CHAPTER-III.

STUDY OF MORPHOLOGY AND DISTRIBUTION OF TRICHOMES.
CHAPTER- III
MORPHOLOGY AND DISTRIBUTION OF TRICHOMES

OTU-1. *Citrullus vulgaris*, Schrad.

This taxa shows thirteen types of trichome (Plate 1. Fig. 1-13)

1. Unic. Papillose: (Code A I)
   Foot: Not visible. Body 1 celled, inflated, irregular variously shaped, hyaline; wall thin, vesiculated; content granulated, transluscent. (Fig. 1)
   Distb. : Petals, Stamens and Stigma.

2. Unic. Conical : (Code A II)
   Foot: Simple. Body 1-celled, very short, conical; wall thick; lumen narrow, content dense yellow. (Fig. 2)
   Distb. : Leaves, Sepals, Petals and Stigma.

3. Bic. Filiform: (Code B)
   Foot: Simple. Body: 2- celled , entire; cells of equal size; lateral and cross walls thin, lumen narrow, content transluscent. (Fig. 3)
   Distb. : Tendril and Petals.

   Foot: Various. Body: Various, 2- celled- A. stout (Fig. 4A), B. long, erect; basal cell barrel shaped (Fig. 4B), C. body very short, seated over complicated and elevatd foot; content dense golden yellow.
   Distb. : Stem, Tendril, Petole, Pedicel, Sepal (Fig. 4A & 4B) Leaves, sepals and Petals (Fig. 4C)
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Magn.</th>
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<tbody>
<tr>
<td>1.</td>
<td>Unic. Papillose</td>
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<tr>
<td>2.</td>
<td>Unic. Conical</td>
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<td>3.</td>
<td>Bic. Filiform</td>
<td>H x 10</td>
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<td>4. A B C</td>
<td>Bic. Conical</td>
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<td>5.</td>
<td>Unis. Filiform</td>
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<td>6.</td>
<td>Unis. Cylindrical</td>
<td>H x 5</td>
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<tr>
<td>7.</td>
<td>Unis. Hooked</td>
<td>H x 10</td>
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<tr>
<td>8.</td>
<td>Unis. Curved</td>
<td>H x 5</td>
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<td>9. A B</td>
<td>Unis. Conical</td>
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<tr>
<td>10.</td>
<td>Unis. Gld.</td>
<td>H x 10</td>
</tr>
<tr>
<td>12.</td>
<td>Unis. Gld. 4-celled cap.</td>
<td>H x 10</td>
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</table>
5. Unis. Filiform: (Code G)

Foot: Simple. Body: 5-7 celled, very long, uniseriate, filiform; cells longer than broad; tip rounded; lumen normal; content granulated translucent. (Fig. 5)

Distb. : Stem, Petiole, Pedicel and Sepals.

6. Unis. Cylindrical: (Code H)

Foot: Simple. Body: 3- celled long, cylindrical; cells barrel shaped, hyaline ; tip rounded ; content transluscent. (Fig. 6)

Distb. : Tendril, Petals and Ovary.

7. Unis. Curved : (Code I)

Foot: Compound. Body: Differentiated , 3- celled, lower two cells large, bulbous; terminal cell narrow, long, tapering to a curved, pointed end; content dense yellow. (Fig. 7)

Distb. : Stem, Leaves, Pedicel and Sepals.

8. Unis. Curved: (Code I)

Foot: Simple. Body: 4-6 celled, uniseriate curved; lateral and cross walls thick ; terminal cell long, lanceolate, tip pointed; content granulated. (Fig. 8)

Distb. : Stem, Leaves and Sepals.


Foot: Compound. Body : 3-5 celled, conical; lateral and cross walls thick Joints distinct; tip rigid and pointed; content yellow. (Fig. 9A) or cells long, terminal cell acerate, basal cell bulbous; content granulated . (Fig. 9B)

Distb. : Stem , Petiole, and Pedicel. (Fig. 9A), Leaves Surface (Fig. 9B).

Foot: Not visible. Body: very small, differentiated; stalk 1-celled, obovate, hyaline; head 1-celled, rounded, wall thin, infolded; content granular, translucent (Fig. 10)

Distb.: Tendril, Sepals, Petals, Stamen and Ovary.

11. Bic. Gld. 4-Celled Capitate: (Code T)

Foot: Simple Body: Differentiated; stalk 2-celled, small, upper cell collard; head 4-celled, dolliform; cells distinct filled with granular dense content. (Fig. 11)

Distb.: Stem, Leaves, Sepals and Petals.

12. Unis. Gld. 4-Celled Capitate: (Code W)

Foot: Simple. Body: Differentiated, stalk 3-celled, uniseriate, thin, cell of equal size, walls thin; head 4-celled, globose, irregular; outer walls thin; content granulated yellow. (Fig. 12)

Distb.: Stem, Petiole, Pedicel and sepals.


Foot: Simple. Body: Differentiated, stalk 3-celled, very short, cells rectangular; head very large, multi-cellular, oblong; cells irregularly arranged; outer wall vesiculated; content dense, granulated. (Fig. 13)

Distb.: Stem, Petiole, Leaves and Pedicel.
OUT - 2. *Citrullus fistulosus*, *Stocks in Hook*

This taxa shows thirteen types of trichome (Plate-2, Figs. 1-13)

1. **Unic. Conical**: (Code A II)
   Foot: Simple. Body: 1-celled, acuminate, erect; tip pointed; wall smooth; content granulated. (Fig. 1)
   **Distb.**: Tendril, Pedicel, Sepals, Petals and ovary.

2. **Unic. Arrect**: (Code A III)
   Foot: Simple. Body: Entire, 1-celled, arrect; wall very thick; lumen narrow, content dense, granulated golden yellow. (Fig. 2)
   **Distb.**: Stem, Leaves, Sepals and ovary.

3. **Unic. Filament**: (Code A VI)
   Foot: Not visible. Body: 1-celled, hyaline, elongated, flexible; content translucent. (Fig. 3)
   **Distb.**: Tendril, Petals, Stamen and Stigma.

4. **Bic. Conical**: (Code D)
   Foot: Simple. Body: 2-celled, rigid, conical; lateral and cross wall thick, smooth; tip pointed; content dense. (Fig. 4)
   **Distb.**: Stem, Pedicel and ovary.

5. **Bic. Belemnoid**: (Code F)
   Foot: Elevated, simple. Body: 2-celled, differentiated; basal cell barrel shaped; upper celled acerate, distal end stiff and pointed; content dense. (Fig. 5)
   **Distb.**: Stem, Leaves, Sepals and Ovary.
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<td>2.</td>
<td>Unic. Arrect</td>
<td>H x 10</td>
</tr>
<tr>
<td>3.</td>
<td>Unic. Flagellate</td>
<td>H x 10</td>
</tr>
<tr>
<td>4.</td>
<td>Bic. Conical</td>
<td>H x 10</td>
</tr>
<tr>
<td>5.</td>
<td>Bic. Belemnoid</td>
<td>H x 5</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Curved</td>
<td>L x 5</td>
</tr>
<tr>
<td>8. A &amp; B</td>
<td>Unis. Conical</td>
<td>H x 10</td>
</tr>
<tr>
<td>9.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Hooked**: (Code I)

Foot: Simple. Body: 3-celled, basal cell largest, oblong; middle cell ovate, bented; terminal cell lanceolate with acute curved end; lumen narrow; content dense, yellow. (Fig. 6)

Distb.: Stem, Petiole, Leaves and ovary.

7. **Unis. Curved**: (Code J)

Foot: Simple. Body: 4-8 celled, very long: cells long, narrow, equal size; terminal cell acuminate; joint swollen; content granulated. (Fig. 7)

Distb.: Leaves and Sepals.

8. **Unis. Conical**: (Code K)

Foot: Simple or compound. Body: 4-6 celled very long; cells broad and large (Fig. 8A) or columnar, acerate (Fig. 8B); content granulated.

Distb.: Stem, Petiole, Leaves and ovary (Fig. 8B) Stem, Pedicel and Sepals (Fig. 8A)

9. **Peltate**: (Code O)

Foot: Not visible. Body: many - celled, 1-celled thick, rossetted, parallel to epidermal surface; cell rounded, arranged around the central sphere; outer wall vesiculate; content dense, golden yellow. (Fig. 9)

Distb.: Pedicel and ovary.

10. **Uni cellular Gld. Capitate**: (Code P)

Foot: Simple. Body: very small, differentiated; stalk 1-celled, hyaline; head 2-celled, isobilateral (Fig. 10 A) or vesiculated globose; content granulated yellow.

Distb.: Tendril, Leaves, Sepals, Petals, Stamen, ovary and Stigma.
Foot: Simple. Body: Flagellated, differentiated; stalk 2-celled, filiform; head 1-celled, oblong; walls hyaline, thin, vesiculate; content granular yellow (Fig. 11)
Distb. : Petals and ovary.

Foot: Simple. Body: Differentiated; stalk 4-5 celled, uniseriate, filiform, short; cells small, rectangular; head multi cellular, oblong; cells irregular; content granulated dense. (Fig. 12)
Distb. : Petals and ovary.

Foot: Compound. Body: Differentiated; Stalk 4-celled, cylindrical, terminal cell discoid and appear as neck; head multicellular, vesiculated; cells columnar arranged in parallel manner; content granulated, dense. (Fig. 13)
Distb. : Stem, Leaves, Pedicel and Sepals.
OUT- 3 *Coccinia cordifolia*, Linn.

This taxa shows eleven types of trichomes (Plate – 3, Figs 1-11)

1. **Unic. Curved**: (Code A IV)
   Foot: Simple, emarginate. Body: 1-celled, Stiff, curved; tip acute; wall thick; lumen narrow; content dense. (Fig. 1)
   Distrib. : Stem, Tendril, Petiole, Leaves and Sepals.

2. **Unic. Flagellate**: (Code A VI)
   Foot: Simple. Body: 1-celled, much elongated, irregular, hyaline, flagellate, unequal; wall thin, content transluscent. (Fig. 2)
   Distrib. : Leaves, Sepals, Petals and ovary.

3. **Unic. Cylindrical**: (Code A VII)
   Foot: Simple. Body: 1-celled, oblong, hyaline, cylindrical; tip rounded; wall thin; lumen wide, content transluscent. (Fig. 3)
   Distrib. : Petal, ovary and Stamens.

4. **Bic. Filiform**: (Code B)
   Foot: Simple. Body: 2-celled, narrow, filiform; cells of equal size, columnar; tip rounded; lumen normal; content transluscent, opaque. (Fig. 4)
   Distrib. : Stem, Tendril, Petiole, Leaves, Pedicel and Sepals.

5. **Bic. Asept. Flagellate**: (Code E)
   Foot: Simple, elevated. Body: 2-celled, basal cell clavate; upper cell very long, irregular, flagellate; wall thin, lumen wide; content transluscent. (Fig. 5)
   Distrib. : Stem, Tendril, Pedicel and Petals.
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<tr>
<td>1.</td>
<td>Unic. Curved</td>
<td>H x 10</td>
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<tr>
<td>2.</td>
<td>Unic. Flagellate</td>
<td>H x 5</td>
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<td>3.</td>
<td>Unic. Cylindrical</td>
<td>H x 10</td>
</tr>
<tr>
<td>4.</td>
<td>Bic. Filiform</td>
<td>H x 10</td>
</tr>
<tr>
<td>5.</td>
<td>Bic. Asept. Flagellate</td>
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</tr>
<tr>
<td>6.</td>
<td>Bic. Belemnoid</td>
<td>H x 10</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
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<tr>
<td>8.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
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<tr>
<td>9.</td>
<td>Peltate</td>
<td>H x 10</td>
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<tr>
<td>10.</td>
<td>Bic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
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<tr>
<td>11.</td>
<td>Unis. Gld. 2-celled Cap.</td>
<td>H x 5</td>
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</table>
6. **Bic. Belemnoid**: (Code F)
   Foot: Simple, broad. Body: 2-celled, differentiated; basal cell broad, barrel shaped, retuse; upper cell narrow with globose base; tip acute; content dense, granulated, yellow. (Fig. 6)
   **Distb.**: Leaves, Pedicel and Sepals.

7. **Unis. Curved**: (Code J)
   Foot: Compound, emarginate. Body: 4-5 celled, uniseriate curved; basal cell bulbous, terminal cell short, conical; cross walls distinct granulated thick. (Fig. 7)
   **Distb.**: Stem, Petiole and Pedicel.

8. **Unis. Conical**: (Code K)
   Foot: Simple. Body: 3-celled, conical; proximal part broad, gradually narrowing to a pointed tip; terminal cell rigid; lumen narrow; content dense, granulated, golden yellow. (Fig. 8)
   **Distb.**: Stem, Petiole and Pedicel.

9. **Peltate**: (Code O)
   Foot: Not visible. Body: multi cellular, 1-celled thick, irregularly spherical, parallel to epidermal surface; outer wall thin and vesiculated; conten granular, yellow. (Fig. 9)
   **Distb.**: Stem, and Ovary.

10. **Bic. Glb. 4-celled Capitate**: (Code T)
    Foot: Simple. Body: Differentiated, stalk 2-celled erect, small; cells of equal size, hyaline; head 4-celled, globose, hyaline, content granulated opaque. (Fig. 10)
    **Distb.**: Stem, Tendril, Leaves, Sepals and Petals.
11. Unis. Glld. 2-celled Capitate: (Code V)

Foot: Simple. Body: long, differentiated; stalk 3-celled, filiform, basal cell smallest, oblong; head 2-celled, oval; cells long, hemi spherical; content granulated, golden yellow. (Fig. 11)

Distb.: Stem, Leaves, Petiole and Sepals.
OUT-4 Ctenolepis garcini (L.) cl. In Hooker.

This taxa shows twelve types of trichomes (Plate No. 4, Fig. 1-12)

1. **Unicellular papillose**: (Code A I)
   Foot: Simple. Body: Bottle shaped, hyaline; proximal vegion oblong, distal end triangular, necked; wall thin, infolded; content transluscent. (Fig. 1)
   **Distb.**: Sepals, Petals and Stigma.

2. **Unicellular conical**: (Code A II)
   Foot: Simple. Body: 1-celled, long, curved; tip acute; lateral wall thick, rugose; lumen narrow; content dense, granulated, opaque. (Fig. 2)
   **Distb.**: Stem, Petiole, Pedicel, Ovary.

3. **Bicellular conical**: (Code D)
   Foot: Compound. Body: 2-celled, erect, conical; basal cell bulbous, upper cell acuminate, tip acute; lateral wall thick; content granulated. (Fig. 3)
   **Distb.**: Stem, Tendril, Leaf, Sepals, Ovary.

4. **Uniseriate filiform**: (Code G)
   Foot: Compound. Bulbous. Body: 3-5 celled, long, filiform; cells of varying length; lateral wall thin, cross walls thick; content granulated, opaque. (Fig.4)
   **Distb.**: Stem, Petiole, Leaf, Pedicel,

5. **Uniseriate cylindrical**: (Code H)
   Foot: Compound. Body: many celled, cylindrical, hyaline; cells broader than long, irregular; tip cell dome – slaped; wall thin, undulating; content transluscent. (Fig. 5)
   **Distb.**: Petals,
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<td>12. A.</td>
<td>Unis. Gld. 4-celled cap.</td>
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<tr>
<td>13. B.</td>
<td>Unis. Gld. 4-celled Gld.cap.</td>
<td>H x 10</td>
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</table>
6. **Uniseriate Hooked**: (Code I)

Foot: Compound. Body: multi cellular, differentiated, hooked; proximal part simple or bulbous; cells of varying size; cross wall simple or geniculate; tip cell long ending obtuse or acute; content dense, granulated, yellow. (Fig. 6)

**Distb.**: Stem, Tendril, Petiole and Pedicel.

7. **Uniseriate curved**: (Code J)

Foot: Compound, emarginate. Body: 3-5 celled, very small, curved; upper cells longer than breadth; tip cell acuminate; walls thick, content dense, yellow, granulated. (Fig. 7)

**Distb.**: Tendril, Pedicel, Sepals and Ovary.

8. **Uniseriate conical**: (Code K)

Foot: Simple or Compound. Body: 3-4 celled, entire or differentiated, conical; basal cell simple or bulbous; tip cell hyaline acuminate or oblong; lateral wall thick; lumen narrow, content yellowish granulated. (Fig. 8A & 8B)

**Distb.**: Stem, Petiole, Leaf, Pedicel, Sepals.

9. **Uniseriate Septate Flagellate**: (Code L)

Foot: Compound. Body: many celled, irregular, hyaline, flagellate; branched or unbranched; cells of varying outline; lateral & cross wall thin; content transluscent. (Figs. 9A & 9B)

10. **Unicellular Glc. 4-celled Capitate**: (Code R)

Foot: Simple. Body: Differentiated; stalk 1-celled, cell isodiametrical; head 4-celled, globose; content dense, granulated, and yellow. (Fig. 10)

**Distb.**: Leaf, Sepal, Petal and Stamens.
11. **Bicellular Gld. 4-celled Capitate**: (Code T)

Foot: Simple. Body: Differentiated; Stalk 2-celled, cells thin walled, head oblong, 4-celled; wall thick; content dense, granulated. (Fig. 11)

**Distb.**: Tendril, Sepals, Petals.

12. **Uniseriate Gld. 4-celled Capitate**: (Code W)

Foot: Simple. Body: Differentiated; stalk 3-celled, filiform, lower cells much longer or all cells very small isodiametrical; lateral wall thin or thick; head 4-celled, globose with irregular periphery; content dense, granulated (Fig. 12A & 12B)

**Distb.**: Stem, Leaf, Pedicel and Ovary.
OT U- 5 *Cucumis melo*, Linn.

This taxa shows eleven types of trichome (Plate 5. – Fig. 1-11)

1. **Unic. Papilloso**: (Code A1)
   Foot: Simple. Body: 1-celled, inflated, irregular, hyaline, Papillose; wall thin, infolded; content translucent. (Fig. 1)
   Distb.: Petals, Stamens and Stigma.

2. **Unic. Conical**: (Code A II)
   Foot: Compound, cupular. Body: 1-celled, entire, erect, conical; basal part bulbous, terminal part gradually tapering to a pointed tip; wall thick, lumen narrow; content dense yellow. (Fig. 2)
   Distb.: Stem, Tendril, Petiole, Leaves, Pedicel and Sepals.

3. **Unic. erect**: (Code A III)
   Foot: Simple, broad. Body: 1-celled, stout; proximal part broad, distal part curved to a pointed tip; wall thick; content dense granulated. (Fig. 3).
   Distb.: Stem, Leaves, Sepal and ovary.

4. **Bic. Belemnoid**: (Code F)
   Foot: Compound, elevated. Body: 2-celled, differentiated; basal cell erect, cylindrical, very long; upper cell narrow, acerate, tip sharply pointed; wall thick, lumen narrow; content dense. (Fig. 4)
   Distb.: Stem, Petiole, Leaves and Pedicel

5. **Unis. Filiform**: (Code G)
   Foot: Simple. Body: Many celled, uniseriate, filiform; proximal cells oblong, distal cell very long, walls thick, tip rounded; content opaque. (Fig. 5)
   Distb.: Stem, Tendril, Leaves, Sepals.
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<td>4.</td>
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<td>8.</td>
<td>Stellate</td>
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<tr>
<td>9.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Cylindrical**: (Code H)  
   Foot: Compound. Body: 6-8 celled, cells discoid, tip rounded; lateral and cross  
   walls thin; content translucent. (Fig. 6)  
   **Distb.**: Petals and ovary

7. **Unis. Conical**: (Code H)  
   Foot: Compound, emarginate. Body: many celled, stiff, straight; basal cell arrect  
   with broad base; terminal cell rigid, conical; tip acute; lateral and cross wall  
   thick, lumen narrow, content dense, granulated. (Fig. 7)  
   **Distb.**: Stem, Leaves, Pedicel, Sepal and Ovary.

8. **Stellate**: (Code N)  
   Foot: Not visible. Body: 3-5, radiating, armed; rays unicellular, filiform; tip  
   pointed; lateral wall thick, lumen narrow; content dense, yellow. (Fig. 8)  
   **Distb.**: Stem, Petiole, Leaves and Pedicel.

9. **Peltate**: (Code O)  
   Foot: Sunken. Body: Differentiated; having unicellular very short stalk and  
   shield- like circular body or radiating, irregular periphery, cells many, arranged  
   around a porous center; each cell rectangular (Fig. 9A) or acuminate, long,  
   curved with acute tip (Fig. 9B); outer walls thick, smooth; content opaque  
   granulated.  
   **Distb.**: Stem, Leaves and Ovary.

    Foot: Simple, emarginate. Body: Differentiated; stalk 2-celled high, cells small,  
    rectangular; head large, oblong, irregular multicellular; cells inflated, over  
    lapped and thin walled; content granulated, yellow. (Fig. 10)  
    **Distb.**: Tendril, Leaves, Sepals, Petals and Ovary.

Foot: Simple. Body: Differentiate; stalk multicellular, uniseriate, irregular; cells rectangular of varying shape; distal cells narrow making neck of the head; lateral and cross walls thick; joint distinct; head multicellular, hyaline, inflated as a infolded rounded body; wall thin, content golden yellow (Fig. 11)

Distb.: Stem, Petiole, Leaves, Sepals and Ovary.
OTU-6 *Cucumis melo var. momordica*, Duthie

This taxa shows ten types of trichome (Plate-6 Fig. 1-10)

1. **Unic. Papillose**: (Code A1)
   
   **Foot**: Simple. Body: 1-celled, hyaline, very long, clavate shaped, entire, papillose; wall thin, smooth; content, translucent. (Fig. 1)

   **Distb.**: Petals, Stamens, Ovary and Stigma.

2. **Unic. Conical**: (Code AII)
   
   **Foot**: Simple. Body: 1-celled, erect, tapering to a pointed tip; wall warded, thin; lumen narrow; content granulated. (Fig. 2)

   **Distb.**: Tendril, Sepals, Petals and Ovary.

3. **Bic. Conical**: (Code D)
   
   **Foot**: Simple, elevated. Body: Differentiated; basal cell bulbous, upper part curved; terminal cell long, conical, tip acute; lateral and cross wall thick; content granulated yellow. (Fig. 3)

   **Distb.**: Stem, Petiole, Leaves and Sepals.

4. **Bic. Aseptate Flagellate**: (Code E)
   
   **Foot**: Compound. Body: 2-celled, differentiated; basal cell rectangular; upper cell very long, flagellated; wall normal; content opaque. (Fig. 4)

   **Distb.**: Tendril, Leaves, Sepals and Petals.

5. **Unis. Filiform**: (Code G)
   
   **Foot**: Simple. Body: 4-7 celled, long, filiform; cells columnar; joint distinct; lateral wall smooth; content granulated. (Fig. 5)

   **Distb.**: Stem, Petiole, Leaves and sepals.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unic. Papilllose</td>
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<td>Unic. Conical</td>
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<td>3.</td>
<td>Bic. Conical</td>
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<tr>
<td>5.</td>
<td>Unis. Filiform</td>
<td>L x 10</td>
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<tr>
<td>6.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
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<tr>
<td>7.</td>
<td>Unis. Belemonid</td>
<td>H x 5</td>
</tr>
<tr>
<td>8.</td>
<td>Unic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Hooked**: (Code I)
   Foot: Compound, emarginate. Body: 4-5 celled, Differentiated; proximal 2-3 cells rectangular, small, making rigid stalk; rest upper cell columnar, long, terminal cell tapering to a curved, pointed end; joint distinct; wall rigid, content granulated yellow. (fig. 6)
   Distb.: Stem, Leaves, Pedicel, and Sepals.

7. **Unis. Belemnoid**: (Code M)
   Foot: Simple. Body: 4-5 celled, differentiated; basal region consist discoid cells; sub terminal cell oblong; terminal cell long, conical, stiff erect; walls thick; content dense, granulated golden yellow. (Fig. 7)
   Distb.: Stem Tendril, Petiole and Pedicel.

8. **Unic. Gld. 4-celled Capitate**: (Code R)
   Foot: Simple. Body: differentiated; stalk 1-celled, oblong; head 4-celled, inflated and hyaline; content granulated, opaque. (Fig. 8)
   Distb.: Tendril, Sepals, Petals, ovary, Stigma, Stamens.

9. **Bic. Gld. 2-celled Capitate**: (Code S)
   Foot: Simple. Body: Differentiate; stalk 2-celled, basal cell oblong, upper cell collard; head globose of 2 hemi spherical cells; content yellow. (Fig. 9)
   Distb.: Tendril, Pedicel, Sepals.

10. **Unis. Gld. 2-celled Capitate**: (Code V)
    Foot: Simple. Body: Differentiated; stalk 4-celled, erect; proximal cells cylindrical, bulbous; distal cells rectangular; head globose of 2 hemi spherical cells. (Fig. 10)
    Distb.: Stem, Petiole, Leaves and Pedicel.
1. Unic. Papillose: (Code A1)
Foot: Simple. Body: 1- celled, hyaline, Variously shaped; wall thin, inflated, content transluscent. (Fig. 1)
Distb.: Petals and Stigma.

2. Bic. Belemnoid: (Code F)
Foot: Simple. Body: differentiated; basal cell cylindrical, oblong; upper cell sharply acuminate, tip pointed; wall thick; lumen narrow, content dense, yellow. (Fig. 2)
Distb.: Stem, Petiole, Leaves, Tendrils and Sepals.

3. Unis. Filiform: (Code G)
Foot: Compound. Body: 5-8 celled, uniseriate, filiform; cells of varying length; lateral and cross walls thin; lumen normal content opaque. (Fig. 3)
Distb.: Abundently present on Stem, Petiole, Leaves, Pedicel and Sepals.

4. Unis Cylindrical: (Code H)
Foot: Simple. Body: Differentiated; proximal 2-3 cells discoid filled with yellow, granular substance; rest cells oblong, wall thin; tip rounded; content transluscent. (Fig. 4)
Distb.: Tendril, Sepals and Petals.
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<td>2.</td>
<td>Bic. Belemoind</td>
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<td>3.</td>
<td>Unis. Filiform</td>
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<td>4.</td>
<td>Unis. Cylindrical</td>
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<td>5.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
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<td>6.</td>
<td>Unis. Curved</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Conical</td>
<td>L x 10</td>
</tr>
</tbody>
</table>
5. Unis. Hooked: (Code I)
Foot: Simple. Body: Differentiated; basal part 2- celled, cells discoid; rest cells long, narrow (Fig. 5A) or Sub- terminal cell typically very large, oblong (Fig. 5B); terminal cell conical, tip acute; content dense, granulated.
Distb.: Stem, Leaves, Ovary (Fig. 5A); Petiole, Leaves, Sepals and Ovary (Fig. 5B)

6. Unis. Curved: (Code J)
Foot: Simple. Body: 3-5 celled, curved; terminal cell longest; tip acute; cross and lateral wall thick, lumen narrow content opaque. (Fig. 6)
Distb.: Sepals and Ovary

7. Unis. Conical: (Code K)
Foot: Simple. Body: many- celled, very long, erect; tip acute; cells of different length; lateral and cross wall thick content granulated, yellow (Fig. 7)
Distb.: Stem, Tendril, Petiole, Leaves and Pedicel.

Foot: Simple. Body: Differentiate; Stalk 1- celled, cell oblong; head 1- celled, inflated; wall thin, folded; content granulated, dense and yellow. (Fig. 8)
Distb.: Petals, Stamens and Stigma.

9. Unis. Gld. 2- celled Capitate: (Code V)
Foot: Simple. Body: Small, differentiated; stalk 3- celled, erect; cells discoid; head 2- celled, tomb shaped; outer wall thin, irregular; content granulated, yellow. (Fig. 9)
Distb.: Leaves, Sepals and Petals.

Foot: Simple. Body: Differentiated; Stalk uniseriate, multicellular, cells of varying length & breadth, irregular; head multi-cellular, rounded, hyaline; wall thin, irregular; content granulated, yellow. (Fig. 10)

Distb.: Leaves, Sepals and Ovary.
OTU – 8 *Cucumis sativus*, Linn.

This taxa shows eleven types of trichome (Plate- 8, Figs 1-11)

1. **Unic. Papillose** : (Code A1)
   Foot: Simple. Body: 1-celled, hyaline, variously shaped, papillose; wall thin; content granulated, transluscent. (Fig. 1)
   **Distb.** : Petals, Stamens, Ovary and Stigma.

2. **Unic. Falcate** : (Code A V)
   Foot: Simple. Body: 1-celled, falcate shaped; tip acute; wall thick; content dense, granulated. (Fig. 2)
   **Distb.** : Tendril, Pedicel, Sepals, Petals and Ovary.

3. **Unic. Cylindrical** : (Code A VII)
   Foot: Simple. Body: 1-celled, very long, hyaline, cylindrical; tip rounded; wall thin; lumen wide; content transluscent. (Fig. 3)
   **Distb.** : Tendril, Leaves, Petals, Stamens and Stigma.

4. **Bic. Conical** : (Code D)
   Foot: Simple. Body: 2-celled, erect, conical; base bulbous, tip acute; lateral and cross wall thick; content dense. (Fig. 4)
   **Distb.** : Stem, Tenril, Petiole, Leaves, Pedicel and Ovary.

5. **Unis. Hooked** : (Code I)
   Foot: Simple, elevated. Body: multi cellular, uniseriate hooked, differentiated; proximal cells very small, rectangular or discoid, irregular in outline; joint geniculate; penaltimate cell very long, broad, gradually tapering; terminal cell acuminate; lateral and cross walls thick; content opaque. (Fig. 5)
   **Distb.** : Stem, Petiole, Leaves, Pedicel and Sepals.
<table>
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<th>Fig. No.</th>
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<td>Unic. Falcate</td>
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<td>Unic. Cylindrical</td>
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<td>Bic. Conical</td>
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<td>7.</td>
<td>Stellate</td>
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</tr>
<tr>
<td>8.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
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</table>
6. **Unis. Conical**: (Code K)

Foot: compound, emarginate. Body: 5-8 celled, stiff, erect, conical; lower cells rectangular; upper cells longer than broad; terminal cell longest, lanceolate; tip acute; joints distinct; lumen various; content granulated yellow. (Fig. 6)

**Distb.**: Stem, Tendril, Petiole, Leaves and Sepals.

7. **Stellate**: (Code N)

Foot: Not visible, dome shaped. Body: multi radiate; rays lanceolate or conical, unicelled or bicelled; tip acute; content granulated. (Fig. 7)

**Distb.**: Stem, Petiole, Leave and Pedicel.

8. **Peltate**: (Code O)

Foot: Not visible. Body: multi cellular, 1-celled thick, spherical; cells small, rosettidly arranged; outer wall hyaline, vesiculated, irregular; content granulated opaque. (Fig. 8)

**Distb.**: Stem, Petiole, Pedicel and ovary.

9. **Bic. Gld. 4-celled Capped**: (Code U)

Foot: Simple. Body: differentiated; stalk 2-celled small lower cell cylindrical, upper cell collard; head multi cellular, globose; wall thin, undulating; content granulated opaque. (Fig. 9)

**Distb.**: Leaves, Sepals, Petals, stamens and ovary.

10. **Unis. Gld. 4-celled capitate**: (Code W)

Foot: compound, emarginated. Body: Differentiated; stalk 5-6 celled, small; cells small, rectangular; lateral wall torulose, cross wall thick; head 4-celled, globose; outer wall entire; content granulated. (Fig. 10)

**Distb.**: Stem, Leaves, Pedicel and Sepals.

Foot: compound. Body: Differentiated; stalk 6-8 celled, irregular erect; cells varied; wall irregular, joint distinct; head multi cellular, globose; outer wall hyaline, thin and vesiculated; content granulated opaque. (Fig. 11)

Distb.: Stem, Petiole, Leaves, Tendril and Petals.
OTU -9 Cucumis trigonus, Roxb.
This taxa shows ten types of trichome (Plate 9 Fig. 1-10)

1. **Unic. Papillose.**: (Code A1)
   **Foot**: Simple. Body: 1- celled, broad, cylindrical, hyaline; tip rounded; wall thin, hyaline; content translucent. (Fig. 1)
   **Distrib.**: Stamen, Stigma and Ovary.

2. **Unic. Arrect**: (Code III)
   **Foot**: Compound. Body: 1- celled, basal part broad, sunken; distal part curved to a pointed tip; wall thick; content yellow. (Fig. 2)
   **Distrib.**: Petiole, Leaves, and Sepal.

3. **Bic. Cylindrical**: (Code C)
   **Foot**: Simple. Body: 2- celled, long, cylindrical, entire; cells of equal size; tip rounded; wall thin, smooth content translucent. (Fig. 3)
   **Distrib.**: Petals and Ovary.

4. **Unis. Filiform**: (Code G)
   **Foot**: compound. Body: very long, uniseriate, 6-8 celled; cells gradually narrow, columner lateral and cross walls thick, smooth; joints distinct; lumen narrow; content opaque. (Fig. 4)
   **Distrib.**: Stem, Petiole, Leaves, Pedicel and Sepals.

5. **Unis. Hooked**: (Code I)
   **Foot**: Simple. Body: 5-6 celled, hooked; proximal two cells rectangular making strong base; rest cells long, curved, apical cell sharply pointed; joint distinct; lumen narrow, content granulated yellow. (Fig. 5)
   **Distrib.**: Stem, Tendril, Petiole, Leaves and Pedicel.
<table>
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<tr>
<th>Fig. No.</th>
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<th>Mag.</th>
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<td>4.</td>
<td>Unis. Filiform</td>
<td>L x 5</td>
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<tr>
<td>5.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Sept. Flagellate</td>
<td>H x 5</td>
</tr>
<tr>
<td>8.</td>
<td>Unic. Gld. 2-celled Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Conical:** (Code K)
**Foot:** Compound. Body: 5-7 celled, conical; cells barrel shaped, margin undulating; terminal cell smallest, stiffly, acuminate to a sharp pointed end, content of apical cell dense, granulated yellow. (Fig. 6)
**Distrib.:** Stem, Leaves and Sepal

7. **Unis. Septate Flagellate:** (Code L)
**Foot:** Simple. Body: Differentiated; basal cell thick walled, rigid, erect; rest cells very long, thin walled, flagellate, tip rounded; content translucent. (Fig. 7)
**Distrib.:** Stem, Sepals, Petals and Ovary.

8. **Unic. Gld. 2-celled Capitate:** (Code Q)
**Foot:** Not visible. Body: Differentiated; stalk 1-celled, clavate; head 2-celled; cell isobilateral, hemispherical; content golden yellow. (Fig. 8)
**Distrib.:** Tendril, Sepal and Petals.

9. **Bic. Gld. 2-celled Capitate:** (Code S)
**Foot:** Simple. Body: clavate; stalk 2-celled, cells rectangular, simple; head 2-celled, cells bulbous, large, one above the other; terminal cell ovovate; margin irregular; tip rounded; content granulated yellow (Fig. 9)
**Distrib.:** Stem, Leaves and Sepals.

**Foot:** Simple. Body: Differentiated; Stalk 4-5 celled, terminated with smallest, neck cell; head 2-celled seated on neck cell; each cell long, clavate; content granulated yellow. (Fig. 10)
**Distrib.:** Stem, Petiole, Leaves and Pedicel.
OTU-10 Cucurbita maxima, Duch.

This taxa shows eleven type of trichomes (Plate- 10. Fig. 1-11)

1. **Unic. Papillose**: (Code A1)
   Foot: Simple, Body: Simple, 1-celled, Papillose, hyaline; wall very thin, irregular with infoldings; content translucent. (Fig. 1)
   Distb.: Stamen, Ovary, Stigma.

2. **Bic. Conical**: (Code D)
   Foot: Simple. Body: 2-celled, erect; cells of equal length, terminal cell Stem, pointed; lumen normal, content opaque.
   Distb.: Leaves, and Pedicel

3. **Bic. Belemnoid**: (Code F)
   Foot: Simple, emarginate. Body: Differentiated; basal cell barrel-shaped; upper cell stiff, erect, conical, dart-shaped; lumen narrow; content dense, granulated yellow. (Fig. 3)
   Distb.: Stem, Petiole, Leaves, Pedicel, Sepals.

4. **Unis. Conical**: (Code K)
   Foot: compound. Body: 4-7 celled, conical; cells longer than broad; lateral and cross walls thick; content dense yellow. (Fig. 4)
   Distb.: Stem, Petiole, Leaves, Pedicel, Sepals.

5. **Unis. Hooked**: (Code I)
   Foot: Compound. Body: 5-7 celled, stiff, hooked; terminal cell longest, and pointed; lateral and cross walls thick; lumen narrow; content very dense and yellow. (Fig. 5)
   Distb.: Stem, Leaves and Pedicel.
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<td>2.</td>
<td>Bic. Conical</td>
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<td>Bic. Belemonid</td>
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<td>11.</td>
<td>Unis. Gld. 4-celled. Cap.</td>
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</tr>
</tbody>
</table>
6. **Unis. Curved:** (Code J)

**Foot:** Simple. Body: 4-6 celled, entire, curved; cell narrow, tip acute; walls thin and smooth; content opaque. (Fig. 6)

**Distrb.:** Tendril, Pedicel, Sepals and Petals.

7. **Unis. Sept. Flagellate:** (Code. L)

**Foot:** Simple. Body: 3-4 celled differentiated; basal cell erect, long; rest indulating, flagellate; wall thin; content translucent. (Fig. 7)

**Distrb.:** Petal and Stamen.

8. **Unic. Gland. Capitate:** (Code P)

**Foot:** Simple. Body: Differentiated; stalk 1- celled, cylindrical; wall thick; head globose, inflated, wall thin, hyaline, infolded; content granulated, golden yellow. (Fig. 8)

**Distrb.:** Petals, Stamen, Ovary and stigma.

9. **Bic. Gld. 4-celled Capitate:** (Code. T)

**Foot:** Simple. Body: Differentiated; stalk 2- celled hight cells rectangular; head 4-celled, capitate; wall thick; content dense, granulated yellow. (Fig. 9)

**Distrb.:** Leaves, Tendril, Sepal and Petal.

10. **Unis. Gld. 4-Celled Capitate:** (Code. W)

**Foot:** Simple. Body: Differentiated; Stalk 3- celled, thin, hyaline; head 4- celled, distinct with dense, granulated yellow contents. (Fig. 10)

**Distrb.:** Leaves, Petals and Ovary.

Foot: Compound. Body: Differentiated; Stalk 3-5 celled, distal cell collard; head globose, irregular, 2-celled, cells large, wall thick; content dense, granulated yellow (Fig. 11)

Distb.: Petals.
OTU - 11 Cucurbita pepo, (L.) Roxb.

This taxa shows twelve types of trichomes (Plate- 11, Figs . 1-12 )

1. Unic. Papillose : (Code A 1)
   Foot: Simple . Body: Hyaline, variously shaped; wall thin, irregular; content granulated translucent. (Fig. 1)
   Distb. : Ovary, Stigma and Stamen.

2. Unic. Flagellate. : (Code. A VI )
   Foot : Simple . Body : Entire, 1-celled, hyaline, thin , flaxible, narrow; contents transluscent. (Fig. 2)
   Distb. : Petals, ovary and stamen.

   Foot: Simple. Body: 2-celled, short, conical; upper cell stiff, conical; wall thick; lumen narrow; content dense, granulated and yellow (Fig. 3)
   Distb. : Tendril, Leaves, Petiole, Sepal.

4. Unis. Filiform : (Code G )
   Foot: Simple. Body: 3-5 celled, thin, filiform; cells longer than broad; wall normal, content transluscent. (Fig. 4)
   Distb. : Tendril, Leaves, Sepal and Petal.

5. Unis. Conical : (Code K )
   Foot: Compound, emarginated. Body: 4-7 celled, stiff, erect; content dense, granulated, golden yellow. (Fig. 5)
   Distb. : Stem, Leaves, Pedicel, Sepal.
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<tr>
<td>8.</td>
<td>Unic. Gld. 4-celled. Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Hooked**: (Code I)

Foot: Simple. Body: 5-6 celled; proximal cells erect, distal cells curved, terminal cell conical with dense granulated yellow. (Fig. 6)

**Distrib.**: Stem, Tendril, Petiole, Pedicel, Sepal.

7. **Unis. Belemnoid**: (Code M)

Foot: Compound. Body: Differentiated; all cell except terminal one discoid; terminal cell stiff, acuminate having thick wall; lumen narrow; content dense golden yellow. (Fig. 7)

**Distrib.**: Stem, Leaves, Pedicel, Sepal.

8. **Unic. Gld. 4-Celled Cap.**: (Code R)

Foot: Simple. Body: Differentiated; stalk 1-celled, hyaline; head 4-celled, enlarged, inflated, hyaline; content dense yellow. (Fig. 8)

**Distrib.**: Ovary, Stigma.

9. **Bic. Gld. 4-Celled Cap.**: (Code T)

Foot: Simple. Body: Differentiated; stalk 2-celled, cells mequal; head 4-celled, globose; walls thick; content dense, granulated. (Fig. 9)

**Distrib.**: Stem, Tendril, Leaves and Sepal.

10. **Unis. Gld. 2-celled Capitate**: (Code V)

Foot: Simple. Body: entire, glandulate; stalk 3-celled, erect; cells discoid; head 2-celled, hemi spherical; walls thick; content dense yellow. (Fig. 10)

**Distrib.**: Tendril, Pedicel, Sepal and Petal.
Foot: Simple. Body: Long, cylindrical, differentiated; stalk many celled, long, flexible; cells short, discoid; head many celled, inflated; wall thin, irregular; content dense, granulated. (Fig. 11)
Distb.: Petals.

Foot: Simple. Body: Differentiated; stalk 3-5 celled, terminal one narrow, necked; head globose, inflated, many celled; content dense, yellow. (Fig. 12)
Distb.: Stem, Leaves, Pedicel, Sepal.
OTU - 12 - Cucurbita moschata, Duches.

This taxa shows ten types of trichome (Plate 12. Figs 1-10)

1. **Unic. Conical** : (Code A II)
   Foot: Not visible. Body: 1-celled, erect, stiff, acuminate; tip pointed; wall thick; lumen narrow, content granulated. Yellow. (Fig. 1)
   **Distb.** : Stem, Petiole, Leaves, Pedicel and Sepals.

2. **Bic. Belemnoid** : (Code F)
   Foot: Simple, emarginate. Body: 2-celled, differentiated; basal cell barrel shaped; terminal cell stiff, erect, conical; joint distinct; lateral walls thick; lumen narrow; content golden yellow. (Fig. 2)
   **Distb.** : Stem, Tendril, Leaves and ovary.

3. **Unis. Filiform** : (Code G)
   Foot: Simple. Body: 5-8 celled, very long, filiform; cells much longer than broad; lateral and cross walls thin; lumen wide, content opaque. (Fig. 3)
   **Distb.** : Stem, Tendril, Petiole, Leaves, Pedicel, Sepals and ovary.

4. **Unis. Cylindrical** : (Code H)
   Foot: Simple. Body: 4-6 celled, hyaline, cylindrical; lateral and cross wall thin, tip rounded; lumen wide, content transluscent. (Fig. 4)
   **Distb.** : Petals.

5. **Unis. Hooked** : (Code I)
   Foot: compound, emarginate. Body: 3-celled, geniculated, stiff, hooked; base compact; terminal cell longest, tip acute; walls thick; lumen narrow, content dense, granulated golden yellow. (Fig. 5)
   **Distb.** : Stem, Pedicel, Leaves, Pedicel and ovary.
6. Unis. Curved: (Code J)
Foot: Simple. Body: Differentiated; except the terminal cell, all cells discoid of varying size; terminal cell very long, curved, gradually tapering to a pointed tip with narrow lumen; content granulated yellow. (Fig. 6)
Distb.: Stem, Petiole, Pedicel and Sepals.

7. Unis. Septate Flagellate: (Code L)
Foot: Simple. Body: Differentiated; basal region 3-5 celled, dwarf, cells discoid, irregular; rest cells columnar, elongated, flexible; tip pointed; walls smooth; lumen normal, content granulated translucent. (Fig. 7)
Distb.: Petals and Ovary.

8. Unic. Glld. 4-celled Capitate: (Code R)
Foot: Not visible. Body: Differentiated; stalk 1-celled, hyaline, cupular; head inflated, infolded, multi cellular, hyaline; content granulated translucent. (Fig. 8)
Distb.: Stamens, Stigma and Ovary.

9. Bic. Glld. 4-Celled Capitate: (Code T)
Foot: Simple. Body: Differentiated; stalk 2-celled, very short, hyaline; head 4-celled, globose; walls thick; content dense, granulated. (Fig. 9)
Distb.: Stem, Tendril, and Petals.

10. Unis. Glld. 4-celled Capitate: (Code W)
Foot: Simple, emarginate. Body: Differentiated; stalk 3-4 celled, irregular; cells rectangular; head 4-celled inflated, hyaline; content granulated golden yellow. (Fig.10)
Distb.: Stem, Petiole, Leaves and Sepals.
1. **Unic. Papillose**: (Code. AI)
   
   Foot: Simple. Body: 1-celled, long, Papillose; distal end variably rounded; wall thin; content transluscent. (Fig. 1)
   
   Distb.: Petals and Ovary.

2. **Unic. Arrect**: (Code A III)
   
   Foot: Compound. Body: Arrect, distal end Sharply pointed; wall thick and smooth; lumen wide, content yellow (Fig. 2)
   
   Distb.: Stem, Petiole and Pedicel.

3. **Unic. Flagellate**: (Code A VI)
   
   Foot: Simple. Body: 1-celled, flexible, long, narrow; tip rounded; wall thin, hyaline; content transluscent. (Fig. 3)
   
   Distb.: Tendril, Sepals, Petals, Ovary and Stamens.

4. **Bic. Conical**: (Code D)
   
   Foot: Compound. Body: 2-types; I.2-celled, stiff, errect; basal cell oblong, terminal cell long, acuminate; tip acute (Fig. 4A) or II. very stout; cell small, apical cell erect or bent to a hook (Fig. 4B & C) wall thick; content dense, granulated.
   
   Distb.: Stem, Petiole, Leaves, Pedicel Sepals and Ovary.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
</tr>
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<tr>
<td>2.</td>
<td>Unic. Arrect</td>
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<td>3.</td>
<td>Unic. Flagellate</td>
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<td>4.</td>
<td>Bic. Conical</td>
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<tr>
<td>5.</td>
<td>Unis. Cylindrical</td>
<td>H x 5</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Curved</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Conical</td>
<td>H x 10</td>
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<tr>
<td>8.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
<tr>
<td>10.</td>
<td>Unis. Gld. 4-celled. Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
5. **Unis. Cylindrical:** (Code H)

Foot: Elevated, Compound. Body: 4-5 celled, cylindrical, seated on strong elevated base; basal cell smallest, bulbous; tip rounded; lateral and cross walls normal; content granulated, translucent. (Fig. 5).

Distb.: Stem, Petiole and Pedicel.

6. **Unis. Curved:** (Code J)

Foot: Simple. Body: 3-celled, curved; terminal cell longest, gradually tapering to acute apex; lateral and cross wall thick; lumen wide, content dense, granulated. (Fig. 6)

Distb.: Stem, Leaves and Sepals

7. **Unis. Conical:** (Code K)

Foot: Simple, broad. Body: 4-5 celled, erect, conical; cells rectangular, basal cell broadest, apical cell pyramidal, tip acute; lateral and cross wall thick; content granulated. (Fig. 7)

Distb.: Stem and Leaves.

8. **Peltate:** (Code O)

Foot: Not visible. Body: many celled, 1-cell thick; parallel to epidermis; cells arranged around the periphery of central hollow region; outer wall thin, vesiculate; content granulated dense. (Fig. 8)

Distb.: Leaves and ovary.

9. **Unic. Gld. 4-Celled Capitate:** (Code R)

Foot: Simple. Body: Differentiated; stalk 1-celled, cell small, rectangular; head 4-celled; cells irregular; outer wall thin, vesiculate; content golden yellow (Fig. 9)

Distb.: Stem, Tendril, Leaves, Sepals, Petal and Ovary.

Foot: Simple. Body: Differentiated; stalk 3-celled, erect; distal cell discoid, collard; head 4-celled, dolliform; wall thin, vesiculate; content golden yellow (Fig. 10)

Distrb. : Leaves, Pedicel, Sepals and Petal.
OTU – 14 *Lagenaria vulgaris* ser. in mem”

This taxa shows ten types of trichomes. (Plate No. 14, Figs.1-10)

1. **Unicellular papillose** : (Code A1)
   Foot: Simple, emarginated. Body: entire, hyaline, oblong, tip rounded; lateral wall thin and smooth; lumen wide, content light yellowish. (Fig. 1)
   Distb. : Tendril, Leaf, Stamens and ovary.

2. **Unicellular Falcate** : (Code AV)
   Foot: Simple. Body: Entire, opaque, falcate; tip acute; lateral wall thick and rugose; lumen wide, content light yellowish. (Fig. 2)
   Distb. : Tendril, Petiole, leaf, Pedicel and sepals.

3. **Bicellular Filiform** : (Code B)
   Foot: Simple. Body: 2- celled, filiform, both cells equal in length; tip rounded; joint articulate; lateral wall thick, rugose; lumen wide, content opaque. (Fig. 3)
   Distb. : Stem, Leaf, Petiole, Sepals & Petals.

4. **Bicellular Conical** : (Code D)
   Foot: Compound, emarginated. Body: 2- celled, conical; upper cell shorter, tip pointed; lateral wall thick; lumen narrow, content dense, granulated. (Fig. 4)
   Distb. : Stem, Leaf, Petiole, Pedicel, and Sepals.

5. **Uniseriate Filiform** : (Code G)
   Foot: Simple. Body: 3-6 celled, filiform; cells unequal in length; apical cell longest; cells longer than broad; tip rounded; cross wall thin, lumen wide; content granulated (Fig. 5)
   Distb. : Stem, Petiole, Leaf and Pedicel.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
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<tr>
<td>1.</td>
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<td>2.</td>
<td>Unic. Falcate</td>
<td>H x 10</td>
</tr>
<tr>
<td>3.</td>
<td>Bic. Filiform</td>
<td>H x 5</td>
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<td>4.</td>
<td>Bic. Conical</td>
<td>H x 5</td>
</tr>
<tr>
<td>5.</td>
<td>Unis. Filiform</td>
<td>H x 5</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Curved</td>
<td>H x 5</td>
</tr>
<tr>
<td>8.</td>
<td>Unic. Sept. Flagellate</td>
<td>H x 5</td>
</tr>
</tbody>
</table>
6. **Uniseriate Hooked**: (Code I)
Foot: Simple, emarginated. Body: 4-5 celled, hooked, striated; cells almost of equal size; terminal cells filled with dense granulated contents; lateral wall thick; joints articulated; lumen wide, content opaque. (Fig. 6)
**Distb.**: Stem, Petiole, Pedicel and sepals.

7. **Uniseriate curved**: (Code J)
Foot: Simple. Bod: 5-7 celled, curved; cells of different length, terminal longest; tip pointed; lateral wall thin; lumen wide, content opaque, granulated. (Fig. 7)
**Distb.**: Tendril, pedicel, sepals, petals, and ovary.

8. **Uniseriate Septate Flagellate**: (Code L)
Foot: Simple, emarginated. Body: 5-8 celled long; cells much longer than breadth, cylindrical; distal cells flagellate; tip rounded; lateral wall normal, lumen narrow; content yellowish – granulated. (Fig. 8)
**Distb.**: Tendril, Leaf, Petals and ovary.

9. **Unicellular Gld. 4-celled Capitate**: (Code R)
Foot: Compound, emarginated. Body: Differentiated; stalk 1-celled, isodiametrical, wall thick, content opaque; head oval, multi cellular, cells rounded content dense, yellow, granulated. (Fig. 9)
**Distb.**: Leaf, Petals, ovary and Stigma.

10. **Uniseriate Gld. M-celled Capitate**: (Code X)
**Foot**: Compound, bulbous. Body: Differentiated; stalk – 3 - 4 celled, upper cell isodiametrical; lateral & cross walls thick, jointed; head multi cellular, rounded; cells of equal size, content dense, granulated. (Fig. 10)
**Distb.**: Stem, Petiole and pedicel.
OTU – 15 *Luffa acutangula*, *L.* *(Roxb.)*

This taxa shows ten types of trichome (Plate 15, Figs. 1-10)

1. **Unic. Papillose.** (Code A I)
   Foot: Simple. Body: 1-celled, long, irregular, hyaline; variously papillose; wall thin, content transluscent. (Fig. 1)
   **Distb.** : Leaves, Petals, Stamens, Ovary and Stigma.

2. **Unic. Conical:** (Code A II)
   Foot: Compound, emarginate. Body: 1-celled, stout; basal part bulbous; distal part conical; wall thick; content granulated dense. (Fig. 2)
   **Distb.** : Stem, Petiole, Pedicel and Sepals.

3. **Unic. Curved:** (Code A IV)
   Foot: Simple. Body: 1-celled, stiffly curved; tip acute; wall thick; lumen wide, content dense. (Fig. 3)
   **Distb.** : Stem, Tendril, Leaves and Ovary.

4. **Bic. Belemnoid:** (Code F)
   Foot: compound, broad. Body: 2-celled, distinct; basal cells very broad, upper cell narrow, acuminated; entire body dart-shaped; wall thick; content granulated opaque. (Fig. 4)
   **Distb.** : Leaves, Sepals, Petals and Ovary.

5. **Unis. Filiform:** (Code G)
   Foot: Simple. Body: 5-8 celled, very long, filiform; cells much elongated; tip retuse; cross walls thin; content granulated (Fig. 5)
   **Distb.** : Stem, Petiole, Leaves, Pedicel, Sepals and Ovary.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
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<td>2.</td>
<td>Unic. Conical</td>
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</tr>
<tr>
<td>3.</td>
<td>Unic. Curved</td>
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</tr>
<tr>
<td>4.</td>
<td>Bic. Belemonid</td>
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<tr>
<td>5.</td>
<td>Unis. Filiform</td>
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<tr>
<td>6.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Conical**: (Code K)

Foot: compound, emarginate. Body: 4-6 celled, stiff, erect; cells of various diameter; basal cell broad, bulbous; terminal cells acuminate; content dense, granulated. (Fig. 6)

**Distb.**: Stem, Petiole, Leaves, Pedicel and Ovary.

7. **Peltate**: (Code O)

Foot: Not visible. Body: multi cellular, rosetted, 1-celled thick; cells irregular, hyaline, arranged in many rings; outer wall thin, vesiculated; content granulated, golden yellow. (Fig. 7)

**Distb.**: Stem, Leaves and Ovary.

8. **Bic. Gld. 4-celled Capitate**: (Code T)

Foot: Simple. Body: Differentiated; stalk 2-celled, dwarf, cells rectangular, wall thin; head 4-celled, ovate; content dense, granulated, yellow. (Fig. 8)

**Distb.**: Tendril, Leaves, Sepals, Petals, Stamens and Ovary.

9. **Unis. Gld. 2-celled capitate**: (Code V)

Foot: Simple. Body: Differentiated; stalk 3-celled, cells longer than broad; joint distinct, lumen narrow; head 2-celled, isobilateral, elongated cells; content granulated, yellow. (Fig. 9)

**Distb.**: Stem, Petiole, Leaves, Pedicel, Sepals and Petals.


Foot: Compound. Body: Differentiated; stalk 4-5 celled; terminal cell biconcave like neck, weak; head multi cellular, spherical; cell in regular fashion; outer wall thin, vesiculated; content granulated golden yellow. (Fig. 10)

**Distb.**: Stem, Petiole, and Pedicel.
This taxa shows ten types of trichome (Plate – 16, Fig. 1-10)

1. **Unic. Conical** (Code A II )
   Foot: Simple. Body: 1- celled, entire, still, erect, columnar; tip pointed; lumen narrow; content yellow. (Fig. 1)
   **Distrb.** : Stem, Leaves, Pedicel, Petals and Ovary.

2. **Unic. Falcate**: (Code A V)
   Foot: Simple. Body: 1- celled, rigid, falcate shaped; tip acute; wall thick; lumen narrow, content dense, yellow (Fig. 2)
   **Distrb.** : Tendril, Petiole, Leaves, Sepals and Petals.

3. **Bic. Conical** (Code D)
   Foot: Simple. Body: 2-celled, erect, conical; cells of equal size; upper cell rectangular, tip acute; walls thick; lumen wide; content dense, granulated. (Fig. 3)
   **Distrb.** : Stem, Leaves, Pedicel, Sepals and Ovary.

4. **Unis. Filiform** (Code G)
   Foot: compound, elevated. Body: 3-4 celled, uniseriate, filiform; tip rounded; cross walls distinct; content granulated. (Fig. 4)
   **Distrb.** : Tendril, Sepals, Petals, Stemens and Stigma.

5. **Unis. Hooked** (Code I)
   Foot: compound, elevated. Body: 4-5 celled, stiff, curved; terminal cell rigid, conical; lateral and cross walls thick; content granulated yellow. (Fig. 5)
   **Distrb.** : Stem, Petiole, Leaves, Pedicel and Ovary.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
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<tr>
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</tr>
<tr>
<td>7.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Conical**: (Code K)
   Foot: compound, elevated. Body: 6-10 celled long; cells unequal; basal cell bulbous; terminal cell lanceolate, tip acute; cross walls thick, distinct; content dense, yellow. (Fig. 6)
   **Distb.**: Stem, Tendril, Leaves, Sepals and Ovary.

7. **Peltate**: (Code O)
   Foot: Not visible. Body: many – celled, plate-like, 1-celled thick, parallel to epidermis; cells variable, arranged around central cell in many whorls; outer wall irregular, vesiculate; content granulated, yellow (Fig. 7)
   **Distb.**: Stem and Ovary.

   Foot: Simple. Body: very small, differentiated; stalk 1-celled, hyaline; head spherical, inflated; outer wall thin, irregular and vesiculated; content granulated yellow (Fig. 8)
   **Distb.**: Tendril, Leaves, Pedicel, Sepals, Petals, Ovary and Stamens.

   Foot: Simple. Body: Differentiated; stalk 3-celled, small, erect; cells rectangular; head multi cellular, globose; outer wall thin, vesiculated; content granulated yellow. (Fig. 9)
   **Distb.**: Stem, Petiole, Leaves, Pedicel, Sepals and Ovary.

Foot: Simple, elevated. Body: long, differentiated; stalk 3-4 celled, cells long, cylindrical; terminal cell bi-concave like neck, weak; head multi cullular, spherical; cells arranged in regular manner; outer wall thin, vesiculated; content granulated yellow. (Fig. 10)

Distsb. : Stem, Petiole, Leaves and Sepals.
1. **Unic. Falcate**: (Code AV)

**Foot**: Simple. Body: 1-celled, erect, entire, falcate-shaped; wall thick, smooth; lumen narrow, content dense granulated. (Fig. 1)

**Distb.**: Tendril, Sepal, Petal and Ovary.

2. **Unic. Flagellate**: (Code AVI)

**Foot**: Simple. Body: 1-celled, hyaline, elongated; wall torrulated; variously shaped; content transluscent. (Fig. 2)

**Distb.**: Petals, Stamen and Ovary.

3. **Uniseriate Filiform**: (Code G)

**Foot**: Simple. Body: 4-7 celled, filiform; cells barrel shaped; joint distinct; tip rounded; lateral and cross walls thick; content opaque. (Fig. 3)

**Distb.**: Stem, Petiole, Leaves and Sepals.

4. **Unis. Cylindrical**: (Code H)

**Foot**: Compound, emarginate. Body: many celled, uniseriate cylindrical; cells discoid with irregular outline; tip rounded; content opaque. (Fig. 4)

**Distb.**: Tendril, Pedicel, Petals and Ovary.

5. **Unis. Hooked**: (Code I)

**Foot**: Simple, broad. Body: 3-celled, basal cell erect with bulbous base, middle and terminal cell bent to a hooked; tip acute; lateral and cross walls thick; content dense yellow (Fig. 5).

**Distb.**: Stem, Petiole and Pedicel.
<table>
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<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
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<td>Unis. Filiform</td>
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<td>Unis. Cylindrical</td>
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<td>5.</td>
<td>Unis. Hooked</td>
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<td>Unis. Conical</td>
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<td>7.</td>
<td>Unis. Sept. Flagellate</td>
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<tr>
<td>8.</td>
<td>Unic. Gld. 4-celled. Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Conical**: (Code K)

**Foot**: Simple, broad. Body: 3-4 celled, differentiated; all cells oblong, barrel shaped except terminal one; terminal cell narrow, acuminate; lateral and cross walls thick; lumen wide; content dense granulated. (Fig. 6)

**Distb.**: Stem, Tendril, Petiole, Leaves, Pedicel and Sepal.

7. **Unis. Septate Flagellate**: (Code L)

**Foot**: Compound. Body: many celled, narrow, flagellated; cells unequal in length; tip hyaline; walls thin; content transluscent. (Fig. 7)

**Distb.**: Stem, Tendril, Leaves, Petals and ovary.

8. **Unicellular Glandular 4-Celled Capitate**: (Code R)

**Foot**: Compound. Body: Differentiated; stalk 1-celled, erect, cylindrical; head 4-celled, rounded; outer walls thin; content dense, granulated yellow. (Fig. 8)

**Distb.**: Stem, Leaves, Sepals and Ovary.

9. **Bic. Gld. 2-Celled Capitate**: (Code S)

**Foot**: Compound. Body: simple, glandular, stalk 2-celled, very small, hyaline; head 2-celled, uppercell tomb-shaped; walls thin, irregular; content dense, granulated yellow. (Fig. 9)

**Distb.**: Leaves, Sepals and Petals.


**Foot**: Compound. Body: Differentiated; stalk 3-celled small; basal cell longest; wall thin; head many-celled, globose, irregular; lumen filled with dense, granulated golden yellow contents. (Fig. 10)

**Distb.**: Petiole, Leaves, Pedicel, Sepals and Ovary.
1. **Unic. Conical**: (Code All)

   **Foot:** Simple. Body: 2- types; I. one-celled, dwarf, proximal part bulbous, distal part sharply pointed; content dense granulated, yellow (Fig. 1A) or II. one-celled, elongated to a pointed tip; wall thick; content yellow. (Fig. 1B)

   **Distb.:** (Fig. 1A) Stem, Tendril, Leaves, Sepals and ovary; (Fig. 1B) Stem, Petiole, Leaves, Pedicel and Sepals.

2. **Unic. Arrect:** (Code A III)

   **Foot:** Compound, broad. Body: 1-celled, basilatus, angular- arrect; wall thick; lumen narrow, content granulated yellow. (Fig. 2)

   **Distb.:** Stem, Leaves, Pedicel and sepals.

3. **Unic. Flagellate:** (Code A VI)

   **Foot:** Simple. Body: one-celled, long, irregular, hyaline ; wall thin; content granulated transluscent. (Fig. 3)

   **Distb.:** Petals, Stemens, Ovary and Stigma.

4. **Bic. Conical**: (Code D)

   **Foot:** Simple, convex. Body: 2- celled, dwarf, errect; tip pointed; wall thick; lumen narrow, content dense, granulated, golden yellow. (Fig. 4)

   **Distb.:** Stem, Tendril, Leaves, Pedicel and Sepals.

5. **Unis. Hooked**: (Code I)

   **Foot:** Compound, emarginated. Body : 3- celled, hooked; basal cell basilatus; apical cell rigid, conical; outer wall irregular, thick, cross wall thick; content dense. (Fig. 5)

   **Distb.:** Stem, Leaves and Ovary.
<table>
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<tr>
<th>Fig. No.</th>
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<td>2.</td>
<td>Unic. Arrect</td>
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<td>5.</td>
<td>Unis. Hooked</td>
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<tr>
<td>6.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Belemonid</td>
<td>H x 5</td>
</tr>
</tbody>
</table>
6. **Unis. Conical**: (Code K)
   **Foot**: Compound. Body: thick, stiff, erect and 4-celled conical; lateral and cross walls thick; tip pointed; content dense yellow. (Fig. 6)
   **Distr.**: Petiole, Pedicel and Sepals.

7. **Unis. Belemnoid**: (Code M)
   **Foot**: Compound. Body: Differentiated; except terminal one, all cells cylindrical, unequal, irregular; apical cell acuminate, narrow; lateral and cross wall thick content golden yellow. (Fig. 7)
   **Distr.**: Stem, and Pedicel.

   **Foot**: Simple. Body: Differentiated; stalk 1-celled, hyaline, abovate; head 1-celled, rounded; wall very thin vesiculated, irregular; content granulated yellow (Fig. 8).

9. **Bic. Gld. 4-celled Capitate**: (Code T)
   **Foot**: Simple. Body: Differentiated; stalk 2-celled, erect; cells longer than broad; wall thick head 4-celled, dolliform; outer wall thin; content granulated. (Fig. 9)
   **Distr.**: Stem, Tendril, Leaves, Petals and Ovary.

    **Foot**: Simple. Body: Differentiated; stalk 3-celled erect; upper cell discoid, walls thick, content yellow; head multi cellular, globose; outer wall this hyaline, vesiculated, irregular; content dense, granulated. (Fig. 10)
    **Distr.**: Stem, Leaves, Petals and Ovary.
OTU-19, *Momordica charantia* L.

This taxa shows ten types of trichome (plate 19, fig 1-10)

1. **Unicellular Papillose**: (Code A1)
   
   Foot: Simple. Body: 1-celled, long, irregular, inflated; wall thin; content translucent, tip granulated. (Fig.1)
   
   **Distb**: Petals, Stamens and Stigma.

2. **Unic. Conical**: (Code A II)
   
   Foot: Simple. Body: 1-celled, entire, erect, conical, distal part sharply pointed; wall thick; lumens narrow; content dense. (Fig.2)
   
   **Distb**: Stem, Petiole, Leaves, Tendril and Sepal.

3. **Uniseriate Filiform**: (Code G)
   
   Foot: compound. Body: 3-5 celled, entire; basal cell broader than length; tip rounded; lateral and cross walls thin; lumen narrow, content translucent. (Fig. 3)
   
   **Distb**: Stem, Tendril, Pedicel and Sepals.

4. **Unis. Cylindrical**: (Code H)
   
   Foot: compound, emarginate. Body: many celled, flexible; cell discoid; wall thin, content translucent; terminal cell domed with dense, granulated content. (Fig. 4)
   
   **Distb**: Petals.

5. **Unis. Hooked**: (Code I)
   
   Foot: Simple. Body: 4-celled, hooked; basal cell longest, erect; next cell bent at joint; terminal cell oblong, tip obtuse; wall thick; lumen narrow; content dense yellow. (Fig.5)
   
   **Distb**: Stem, Petiole and Pedicel.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unic. Papilllose</td>
<td>L x 10</td>
</tr>
<tr>
<td>2.</td>
<td>Unic. Conical</td>
<td>L x 10</td>
</tr>
<tr>
<td>3.</td>
<td>Unis. Filiform</td>
<td>L x 10</td>
</tr>
<tr>
<td>4.</td>
<td>Unis. Cylindrical</td>
<td>H x 10</td>
</tr>
<tr>
<td>5.</td>
<td>Unis. Hooked</td>
<td>L x 10</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Sept. Flagellate</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Belemnoid</td>
<td>H x 5</td>
</tr>
<tr>
<td>8.</td>
<td>Unis. Gld. 2-celled.Cap.</td>
<td>L x 10</td>
</tr>
<tr>
<td>9.</td>
<td>Unis. Gld. 4-celled. Cap.</td>
<td>L x 10</td>
</tr>
</tbody>
</table>
6. Unis. Septate Flagellate: (Code L)
Foot: Simple. Body: many celled, very long; flexible; basal cell longest; terminat
cell hyaline; lateral and cross wall thin; content opaque. (Fig. 6)
Distb.: Tendril, Pedicel, Sepals, Petals and Ovary.

7. Unis. Belemnoid: (Code M)
Foot: compound. Body: 3- celled, erect, dart-shaped, basal cell large, barrel-
shaped; rest two cells sharply acuminate with pointed tip; content dense yellow.
(Fig. 7)
Distb.: Stem, Leaves, Sepal

8. Unis. Gld. 2- Celled Capilate: (Code V)
Foot: Simple. Body: Differentiated; stalk 4-7 celled, erect, narrowing gradually;
basal cell broader than length; head 2- celled, doliform; content dense, granulated, yellow. (Fig. 8)
Distb.: Stem, Petiole, Leaves and Sepals

9- Unis. Gld. 4- Celled capilate: (Code W)
Foot: Simple. Body: differentiated; stalk 3-celled, cylindrical, cross walls
distinct; head 4-celled, irregularly globose; outer wall thin; content dense golden
yellow. (Fig. 9)
Distb.: Leaves & Petals

Foot: Simple. Body: Very small, differentiated; stalk 4- celled, filiform, distal
cell biconcave like a neck; head 4-celled, oblong; content yellow granulated.
(Fig. 10)
Distb.: Petals and Ovary

This taxa shows nine types of trichome (Plate 20.Fig. 1-9)

1. **Unic. Papillose**: (Code A1)
   **Foot**: Simple. Body: 1-celled, elongated, variable shape, papillose; wall thin, hyaline; content transluscent. (Fig. 1)
   **Distb.**: Petals.

2. **Unic. Arrect**: (Code A III)
   **Foot**: Compound. Body: 1-celled, broad, obliquely erect; tip pointed; wall thick; content dense granulated. (Fig. 2)
   **Distb.**: Stem, Petiole, Leaves, Sepals and Ovary.

3. **Bic. Belemnoid**: (Code F)
   **Foot**: Compound. Body: 2-celled, dwarf; basal cell barrel shaped; upper cell stiff, acerate, tip pointed; wall thick; content dense, yellow. (Fig. 3)
   **Distb.**: Stem, Tendril, Petiole, Pedicel and Ovary.

4. **Unis. Filiform**: (Code G)
   **Foot**: Compound, emarginate. Body: 5-7 celled, long, filiform; cell oblong; tip rounded; lateral and cross walls thin; lumen normal; content granulated. (Fig. 4)
   **Distb.**: Stem, Pedicel and Sepals.

5. **Unis. Cylindrical**: (Code H)
   **Foot**: Simple Body: many celled, flexible, irregular; cells discoid or rectangular; terminal cell inflated; walls hyaline, thin; content granulated; transluscent. (Fig. 5)
   **Distb.**: Petals.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Unic. Papillosse</td>
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<tr>
<td>2.</td>
<td>Unic. Arrect</td>
<td>H x 10</td>
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<tr>
<td>3.</td>
<td>Bic. Belemonid</td>
<td>H x 10</td>
</tr>
<tr>
<td>4.</td>
<td>Unis. Filiform</td>
<td>H x 5</td>
</tr>
<tr>
<td>5.</td>
<td>Unis. Cylindrical</td>
<td>H x 5</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Conical</td>
<td>H x 7</td>
</tr>
<tr>
<td>8.</td>
<td>Bic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
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</table>
6. **Unis. Hooked**: (Code I)

**Foot**: Compound. Body: 3-celled, hooked; basal cell long, erect; middle cell curved; terminal cell conical, straight; lateral and cross wall thick; lumen wide; content dense yellow. (Fig. 6)

**Distb.**: Stem, Petiole, Leaves, Sepals and Ovary.

7. **Unis. Conical**: (Fig. K)

**Foot**: Compound. Body: 6-9 celled, stiff, erect; cells of variable length; terminal cell narrow, acuminate; walls thick; lumen narrow, content dense, yellow. (Fig. 7)

**Distb.**: Stem, Sepals and Ovary.


**Foot**: Simple. Body: Differentiated; stalk 2-celled, very short; lumen narrow; content dense; head multicellular, globose; cells irregularly inflated; outer walls vesiculated; content yellow. (Fig. 8)

**Distb.**: Stem, Tendril, Leaves, Pedicel and Ovary.


**Foot**: Simple. Body: Differentiated; stalk 4-5 celled, uniseriate; terminal cell narrow like neck; head 4-celled, dolliform, rounded; outer wall vesiculated, hyaline; content granulated golden yellow. (Fig. 9)

**Distb.**: Leaves, Sepals and Petals.
OTU-21 *Momordica balsamina*, wall (nonL.)
This taxa shows fourteen types of trichome (Plate 21, Fig. 1-14)

1. **Unic. Papillose**: (Code A I)
   Foot: Simple. Body: 1-celled, very small, papillose; wall thin; content translucent. (Fig. 1)
   **Distr.**: Tendril, Petiole, Leaf, Petals, Stamen and Stigma.

2. **Unic. Conical**: (Code A II)
   Foot: compound. Body: 1-celled, stiff – erect; tip acute; lateral wall thin; lumen narrow; content dense yellow. (Fig. 2)
   **Distr.**: Stem, Pedicel and ovary.

3. **Unic. Arrect**: (Code A III)
   Foot: Simple. Body: Arrect, basal part bulbous; distal acuminate, tip acute; wall thick; content opaque. (Fig. 3)
   **Distr.**: Stem, Petiole, Leaf, Pedicel.

4. **Bic Cylindrical**: (Code C)
   Foot: Simple. Body: very small, hyaline, 2-celled, cylindrical; tip rounded; wall thin; content translucent. (Fig. 4)
   **Distr.**: Petals, Stamen and Stigma.

5. **Bic. Belemnoid**: (Code F)
   Foot: compound. Body: 2-celled, differentiated; basal cell bulbous, oblong; upper cell acuminate with sharp pointed end; lumen narrow; content dense yellow. (Fig. 5)
   **Distr.**: Leaf, Pedicel and Sepals.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
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<tbody>
<tr>
<td>1.</td>
<td>Unic. Papilllose</td>
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<td>2.</td>
<td>Unic. Conical</td>
<td>H x 10</td>
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<tr>
<td>3.</td>
<td>Unic. Arrect</td>
<td>H x 10</td>
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<tr>
<td>4.</td>
<td>Bic. Cylindrical</td>
<td>H x 10</td>
</tr>
<tr>
<td>5.</td>
<td>Bic. Belemnoid</td>
<td>H x 10</td>
</tr>
<tr>
<td>6.</td>
<td>Unis. Filiform</td>
<td>H x 5</td>
</tr>
<tr>
<td>7.</td>
<td>Unis. Cylindrical</td>
<td>H x 5</td>
</tr>
<tr>
<td>8.</td>
<td>Unic. Belemonid</td>
<td>H x 10</td>
</tr>
<tr>
<td>9.</td>
<td>Unis. Curved</td>
<td>H x 10</td>
</tr>
<tr>
<td>10.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
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<tr>
<td>11.</td>
<td>Unic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
<tr>
<td>13.</td>
<td>Unis. Gld. 4-celled Cap.</td>
<td>H x 5</td>
</tr>
</tbody>
</table>
6. **Uniseriate Filiform**: (Code G)

Foot: Simple. Body: entire, 3-5 celled filiform; terminal cell longest; lateral &
cross wall thin, rugose; content transluscent. (Fig. 6)

**Distb.** : Stem, Tendril, Petiole, Leaf, Pedicel.

7. **Unis. Cylindrical**: (Code H)

Foot: Simple. Body: 3-5 celled, cylindrical; wall thin, flexible; lumen wide,
content transluscent. (Fig. 7)

**Distb.** : Leaf, Sepals, Petals and Ovary.

8. **Unis. Hooked**: (Code I)

Foot: Simple. Body: Differentiated; proximal cells much broader than length
making bulbous base; distal cells sharply curved making hooked structure;
lateral and cross walls thick; lumen narrow; content granulated yellow. (Fig. 8)

**Distb.** : Stem, Petiole, Leaf.

9. **Unis. Curved**: (Code J)

Foot: compound. Body: 4-6 celled, curved; cells longer than breadth; lumen
normal, content transluscent. (Fig. 9)

**Distb.** : Leaf, Pedicel and Sepals.

10. **Unis. Septate flagellate**: (Code L)

Foot: Simple. Body: Differentiated, 3-5 celled, flagellated; lower cells much
smaller than upper one; terminal cell longest; wall thin; content transluscent,
granulated. (Fig. 10)

**Distb.** : Tendril, Sepals, Petals, Ovary and Stigma.
11. **Unic.Gld. 4-celled Capitate** : (Code R)
Foot: Simple. Body: Differentiated; stalk 1-celled, columnar; head rounded, 4-celled; content dense, yellow. (Fig. 11)
**Distb.** : Tendril, Petals, Stamen, Ovary and Stigma.

12. **Bic. Gld. M-celled Capitate** : (Code U)
Foot: Simple. Body: Differentiated; stalk 2-celled, narrow; head multi celled, large, globose; walls thin, inflated; content granulated translucent. (Fig. 12)
**Distb.** : Pedicel, Sepal, Petals and Ovary.

13. **Unis.Gld. 4-celled Capitate** : (Code W)
Foot: Simple. Body: Differentiated; Stalk 3-6 celled, cells isodiametrical; head 4-celled, rounded; content dense and granulated (Fig. 13)
**Distb.** : Stem, Leaf and Pedicel.

Foot: Simple. Body: differentiated, stalk 3-4 celled; cells very long except the upper one; head oblong, multi cellular; cells rounded, thin walled, content granulated translucent. (Fig. 14)
**Distb.** : Pedicel, Sepals, Setals and Ovary.
OTU-22 Trichosanthes dioica, Roxb

This taxa shows eleven types of trichomes (Plate 22, figs. 1-11)

1. **Unic. Conical**: (Code A II)

   Foot: Shunked. Body 1-celled, dwarf, conical; basal region shunked into epidermis, broad and oblong; distal region sharply narrowing to a acute tip; wall thick; content dense. (Fig. 1)

   **Distb.**: Stem, Tendril and Leaves.

2. **Unic. Curved**: (Code A IV)

   Foot: Simple. Body: 1-celled, stiff, curved; tip pointed; wall thick; lumen narrow; content granulated opaque. (Fig. 2)

   **Distb.**: Petiole, Leaves and Ovary.

3. **Unic. Flagellate**: (Code A VI)

   Foot: Not visible. Body: 1-celled, very long, narrow, irregular; tip rounded; walls thin, undulating; lumen wide; content translucent. (Fig. 3)

   **Distb.**: Tendril, Sepals, Petals and Ovary.

4. **Bic. Cylindrical**: (Code C)

   Foot: Simple. Body: 2-celled, dwarf, cylindrical; cells of equal size, barrel-shaped; tip rounded; lateral and cross walls thin; lumen wide; content translucent. (Fig. 4)

   **Distb.**: Tendril, Sepals, Petals and Ovary.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Unic. Conical</td>
<td>H x 10</td>
</tr>
<tr>
<td>2.</td>
<td>Unic. Curved</td>
<td>H x 10</td>
</tr>
<tr>
<td>3.</td>
<td>Unic. Flagellate</td>
<td>H x 5</td>
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<tr>
<td>4.</td>
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<tr>
<td>5.</td>
<td>Bic. Asept. Flagellate</td>
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<tr>
<td>7.</td>
<td>Unis. Curved</td>
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<td>8.</td>
<td>Unis. Conical</td>
<td>L x 10</td>
</tr>
<tr>
<td>9.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
5. **Bic. Asept. Flagellate**: (Code E)

Foot: Simple. Body: 2-celled, differentiated; basal cell long, columnar, erect, lumen narrow, content granulated; upper cell very long, irregularly flexible, hyaline, wall thin, content transluscent. (Fig. 5)

**Distb.**: Stem, Petiole, Pedicel, Sepals and Petals.

6. **Unis. Filiform**: (Code G)

Foot: Simple. Body: 5-6 celled, entire, filiform; cells longer than broad; tip rounded; lateral and cross walls thin, smooth; lumen wide, content transluscent. (Fig. 6)

**Distb.**: Stem, Petiole and Pedicel.

7. **Unis. Curved**: (Code J)

Foot: Simple. Body: 5-6 celled, curved; cells columnar, long; terminal cell conical; lateral and cross walls thick; lumen narrow; content granulated opaque. (Fig. 7)

**Distb.**: Stem, Petiole and Leaves.

8. **Unis. Conical**: (Code K)

Foot: Compound. Body: 4-celled, conical; basal cell barrel shaped, base bulbous; cells of various length; terminal cell conical, tip acute; wall thick; content granulated opaque. (Fig. 8)

**Disbt.**: Stem, Petiole and Leaves.

9. **Peltate**: (Code O)

Foot: Simple. Body: multicellular, flattened, 1-celled thick, spherical, parallel to epidermis; cells rectangular, arranged in a ring around central circular region;
outer wall thick, smooth, lateral walls thick, content dense, granulated, yellow.
(Fig. 9)

Distb.: Stem, Leaves, Sepals and Ovary.

10. Bic. Gld. 2-celled Capitate. : (Code S)
Foot: Simple, emarginate. Body: Differentiated; stalk 2-celled, stiff, erect, cells rectangular, walls thick, smooth; head 2-celled, spherical; cells large, domed; outer wall thin, undulated; content granulated yellow. (Fig. 10)

Distb.: Leaves, Sepals and Petals.

11. Unis. Gld. 4-Celled Capitate : (Code W)
Foot: Simple. Body: Differentiated; stalk 3-celled, erect; middle cell longest, basal and terminal cell equal size; lateral and cross wall thin; lumen narrow, content dense; head 4-celled, dolliform; arrangement regular, outer wall thin, vesiculated. (Fig. 11)

Distb.: Stem, Petiole, Leaves and Pedicel.
OTU-23, *Trichesanthes anguina*, Linn.

This taxa shows eleven types of trichome (Plate-23, Fig. 1-11)

1. **Unic. Papillose** : (Code AI)
   Foot: Not visible. Body: 1-celled, hyaline, oblong, dwarf wall thin, smooth; body various; content transluscent. (Fig. 1)
   **Distb.** : Sepals, Petals and Ovary.

2. **Unic. Conical** : (Code AII)
   Foot: Simple. Body: 1-celled, stiff, dentate – conical, dwarf acuminate, base bulbous, distal and tapering, acute; tip pointed; wall thick; lumen narrow; content granulated, yellow. (Fig. 2)
   **Distb.** : Stem, Tendril, Leaves, Pedicel and Sepals.

3. **Bic. Filiform** : (Code B)
   Foot: Simple. Body: 2-celled, filiform; cells very long, and narrow; joint distinct; wall thin; lumen wide; content transluscent. (Fig. 3)
   **Distb.** : Stem, Tendril, Leaves and Ovary.

4. **Bic. Conical** : (Code D)
   Foot: Simple, elevated. Body: 2-celled, stiff, erect; basal cell barrel-shaped, oblong; upper cell much longer than basal, gradually tapering to a acute tip; lateral and cross walls thick; lumen wide; content dense, yellow. (Fig. 4)
   **Distb.** : Stem, Petiole, Leaves and Pedicel.
<table>
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<tr>
<th>Fig. No.</th>
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</tr>
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<tbody>
<tr>
<td>1.</td>
<td>Unic. Papillose</td>
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</tr>
<tr>
<td>2.</td>
<td>Unic. Conical</td>
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<tr>
<td>3.</td>
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<td>H x 10</td>
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<tr>
<td>4.</td>
<td>Bic. Conical</td>
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</tr>
<tr>
<td>5.</td>
<td>Unis. Filiform</td>
<td>L x 10</td>
</tr>
<tr>
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<td>Unis. Curved</td>
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<tr>
<td>7.</td>
<td>Stellate</td>
<td>H x 10</td>
</tr>
<tr>
<td>8.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
5. **Unis. Filiform : (Code G)**
Foot: Simple. Body: 4-7 celled, long, columnar, filiform; cells of various length, basal cell shortest; tip rounded; lateral and cross walls thick; lumen narrow; content granulated translucent. (Fig. 5)
**Distb. : Stem, Petiole, Leaves and Pedicel.**

Foot: compound, emarginate. Body: 5-6 celled, gradually curved to a conical end, entire; cells varied, basal cell short, discoid; terminal cell conical; tip pointed; joints distinct; walls thick; lumen wide; content granulated yellow (Fig. 6)
**Distb. : Stem, Petiole, leaves and Sepals.**

7. **Stellate : (Code N)**
Foot: compound, elevated. Body: Tri – radiate, differentiated; stalk 1-celled, small; rays unicellular, very long, lanceolate, stiff; tip acute; walls thick, smooth; lumen narrow; content dense, opaque. (Fig. 7)
**Distb.: Stem, Petiole and Pedicel.**

8. **Peltate : (Code O)**
Foot: Not visible. Body: multicellular, rossetted – peltate; 1-celled thick, parallel to epidermis; cells of various shape, arranged around a rounded center; outer wall thin irregular and vesiculated; contents granular golden yellow. (Fig. 8)
**Distb. : Stem, Pedicel and Ovary.**
Foot: Not visible. Body: dwarf, defferentiated; stalk 1-celled, cell small, barrel shaped; wall thin; content transluscent; head 1-celled, small, oblong; outer wall thin, inflated- vesiculate giving papillose appearance; content granulated opaque. (Fig. 9)

**Distrib.**: Tendril, Sepals, Petals, Stamens and Stigma.

10. **Bic. Gld. 4-Celled Capitate**: (Code T)
Foot: compound. Body: Differentiated; stalk 2-celled, lower cell oblong, large; upper cell rectangular, small, walls thick, lumen narrow, content granulated; head 4-celled, globular, entire; wall thick, smooth; content dense, granulated, golden yellow. (Fig. 10)

**Distrib.**: Stem, Petiole, Leaves and Sepals.

Foot: compound. Body: Differentiated; stalk 3-celled, dwarf, erect; cells rectangular; base bulbous; lateral and cross walls thick; content opaque; head multicellular, Globose with irregular lobes; cells rounded, clustered; outer wall thin, vesiculate; content granulated opaque. (Fig. 11)

**Distrib.**: Tendril, Leaves, Petal and Stamens.

This taxa shows twelve types of trichome (Plate 24, Fig. 1-12)

1. **Unic. Papillose**: (Code A1)
   Foot: Not visible. Body: 1-celled, inflated like balloon; veriously shaped; wall thin, hyaline; content transluscent. (Fig. 1)
   **Distb.**: Petals, Stamen, Ovary and Stigma.

2. **Unic. Arrect.**: (Code A III)
   Foot: Simple, broad. Body: 1-celled, stout, arrect; base bulbous; tip pointed; wall very thick; lumen narrow; content granulated yellow (Fig. 2)
   **Distb.**: Tendril, Leaves, Pedicel, Sepals and Ovary.

3. **Bic. Filiform**: (Code B)
   Foot: Simple. Body: 3-celled, acerate, filiform; tip rounded; lateral and cross wall normal; content transluscent. (Fig. 3)
   **Distb.**: Tendril, Leaves, Sepals and Petals.

4. **Bic. Cylindrical**: (Code C)
   Foot: Simple, broad. Body: 2-celled, dwarf, cylindrical; basal cell bulbous, olort; upper cell oblong; tip rounded; cross and lateral walls thin, smooth; lumen wide; content transluscent. (Fig. 4)
   **Distb.**: Tendril, Stem, Leaves, Petals and Stamens.

5. **Bic. Belemnoid**: (Code F)
   Foot: Simple, elevated. Body: 2-celled, differentiated; basal cell broad, rectangular, barrel shaped; upper cell very narrow, acuminate; tip acute; lateral wall thick; content dense, yellow. (Fig. 5)
   **Distb.**: Stem, Petiole, Leaves, Tendril, Sepals and Ovary.
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<td>7.</td>
<td>Unis. Hooked</td>
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<td>Unis. Conical</td>
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<tr>
<td>9.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Filiform** : (Code G)

Foot: Simple. Body: 5-7 celled, acerate- filiform; cells very long than broad; tip rounded; lateral and cross walls thin; lumen normal; content granulated. (Fig. 6)

**Distb. :** Stem, Petiole, Leaves, Pedicel and Sepals.

7. **Unis. Curved** : (Code J)

Foot: compound. Body: 4-5 celled, curved; cells of equal length; terminal cell conical; tip acute; lateral and cross walls thick; joint distinct; lumen wide; content thick yellow. (Fig. 7)

**Distb. :** Stem, Leaves, Sepals and Ovary.

8. **Unis. Conical** : (Code K)

Foot: Simple, elevated. Body: 5-celled, differentiated; proximal 3 cells discoid, broader than long, dwarf, outer wall irregular, content dense yellow; penultimate cell very long, cylindrical, entire, lumen narrow, outer wall thick, smooth, content granulated; terminal cell shorf, acuminate; tip acute; wall thick, content dense granulated yellow. (Fig. 8)

**Distb. :** Stem, Petiole, Pedicel, Sepals and Ovary.

9. **Peltate** : (Code O)

Foot: Not visible. Body: multicellular, discoid, irregularly spherical; cells small, petalous, arranged in many rings around a common center; outer wall thin, undulating, vesiculate; content dense golden yellow. (Fig. 9)

**Distb. :** Leaves and Ovary.

Foot: Simple. Body: dwarf, differentiated; stalk very short, barrel shaped, hyaline, content translucent; head 1-celled, irregularly globose, outer wall thin, vesiculated; content granulated golden yellow. (Fig. 10)

**Distb. :** Leaves, Sepals, Petals, Stamens and Ovary.

11. **Unis. Gld. 2-celled Capitate : (Code V)**

Foot: Simple. Body: Differentiated; stalk 3-celled, erect; cells rectangular or discoid, distal cell smallest; wall thin, smooth; joints distinct; content opaque; head 2-celled, cells oval, isobilateral; outer wall thin, content dense, granulated, golden, yellow. (Fig. 11)

**Distb. :** Petiole, Leaves, Pedicel, Seplas, Petals and Ovary.


Foot: Simple, emarginate. Body: Differentiated; stalk 3-celled, long, erect; lower two cells oblong, third, terminal cell biconcave like neck of the gland, lumen narrow; head multicellular, globose distinct; cells rounded and clustered; walls thick; content dense, granulated, golden, yellow. (Fig. 12)

**Distb.:** Stem, Tendril, Pedicel and Petals.
OTU – 25 *Trichosanthes cucumerina*, Linn.

This taxa shows thirteen types of trichome (Plate- 25, Figs. 1-13)

1. **Unic. Papillose** : *(Code A I)*
   Foot: Simple. Body: 1-celled, papilloose, clavate-shaped; wall thin, hyaline; tip rounded, body variously shaped; content transluscent. (Fig. 1)
   **Distb.**: Tendril, Leaves, Sepals, Petals, Stamen and Stigma.

2. **Unic. Faleate** : *(Code A V)*
   Foot: Simple. Body: 1-celled, elongated, stiff, faleate shaped; tip acute; wall thick; lumen narrow; content dense, yellow. (Fig. 2)
   **Distb.**: Stem, Tendril, Sepals and Ovary.

3. **Unic. Flagellate** : *(Code A VI)*
   Foot: Simple, emarginate. Body: 1-celled, narrow, very long, irregular, flexible, flagellate; wall irregular; lumen variable; content transluscent. (Fig. 3)
   **Distb.**: Tendril, Pedicel, Petals and Stamens.

   Foot: compound. Body: 1-celled, elongated, balloon shaped, hyaline; tip rounded; wall entire, thin; lumen wide; content transluscent. (Fig. 4)
   **Distb.**: Tendril, Sepals, Petals and Ovary.

   Foot: Simple. Body: 2-celled, differentiated; lower cell erect, tubular, filiform; upper cell very long, hyaline, irregular flagellate; wall of lower cell thick, lumen narrow, wall of upper cell irregular, lumen wide; content transluscent. (Fig. 5)
   **Distb.**: Sepals, Petals and Ovary.
<table>
<thead>
<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Mgn.</th>
</tr>
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<tbody>
<tr>
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<td>Unic. Papilllose</td>
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<tr>
<td>2.</td>
<td>Unic. Falcate</td>
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</tr>
<tr>
<td>3.</td>
<td>Unic. Flagellate</td>
<td>H x 10</td>
</tr>
<tr>
<td>4.</td>
<td>Unic. Cylindrical</td>
<td>H x 5</td>
</tr>
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<td>5.</td>
<td>Bic. Asept. Flagellate</td>
<td>H x 5</td>
</tr>
<tr>
<td>6.</td>
<td>Bic. Belemonid</td>
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<tr>
<td>7.</td>
<td>Unis. Filiform</td>
<td>L x 10</td>
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<tr>
<td>8.</td>
<td>Unis. Hooked</td>
<td>H x 5</td>
</tr>
<tr>
<td>9.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
</tr>
<tr>
<td>10.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
<tr>
<td>12.</td>
<td>Bic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Bic. Belemnoid** : (Code F)
Foot: compound, elevated. Body: 2-celled, differentiated, basal cell oblong, cylindrical, basal part bulbous; upper cell narrow, acerate with bulbous base; tip acute, content dense and granulated. (Fig. 6)
**Distb.** : Petiole, Leaves and Sepals.

7. **Unis. Filiform** : (Code G)
Foot: Simple. Body: multicellular, uniseriate, very long, filiform, 6-10 celled; cells unequal in length; cross wall distinct; lateral wall thin; tip rounded; content transluscent. (Fig. 7)
**Distb.** : Stem, Petiole, Leaves, Pedicel and Sepals.

8. **Unis. Hooked** : (Code I)
Foot: Emarginated simple. Body: 5-6 celled hooked, proximal cells rectangular; distal cell much elongated; terminal cell stiff, conical, tip sharp; pointed; lateral and cross walls thick; joints geniculate; content granulated yellow. (Fig. 8)
**Distb.** : Stem, Leaves, Pedicel and Ovary.

9. **Unis. Conical** : (Code K)
Foot: compound: Body : 3-celled, base shunked; basal cell ovate; middle cell columnar, cylindrical; terminal cell stiff, conical; lateral wall thick; content granulated, yellow. (Fig. 9)
**Distb.** : Stem, Petiole, Leaves, Pedicel and Sepals.

10. **Peltate** : (Code O)
Foot: Not visible. Body: multicellular, peltate, 1-celled thick, parallel to epidermis; cells irregular, rosettedly arranged; outer wall hyaline, vesiculated; content granulated yellow. (Fig. 10)
**Distb.** : Stem, Pedicel and Ovary.
11. **Unic. Gld. Capitate.** (Code P)
Foot: Not visible. Body: dwarf, differentiated; stalk very short, 1-celled, hyaline; head inflated, unicellular, globose; wall hyaline, thin, irregular; content granulated translucent. (Fig. 11)
**Distrib.** : Tendril, Petals, Stamens and Stigma.

12. **Bic. Gld. 4-celled Capitate** (Code T)
Foot: compound. Body: Differentiated; stalk 2-celled, dwarf; upper cell dilated; cells irregular; head 4-celled, cells irregular in outline; outer wall vesiculated; content granulated golden yellow. (Fig. 12)
**Distrib.** : Tendril, Leaves, Sepals and Ovary.

Foot: Simple. Body: Differentiated; stalk 3-4 celled; cells rectangular; joints geniculate; terminal cell bicon cave; head emarginated, 4-celled, globose, entire, dolliform; content granulated yellow. (Fig. 13)
**Distrib.** : Stem, Petiole and Pedicel.

This taxa shows thirteen types of trichomes. (Plate 26, Figs. 1-13)

1. **Unic. Conical**: (Code AII)
   Foot: Simple, hyaline. Body: 1-celled, dwarf, conical; base bulbous, distal part acuminate, tip acute; wall thick; lumen wide; content dense, granulated golden yellow. (Fig. 1)
   **Distb.**: Tendril, Sepals, Petals, Ovary and Stigma.

2. **Unic. Cylindrical**: (Code A VII)
   Foot: Simple, Body: 1-celled, long, cylindrical; wall thick; tip rounded; lumen wide; content transluscent. (Fig. 2)
   **Distb.**: Sepals, Petals, Stemens and Stigma.

3. **Bic. Cylindrical**: (Code C)
   Foot: Simple, elevated. Body: 2-celled, broad, cylindrical; lower cell smaller than upper; wall thin, lumen wide; cross wall thin; content transluscent. (Fig. 3)
   **Distb.**: Leaves, Tendril, Petals and Ovary.

4. **Bic. Conical**: (Code D)
   Foot: Simple. Body: Dwarf, 2-celled, erect; upper cell longer than basal, acuminate; tip acute; lateral and cross walls thick; lumen normal content opaque. (Fig. 4)
   **Distb.**: Tendril, Leaves, Pedicel, Sepals and Ovary.
<table>
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<tr>
<th>Fig. No.</th>
<th>Trichome Type</th>
<th>Magnification</th>
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<tr>
<td>4.</td>
<td>Bic. Conical</td>
<td>H x 10</td>
</tr>
<tr>
<td>5.</td>
<td>Bic. Belemnoid</td>
<td>H x 10</td>
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<td>6.</td>
<td>Unis. Filiform</td>
<td>L x 10</td>
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<tr>
<td>7.</td>
<td>Unis. Hooked</td>
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<td>8.</td>
<td>Unis. Conical</td>
<td>H x 5</td>
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<tr>
<td>10.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
<tr>
<td>12.</td>
<td>Bic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
5. **Bic. Belemnoid : (Code F)**

Foot: Simple, emarginate, broad. Body: Differentiated; basal cell barrel shaped, large, base bulbous; upper cell narrow, acuminate; tip acute; wall thick; content dense granulated. (Fig. 5)

**Distb. :** Stem, Petiole, Pedicel, Sepal and Ovary.

6. **Unis. Filiform : (Code G)**

Foot: Simple. Body: 3-5 celled, filiform; cells very long, tubular, almost equal size; tip rounded; wall thin; lumen wide; content transluscent. (Fig. 6)

**Distb. :** Stem, Petiole, Leaves and pedicel.

7. **Unis. Hook : (Code I)**

Foot: Compound. Body: 3-celled, uniseriate hooked; terminal cell straight, stiff, acuminate; tip acute; wall thick; joints geniculate; lumen narrow; content thick, yellow. (Fig. 7)

**Distb. :** Stem, Petiole, Leaves, Pedicel and Ovary.


Foot: Simple, elevated. Body: 4-6 celled, erect, conical; cells rectangular, basal cell bulbous, terminal cell narrowly acute; content dense, granulated. (Fig. 8)

**Distb. :** Stem, Petiole, Leaves and Pedicel.

9. **Unis. Flagellate : (Code L)**

Foot: Septate. Simple. Body: multicellular, uniseriate; cells irregular; outer wall irregular; body flexible, variously shaped; tip rounded; content transluscent. (Fig. 9)

**Distb. :** Stem, Tendril, Pedicel, Sepals, Petals and Ovary.
10. **Peltate.** (Code O)
Foot: Not visible. Body: multicellular, spherical, 1-celled thick, peltate; cells columnar, arranged around the central stalk rosettily; outer wall thin, vesiculated; content golden yellow. (Fig. 10)
**Distb.** : Stem, Leaves and Ovary.

Foot: Not visible. Body: dwarf, differentiated; stalk 1-celled, very small; head 1-celled, globular; outer wall thin vesiculated; content granulated. (Fig. 11)
**Distb.** : Tendril, Leaves, Petals, Stamen and Stigma.

12. **Bic. Gld. 4-celled Capitate.** : (Code T)
Foot: Simple. Body: differentiated; stalk 2-celled, dwarf; head 4-celled, dolliform; outer wall inflated; cells rectangular; content granulated yellow. (Fig. 12)
**Distb.** : Stem, Tendril, Leaves and Sepals.

Foot: Compound, emarginate. Body: Differentiated; stalk 4-6 celled, short, erect; basal cell discoid; terminal cell biconcave, elongated, lumen narrow; head rounded, multicellular in regular fashion; outer wall thin and vesiculated. (Fig. 13)
**Distb.** : Stem, Leaves, Sepals and Ovary.
OUT – 27 Benincasa hispida; (Thunb.) cogn.
This taxa shows Ten types of trichome (Plate 27 Figs. 1-10)

1. **Unic. Papillose**: (Code A1)
   Foot: Simple. Body: 1-celled, long, irregular, hyaline, inflated with many folds, papillose appearance; wall thin, smooth; content granulated, transluscent. (Fig. 1)
   **Distrib.**: Petals, stamen, and stigma.

2. **Unic. Flagellate**: (Code A VI)
   Foot: Simple. Body: 1-celled, columnar, very long, flagellate; tip rounded and granulated; content transluscent. (Fig. 2)
   **Distrib.**: Tendril, Leaves, Sepals, Petals and ovary.

3. **Bic. Conical**: (Code D)
   Foot: Simple. Body: 2-celled, stiff, erect, conical; basal cell oblong, upper cell acuminate, tip sharply pointed; wall thick; lumen narrow, content dense, golden yellow. (Fig. 3)

4. **Unis. Filiform**: (Code G)
   Foot: Simple. Body: 5-celled, very long, filiform; cells narrow, very long; walls thin; lumen wide, content opaque (Fig. 4)
   **Distrib.**: Stem, Leaves, Pedicel, Sepal and ovary.

5. **Unis. Cylindrical**: (Code H)
   Foot: Simple. Body: 10-20 celled; cells small, barrel shaped, arranged uniseriately; terminal cell oblong, tip rounded; walls thick; content opaque. (Fig. 5)
   **Distrib.**: Tendril, Sepals, Petals and Ovary.
<table>
<thead>
<tr>
<th>Fig. No.</th>
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<th>Mgn.</th>
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<tr>
<td>1.</td>
<td>Unic. Papilllose</td>
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<td>2.</td>
<td>Unic. Flagellate</td>
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</tr>
<tr>
<td>3.</td>
<td>Bic. Conical</td>
<td>H x 10</td>
</tr>
<tr>
<td>4.</td>
<td>Unis. Filiform</td>
<td>H x 5</td>
</tr>
<tr>
<td>5.</td>
<td>Unis. Cylindrical</td>
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<td>6.</td>
<td>Unis. Hooked</td>
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<tr>
<td>7.B.</td>
<td>Unis. Conical</td>
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<tr>
<td>9.</td>
<td>Stellate</td>
<td>H x 10</td>
</tr>
<tr>
<td>11.</td>
<td>Unis. Gld. 4-celled. Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. **Unis. Hooked**: (Code I)

Foot: Simple. Body: 3-celled; lower 2-celled body bulbous and curved; terminal cell very long straight, gradually tapering to a sharp pointed tip; lumen narrow; content dense, granulated golden yellow. (Fig. 6)

**Distb.**: Stem, Petiole, Leaves and ovary.

7. **Unis. Conical**: (Code k)

Foot: Simple. Body: 2-types; (A)-4-celled, lower 2-celled small rectangular; penultimate cell very long, cylindrical, terminal cell conical (Fig. 7A). (B)-5-8 celled, giant; cells oblong, large; basal cell bulbous with broad base. Consist dense granulated content; terminal cell longest; stiff, conical (Fig. 7B) wall thick, joint distinct; content opaque.

**Distb.**: Stem, Petiole, Leaves, and Ovary.

8. **Stellate**: (Code N)

Foot: Emarginated simple. Body: Differentiated; stalk 1-celled thick, tufted with 3-5 unicellular, long, aciculate rays; lateral wall thick; lumen narrow, content yellow. (Fig. 8)

**Distb.**: Stem, Leaves, Pedicel and Ovary.


Foot: Simple. Body: Differentiated; stalk 1-celled, hyaline, wall thin, infolded; body multicellular, inflated, irregularly globose; content granulated yellow. (Fig. 9)

**Distb.**: Tendril, Leaves, Petals, Stamen and Ovary.
10. **Unis. Gld. 4-celled Capitate:** (Code W)

Foot: Simple. Body: Differentiated; stalk 3-celled, uniseriate, cells of unequal size; head 4-celled, isodiametrical, oblong; surface entire; content dense, granulated yellow. (Fig. 10)

**Distb.:** Stem, Petiole, Sepal and Ovary.
OTU – 28. *Passiflora foetida* L.

This taxa shows twelve types of trichome (Plate 28, Figs. 1-12)

1. **Unic. Papillose**: (Code A I)
   Foot: Simple. Body: 1-celled, dwarf, papillose; wall thin, lumen wide; content transluscent. (Fig. 1)
   **Distb.**: Leaves, Sepals, petals, Stamens and Stigma.

2. **Unic. Conical**: (Code A II)
   Foot: Compound, broad. Body: 1-celled, short, stiff, errect, dentate – conical; tip acute; wall very thick; lumen narrow; content dense, granulated. (Fig. 2)
   **Distb.**: Tendril, Petals, Ovary and Stigma.

3. **Unic. Curved**: (Code A IV)
   Foot: Compound, sunken. Body: 1-celled, long, curved; tip pointed; lateral wall thick rugose; lumen wide; content dense opaque. (Fig. 3)
   **Distb.**: Stem, Tendril, Petile, Pedicel and Sepals.

4. **Unic. Flagellate**: (Code A VI)
   Foot: Not visible. Body: 1-celled, very long, tubular, flexible, irregular, hyaline; tip oblong, vesiculate; wall thin, rugose; content transluscent. (Fig. 4)
   **Distb.**: Tendril, Petals, Ovary and Stigma.

5. **Bic. Conical**: (Code D)
   Foot: Compound. Body: 2-celled, long, errect, conical; lower cell small, upper cell much longer, acuminate; tip acute; lateral and cross walls thick; rugose; lumen normal; content dense, granulated. (Fig. 5)
   **Distb.**: Stem, Petiole, Leaves and Pedicel.
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<th>Fig. No.</th>
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<td>4.</td>
<td>Unic. Flagellate</td>
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<td>5.</td>
<td>Bic. Conical</td>
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<td>7.</td>
<td>Unis. Filiform</td>
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<td>10.</td>
<td>Peltate</td>
<td>H x 10</td>
</tr>
<tr>
<td>12.</td>
<td>Bic. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
Foot: Simple. Body: Differentiated, 2-celled; lower cell small, rectangular, base bulbous; upper cell very long, hyaline, whiplash; tip rounded; content of upper cell translucent, lower – dense, granulated. (Fig. 6)
Distb.: Tendril, Pedicel, Sepals, Petals, Stamens and Ovary.

7. Unis. Filiform: (Code G)
Foot: compound, emarginate. Body: 5-6 celled, erect, long; tip rounded; cells unequal in length; joints distinct; lateral and cross walls thick; lumen narrow; content opaque. (Fig. 7)
Distb.: Stem, Petiole, Leaves and Pedicel.

8. Unis. Conical: (Code K)
Foot: compound, broad. Body: 3-4 celled, stiff, erect, conical; basal cell broadest, gradually tapering to upper end; lateral wall entire, rugose; lumen narrow; content dense, granulated, yellow. (Fig. 8)
Distb.: Stem, Petiole and Pedicel.

Foot: Simple, Body: multicellular, differentiated; proximal region rigid, undulated; distal region flexible, whiplash; cells of unequal size; basal cell broadest; tip rounded; lumen narrow; content granulated opaque. (Fig. 9)
Distb.: Stem, Pedicel, Sepal, Petals and Ovary.

10. Peltate: (Code O)
Foot: Not visible. Body: multicellular, spherical, peltate, 1-celled thick, parallel to epidermis, periphery irregular; cells rectangular, arranged around the common center; outer wall vesiculate, thin; content golden yellow. (Fig. 10)
Distb.: Stem, Tendril and Pedicel.

Foot: Simple. Body: Differentiated; stalk 1-celled, swarf, cupular, base narrow, upper part broad, wall thick; head 1-celled, highly inflated, rounded, wall thin, hyaline and vesiculated lobed; content granulated transluscent. (Fig. 11)

Distrib.: Tendril, Pedicel, Petals, Stamen and Ovary.

12. Bic. Gld. 4-celled Capitate (Code T)

Foot: Simple. Body: Differentiated; stalk 2-celled, very short; cells small, rectangular; head 4-celled, rounded, dolliform; outer wall thick, lobed, smooth; content dense, opaque. (Fig. 12)

Distrib.: Pedicel, Leaves, Sepals and Petals.

This taxa shows twelve types of trichomes (Plate 29 Fig. 1-12)

1. **Unic. Curved** : (Code AIV )
   Foot: Simple. Body: 1-celled, stiff, sharply curved. tip acute. base broad; wall thick, rugose; lumen wide; content dense opaque. (Fig. 1)
   **Distb.** : Stem, Petiole, Leaves and Pedicel.

2. **Unic. Flagellate** : (Code AVI )
   Foot: Simple. Body: 1-celled, very long, narrow, flexible, unequal in breadth. tip rounded; wall thin, hyaline; lumen normal; content transluscent. (Fig. 2)
   **Distb.** : Petiole, Leaves, Pedicel, Sepals, Petals, ovary and Stamens.

3. **Bic. Conical** : (Code D )
   Foot: compound, emarginate. Body: 2-celled, erect, stout; cells of equal size; proximal end of basal cell broadened; tip pointed; wall thick, tubercled; content dense yellow. (Fig. 3)
   **Distb.** : Stem, Leaves, Pedicel, Sepals and Ovary.

4. **Bic. Asept. Flagellate** : (Code E )
   Foot: compound. Body: Differentiated; basal cell long, clavate; lateral wall thick. content opaque; upper cell long, cylindrical, flagellate; wall thin, lumen wide; content transluscent. (Fig. 4)
   **Distb.** : Leaves, Pedicel, Sepals, Petals and Ovary.

5. **Unis. Filiform** : (Code G )
   Foot: Simple, elevated. Body: 5-6 celled, erect, filiform; cells unequal; cross walls thick, joints distinct, lateral wall thin; lumen narrow; content granulated (Fig. 5)
   **Distb.** : Stem, Leaves, Pedicel and Sepals.
<table>
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<tr>
<th>Fig. No.</th>
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<td>9.</td>
<td>Stellate</td>
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<tr>
<td>11.</td>
<td>Unis. Gld. 4-celled Cap.</td>
<td>H x 10</td>
</tr>
</tbody>
</table>
6. Unis. Curved : (Code J )
Foot: compound, broad. Body: 5-6 celled curved, differentiated; basal cell rectangular, base broad, crystalith in lumen; terminal cell long. stiff. acuminate, tip acute; lateral and cross walls thick; lumen narrow; content granulated golden yellow. (Fig. 6)
Distb. : Stem, Leaves, Pedicel and Ovary.

7. Unis. Conical : (Code K )
Foot: compound. Body: 3-celled, differentiated; basal cell much broader. yellow, crystalline content, seated over concave base; terminal cell triangular, sharply tapering to a acute tip; lateral and cross walls thick; joints distinct; content dense, golden yellow; joints distinct; content dense, golden yellow. (Fig. 7)
Distb. : Stem, Petiole and Leaves.

8. Unis. Belemnoid : (Code M )
Foot: compound, broad. Body: 3-celled, differentiated; lower two cells long and much broader, wall thick, lumen narrow, content granulated opaque; terminal cell very narrow, base rounded, tip narrow acute; wall thick, content dense, granulated yellow. (Fig. 8)
Distb. : Stem, Petiole, Leaves and Pedicel.

9. Stellat : ( Code N )
Foot: compound. Body: multiradiate, dendroid forms, differentiated; axis of very small , rectangular cells; arms unicellular, lanceolate, base broader; distal end acuminate; lumen narrow; content granulated, yellow (Fig. 9)
Distb. : Stem, Petiole, leaves and Pedicel.
10. Bic. Gld. 2-celled Capitate. : (Code S)
Foot: Simple. Body: Differentiated; stalk 2-celled, lower cell large oblong, cylindrical, upper cell rectangular, collared; head 2-celled; cells large hemispherical, bicolateral; outer wall thin, lobed; content granulated opaque. (Fig. 10)
Distb.: Leaves, Sepals, Petals and Stigma.

11. Unis. Gld. 4-celled Capitate : (Code W)
Foot: Simple, broad. Body: Differentiated; stalk 3-celled, basal cell large, barrel shaped, rest normal, lateral and cross walls thick, content transluscent; head 4-celled, vesiculated, rounded, cells arranged in palisade manner; content granulated, transluscent. (Fig. 11)
Distb.: Stem, Pedicel and Sepals.

Foot: compound. Body: Differentiated ; stalk 4-celled, basal cell longest, cylindrical, erect; middle two cells rectangular; terminal cell biconcave, narrow like neck of the trichome, lumen narrow; head multicellular, regular, rounded, cells arranged in a ring; outer wall undulating; content dense, granulating, yellow. (Fig. 12)
Distb.: Stem, Petiole, Leaves, Pedicel and Ovary.