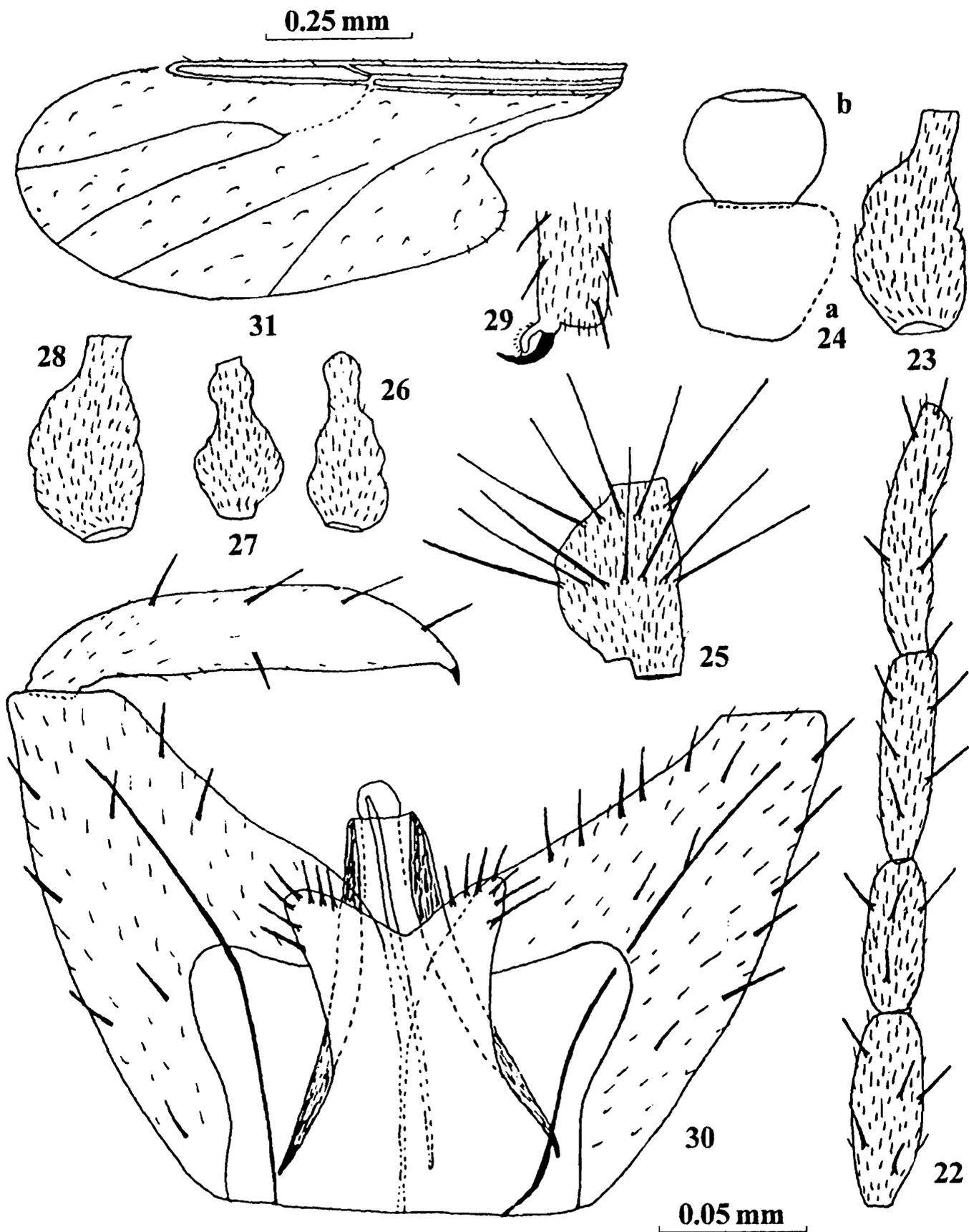
*Paratype* : Three males dissected and mounted on slides, labelled as in *Holotype*.

*Etymology* : Species name associated with the Sanskrit word for “Deep” means light.

### 3. *Anaretella indica* sp. nov.

(Figs. 22–31)

*Male* : Body 1.05mm long. Ocelli two. Trophi normal. Palpus : quadriarticulate, long, densely hairy; first segment subcylindrical, 2.50x its maximum thickness [15 : 6]; second segment subcylindrical, shorter and thinner than first, 2.40x its maximum thickness [12 : 5]; third segment cylindrical, longer than second, 4.00x its maximum thickness [16 : 4]; fourth segment [20 : 4], cylindrical, longest of all, 5x its maximum thickness. Antenna : shorter than body, with 2+14 segments, segments cylindrical, with short apical stems, enlargements with two whorls of long setae and small digital sensorial processes medially; scape [11 : 14], cup shaped; pedicel [11 : 14], subglobose; third segment [15] not confluent; but as long as fourth, with short basal prolongation [2 : 4], enlargement



Figs. 22-31. *Anaretella indica* : 22. Palpus; 23. fifth antennal segment; 24a. scape; 24b. pedicel; 25. third antennal segment; 26. terminal antennal segment; 27. penultimate antennal segment; 28. fourth antennal segment; 29. claw; 30. genitalia; 31. wing.

[11 : 9] 0.73 the length of the segment and 1.2x its maximum thickness, stem [2 : 4] 0.13 the length of the segment and twice thicker than long; fourth segment [15], with enlargement [11 : 8] 0.73 the length of the segment and 1.37x its maximum thickness, stem [4 : 3] 0.27 the length of the segment and 1.33x its maximum thickness; fifth segment [17], slightly longer than fourth; penultimate segment [11], shorter than fifth, enlargement [8 : 6] 0.72 the length of the segment and 1.33x its maximum thickness; terminal segment [15], longer than penultimate, enlargement [11 : 6] 0.73 the length of the segment and 1.83x its maximum thickness, apical stem [4 : 2] 0.27 the length of the segment and twice as long as thick. Wing : [33 : 13], nearly rectangular, covered with microtrichae, 2.30x as long as broad, vein Rs distinct, vein R5 short, wing margin interrupted at its union of R5 with costa at three-fourth of the wing, vein M1+2 short, fork of M1+2 longer than its stem, vein M3+4 complete, vein Cu simple. Legs : long, densely hairy, metatarsus [90], shorter than the following segments combined together [96]; claw simple, evenly curved, empodium 0.60 the length of the claw [3 : 5]. Genitalia : dark brown, sparsely setose; basal clasp segment [40 : 20], without lobe, broad basally, narrow apically, 2x its maximum thickness, roots directed upwards; terminal clasp segment [30 : 6], 0.75 the length of the basal clasp segment and 5x its maximum thickness, tapering towards tip, ending into tooth; dorsal plate [20 : 22], little wider than long, bilobed, deeply incised, lobes triangular; subdorsal plate [30 : 6], longer than dorsal, broad basally, tip truncated, sclerotised laterally, 5x its maximum thickness; tegmen with genital rod, setose, tegmen rounded apically and slightly longer than genital rod, genital rod [32 : 1], 32x its maximum thickness.

*Female* : Unknown.

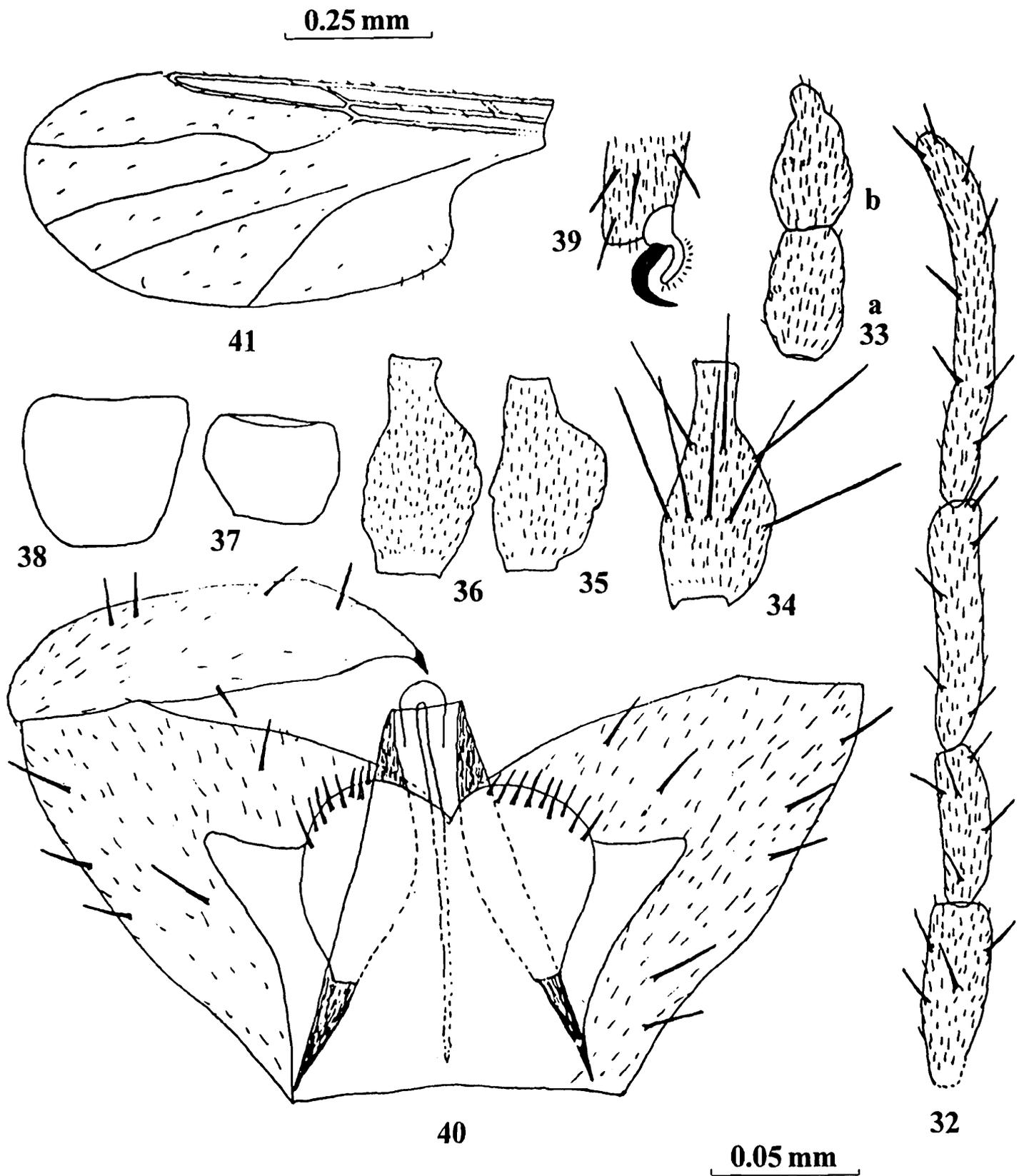
*Material examined* : *Holotype* : Male dissected and mounted on slide, labelled, "at light, MSEB Office, Bhokar, Dist. Nanded, Maharashtra, T. H. Shaikh coll., dated 22.v.1993"

*Paratype* : Two males dissected and mounted on slides, labelled as in *Holotype*.

#### 4. *Anaretella bhokarensis* sp. nov.

(Figs. 32–41)

*Male* : Body 1.00mm long. Ocelli two. Trophi normal. Palpus : quadriarticulate, long, densely hairy; first segment subcylindrical, 3.00x its maximum thickness [15 : 5]; second segment subcylindrical, shorter and thinner than first, 3.00x its maximum thickness [12 : 4]; third segment subcylindrical, longer than second, 5.25x its maximum thickness [12 : 4]; fourth palpal segment [30 : 3], longest of all, cylindrical, 10x its maximum thickness. Antenna : shorter than body, with 2+14 segments, segments cylindrical, with short stems, enlargement with two whorls of long setae, and short digital sensorial processes medially; scape [12 : 14], cup shaped, wider than long; pedicel [9 : 11], subglobose; third segment [16], with a short basal prolongation [1 : 4], enlargement [11 : 4], 0.68 the length of the segment and 1.22x its maximum thickness, stem [4 : 4], 0.36 the length of the enlargement and as long as thick; fourth segment [18], not confluent but little longer than third, enlargement



Figs. 32-41. *Anaretella bhokarensis* : 32. Palpus; 33a. penultimate antennal segment; 33b. terminal antennal segment; 34. fifth antennal segment; 35. third antennal segment; 36. fourth antennal segment; 37. scape; 38. pedicel; 39. claw; 40. genitalia; 41. wing.

[13 : 9] 0.72 the length of the segment and 1.44x its maximum thickness, stem [5 : 3] 0.38 the length of the enlargement and 1.66x its maximum thickness; fifth segment [19], slightly longer than fourth; penultimate segment [9 : 7], without apical stem, 1.50x its maximum thickness; terminal segment [12], with enlargement [10 : 6] 1.66x its maximum thickness, stem [2] in the form of small nipple like prolongation. Wing : [43 : 17], rectangular, hyaline, 2.52x as long as broad, vein Rs distinct, wing margin interrupting at union of R5 with costa at three-fourth of the wing, vein M1 + 2 longer than its stem, vein M3 + 4 complete, vein Cu simple. Legs : long, densely hairy, metatarsus [90], shorter than the following segments combined together [98]; claw simple, stout, empodium 0.60 the length of the claw [3 : 5]. Genitalia : dark brown, sparsely setose, basal clasp segment [40 : 23], without lobe, 1.73x its maximum thickness, roots directed outwards; terminal clasp segment [32 : 8], broad, narrow apically, 0.75 the length of the segment, 4x its maximum thickness, ending into a tooth; dorsal plate [20 : 25], bilobed, shallowly incised, lobes rounded apically, broader than long, setose apically; subdorsal plate [33 : 9], broad basally, truncated apically, emarginate apically, 3.9x its maximum thickness basally, tegmen with genital rod, tegmen slightly longer than subdorsal plate, genital rod [30 : 1], as long as subdorsal plate and 30x its maximum length.

*Female* : Unknown.

*Material examined* : *Holotype* : Male dissected and mounted on slide, labelled, "at light MSEB Office, Bhokar Dist. Nanded, Maharashtra T. H. Shaikh coll., dated 19.v.1993"

*Paratype* : Two males dissected and mounted on slides, labelled as in *Holotype*.

All the Types are retained in collection at Science College, Nanded for the time being.

#### *Key to the Indian species of Anaretella* Enderlin

1. Antenna with 2 + 13 segments ..... 2  
    Antenna with 2 + 14 segments ..... 3
2. Fourth palpal segment 7x as long as thick; dorsal plate narrowly incised, lobes bluntly pointed outwardly ..... *orientalis* ♂ [Grover]
3. Subdorsal plate with spines ..... 4  
    Subdorsal plate without spines ..... 5
4. Subdorsal plate with a pair of spine apically and submedially, flask shaped tip, truncated; dorsal plate deeply incised, lobes oval; fourth palpal segment 10.6x as long as thick .....  
    ..... *spinosa* ♂ sp. nov.  
    Subdorsal plate with a pair of spine submedially only, broad basally, narrow apically, tip rounded; dorsal plate, shallowly incised, lobes rounded outwardly; fourth palpal segment 5.50x as long as thick ..... *deepica* ♂ sp. nov.

5. Lobes of dorsal plate bluntly triangular; fourth palpal segment 5.00x as long as thick .....  
 ..... *indica* ♂ sp. nov.  
 Lobes of dorsal plate broadly rounded apically; fourth palpal segment 10x as long as thick  
 ..... *bhokarensis* ♂ sp. nov.

### SUMMARY

Four new gall midges viz., *spinosa*, *deepica*, *indica* and *bhokarensis* of genus *Anaretalla* Enderlin, collected from Bhokar Dist. Nanded, Maharashtra, have been described and illustrated. A key to the Indian species is also provided.

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