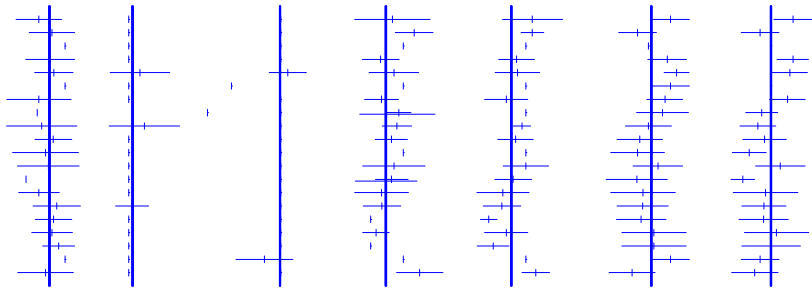




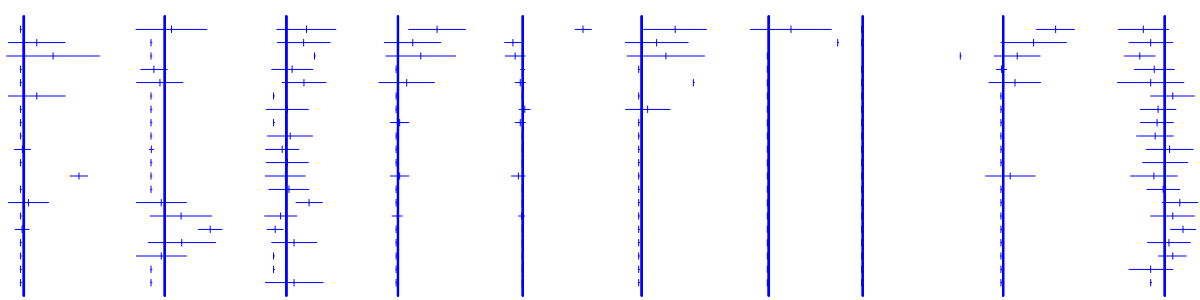
CLUSTER MEANS

|            | Leaf shape<br>of ligule | Culm<br>attitude | Stem<br>thickness | Leaf inten<br>green col | leaf blade<br>pubescen | panicle<br>exsertion | flag leaf<br>attitude |
|------------|-------------------------|------------------|-------------------|-------------------------|------------------------|----------------------|-----------------------|
| 1 Cluster  | 2.333                   | 1.000            | 5.000             | 4.333                   | 5.667                  | 6.333                | 4.333                 |
| 2 Cluster  | 2.667                   | 1.000            | 5.000             | 5.667                   | 5.667                  | 4.333                | 2.333                 |
| 3 Cluster  | 3.000                   | 1.000            | 5.000             | 5.000                   | 5.000                  | 5.000                | 3.000                 |
| 4 Cluster  | 2.619                   | 1.000            | 5.000             | 3.619                   | 4.048                  | 6.143                | 4.333                 |
| 5 Cluster  | 2.714                   | 1.286            | 5.286             | 4.429                   | 4.143                  | 6.714                | 4.143                 |
| 6 Cluster  | 3.000                   | 1.000            | 3.000             | 5.000                   | 5.000                  | 6.333                | 3.000                 |
| 7 Cluster  | 2.333                   | 1.000            | 5.000             | 3.667                   | 3.000                  | 6.000                | 4.000                 |
| 8 Cluster  | 2.286                   | 3.000            | 5.000             | 4.714                   | 5.000                  | 5.857                | 2.429                 |
| 9 Cluster  | 2.400                   | 1.400            | 5.000             | 4.600                   | 4.600                  | 5.000                | 2.200                 |
| 10 Cluster | 2.700                   | 1.000            | 5.000             | 4.267                   | 3.933                  | 4.467                | 2.600                 |
| 11 Cluster | 2.500                   | 1.000            | 5.000             | 5.000                   | 5.000                  | 4.333                | 1.667                 |
| 12 Cluster | 2.571                   | 1.000            | 5.000             | 4.429                   | 5.000                  | 5.571                | 3.571                 |
| 13 Cluster | 2.000                   | 1.000            | 5.000             | 4.286                   | 3.714                  | 4.286                | 1.286                 |
| 14 Cluster | 2.333                   | 1.000            | 5.000             | 3.667                   | 2.667                  | 4.667                | 2.667                 |
| 15 Cluster | 2.783                   | 1.087            | 5.000             | 3.696                   | 2.565                  | 4.652                | 2.565                 |
| 16 Cluster | 2.704                   | 1.000            | 5.000             | 3.000                   | 1.222                  | 4.556                | 2.556                 |
| 17 Cluster | 2.667                   | 1.000            | 5.000             | 3.333                   | 3.000                  | 5.333                | 3.333                 |
| 18 Cluster | 2.833                   | 1.000            | 5.000             | 3.000                   | 1.667                  | 5.333                | 3.000                 |
| 19 Cluster | 3.000                   | 1.000            | 4.333             | 5.000                   | 5.000                  | 6.333                | 2.333                 |
| 20 Cluster | 2.500                   | 1.000            | 5.000             | 6.000                   | 6.000                  | 4.000                | 2.000                 |



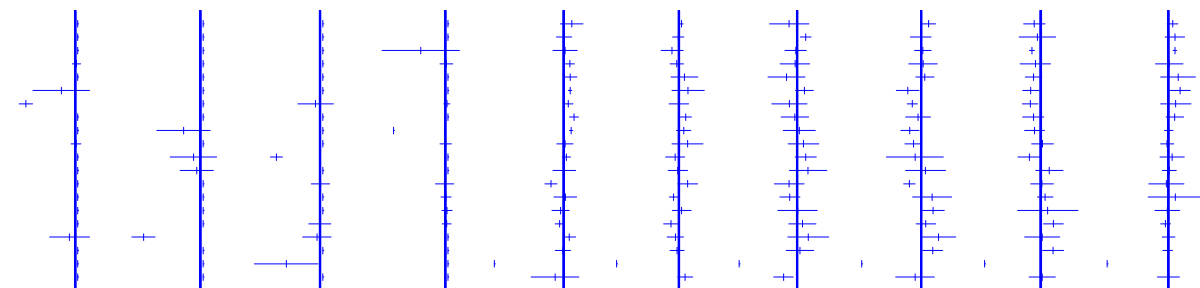
|             |       |        |        |       |        |       |       |
|-------------|-------|--------|--------|-------|--------|-------|-------|
| Mean        | 2.601 | 1.096  | 4.971  | 3.933 | 3.519  | 5.173 | 2.990 |
| TreatMSS    | 0.537 | 1.454  | 0.723  | 4.535 | 16.785 | 6.864 | 9.220 |
| ErrMSS      | 0.371 | 0.056  | 0.032  | 1.069 | 2.984  | 2.124 | 1.600 |
| F Ratio     | 1.447 | 26.143 | 22.291 | 4.244 | 5.625  | 3.231 | 5.763 |
| Probability | 0.109 | 0.000  | 0.000  | 0.000 | 0.000  | 0.000 | 0.000 |

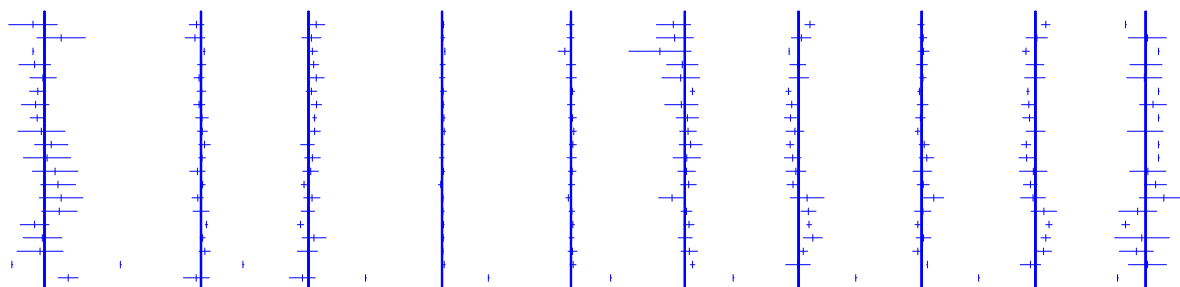
|            | Stigma<br>colour | Presence/absence<br>of awns | Lemma &<br>palea at<br>flowering | Basal L<br>sheath<br>colour. | Leaf blade<br>colour | Leaf margin<br>color | Auricle<br>color | Collar color | Ligule color | Blast |
|------------|------------------|-----------------------------|----------------------------------|------------------------------|----------------------|----------------------|------------------|--------------|--------------|-------|
| 1 Cluster  | 1.000            | 1.667                       | 5.000                            | 2.667                        | 6.333                | 1.667                | 1.333            | 1.000        | 2.667        | 2.333 |
| 2 Cluster  | 2.000            | 0.000                       | 4.667                            | 1.667                        | 1.333                | 1.333                | 2.000            | 1.000        | 2.000        | 3.000 |
| 3 Cluster  | 3.000            | 0.000                       | 6.000                            | 2.000                        | 1.500                | 1.500                | 1.000            | 2.000        | 1.500        | 2.000 |
| 4 Cluster  | 1.000            | 0.238                       | 3.262                            | 1.000                        | 2.024                | 1.000                | 1.000            | 1.000        | 1.024        | 3.333 |
| 5 Cluster  | 1.000            | 0.714                       | 4.714                            | 1.429                        | 1.857                | 2.000                | 1.000            | 1.000        | 1.429        | 3.000 |
| 6 Cluster  | 2.000            | 0.000                       | 1.000                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 5.000 |
| 7 Cluster  | 1.000            | 0.000                       | 2.667                            | 1.000                        | 2.167                | 1.167                | 1.000            | 1.000        | 1.000        | 3.667 |
| 8 Cluster  | 1.000            | 0.000                       | 1.000                            | 1.143                        | 1.857                | 1.000                | 1.000            | 1.000        | 1.000        | 3.571 |
| 9 Cluster  | 1.000            | 0.000                       | 3.000                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 3.400 |
| 10 Cluster | 1.133            | 0.033                       | 2.033                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 4.733 |
| 11 Cluster | 1.000            | 0.000                       | 2.667                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 4.333 |
| 12 Cluster | 4.571            | 0.000                       | 2.429                            | 1.143                        | 1.714                | 1.000                | 1.000            | 1.000        | 1.286        | 3.286 |
| 13 Cluster | 1.000            | 0.000                       | 2.857                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 4.143 |
| 14 Cluster | 1.500            | 0.833                       | 5.333                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 5.667 |
| 15 Cluster | 1.000            | 2.435                       | 1.870                            | 1.043                        | 1.957                | 1.000                | 1.000            | 1.000        | 1.000        | 5.000 |
| 16 Cluster | 1.111            | 4.815                       | 1.185                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 5.963 |
| 17 Cluster | 1.000            | 2.500                       | 3.500                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 4.667 |
| 18 Cluster | 1.000            | 0.833                       | 1.000                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 5.000 |
| 19 Cluster | 1.000            | 0.000                       | 1.000                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 3.000 |
| 20 Cluster | 1.000            | 0.000                       | 3.500                            | 1.000                        | 2.000                | 1.000                | 1.000            | 1.000        | 1.000        | 3.000 |



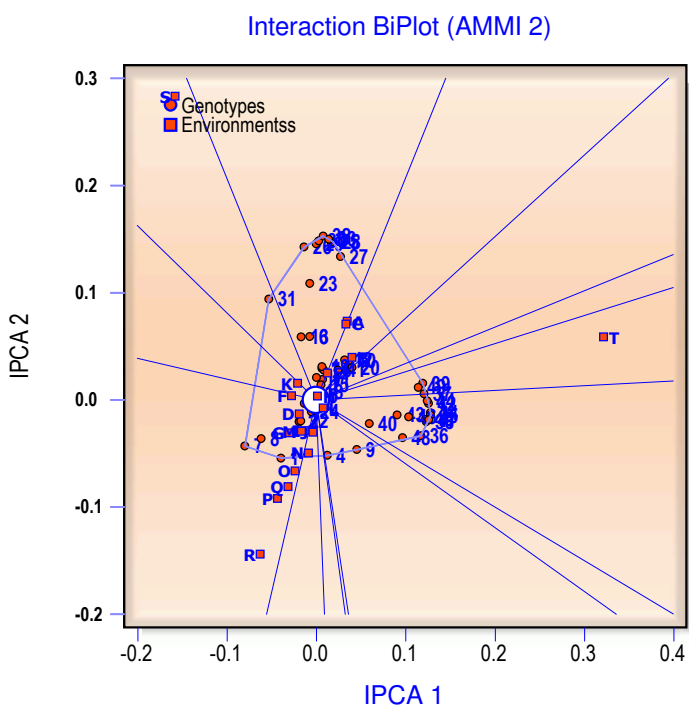
|             |        |        |        |       |        |        |        |       |        |        |
|-------------|--------|--------|--------|-------|--------|--------|--------|-------|--------|--------|
| Mean        | 1.216  | 1.115  | 2.548  | 1.072 | 2.034  | 1.058  | 1.019  | 1.010 | 1.072  | 4.288  |
| TreatMSS    | 5.048  | 29.666 | 14.749 | 0.642 | 3.106  | 0.455  | 0.171  | 0.104 | 0.665  | 11.183 |
| ErrMSS      | 0.220  | 1.753  | 4.528  | 0.094 | 0.041  | 0.014  | 0.004  | 0.000 | 0.060  | 3.416  |
| F Ratio     | 22.953 | 16.923 | 3.257  | 6.813 | 75.432 | 32.063 | 48.332 | 0.000 | 11.076 | 3.274  |
| Probability | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 1.000 | 0.000  | 0.000  |

|            | BLB   | BPH   | WBPH  | GMB4    | Height(CM) | Panicle no | Single plant | grain wt(g) | leaf area | SLW    |
|------------|-------|-------|-------|---------|------------|------------|--------------|-------------|-----------|--------|
| 1 Cluster  | 9.000 | 9.000 | 9.000 | 100.000 | 157.533    | 7.900      | 10.133       | 17.000      | 25.400    | 20.000 |
| 2 Cluster  | 9.000 | 9.000 | 9.000 | 100.000 | 142.333    | 7.500      | 13.500       | 15.000      | 26.933    | 20.700 |
| 3 Cluster  | 9.000 | 9.000 | 9.000 | 50.000  | 144.150    | 6.750      | 11.450       | 15.500      | 24.150    | 20.700 |
| 4 Cluster  | 8.857 | 9.000 | 9.000 | 96.905  | 154.071    | 7.326      | 11.321       | 15.524      | 25.907    | 18.964 |
| 5 Cluster  | 9.000 | 9.000 | 9.000 | 100.000 | 154.514    | 8.257      | 9.586        | 16.000      | 25.000    | 21.700 |
| 6 Cluster  | 7.000 | 9.000 | 9.000 | 100.000 | 154.367    | 8.700      | 13.233       | 11.667      | 23.567    | 22.267 |
| 7 Cluster  | 2.667 | 9.000 | 8.117 | 97.617  | 150.683    | 7.583      | 10.183       | 12.833      | 23.250    | 20.950 |
| 8 Cluster  | 9.000 | 9.000 | 9.000 | 100.000 | 162.314    | 8.429      | 11.300       | 14.286      | 24.871    | 20.671 |
| 9 Cluster  | 9.000 | 7.220 | 9.000 | 0.000   | 156.360    | 8.160      | 12.200       | 12.200      | 25.480    | 18.840 |
| 10 Cluster | 8.800 | 9.000 | 9.000 | 95.623  | 143.937    | 8.633      | 13.070       | 13.100      | 29.477    | 18.363 |
| 11 Cluster | 9.000 | 8.133 | 3.350 | 100.000 | 146.767    | 7.117      | 13.500       | 13.500      | 22.950    | 19.850 |
| 12 Cluster | 9.000 | 8.429 | 9.000 | 100.000 | 142.400    | 7.457      | 13.986       | 16.143      | 32.986    | 18.971 |
| 13 Cluster | 9.000 | 9.000 | 8.707 | 93.414  | 115.750    | 8.650      | 10.143       | 12.071      | 29.236    | 18.100 |
| 14 Cluster | 9.000 | 9.000 | 9.000 | 96.150  | 144.500    | 6.950      | 10.267       | 17.833      | 30.883    | 20.850 |
| 15 Cluster | 9.000 | 9.000 | 9.000 | 98.043  | 134.822    | 7.913      | 11.857       | 18.130      | 32.157    | 18.365 |
| 16 Cluster | 9.000 | 9.000 | 8.630 | 97.407  | 133.196    | 6.630      | 12.837       | 16.259      | 35.056    | 17.874 |
| 17 Cluster | 8.000 | 3.567 | 8.283 | 100.000 | 152.483    | 7.150      | 14.033       | 19.500      | 29.317    | 18.800 |
| 18 Cluster | 9.000 | 9.000 | 9.000 | 100.000 | 139.767    | 7.350      | 12.350       | 18.000      | 34.883    | 18.483 |
| 19 Cluster | 9.000 | 9.000 | 4.533 | 100.000 | 0.000      | 0.000      | 0.000        | 0.000       | 0.000     | 0.000  |
| 20 Cluster | 9.000 | 9.000 | 9.000 | 100.000 | 123.750    | 8.350      | 9.000        | 13.500      | 29.400    | 18.750 |

[illegible]

[illegible][illegible][illegible]

|             |        |       |          |        |       |        |        |          |
|-------------|--------|-------|----------|--------|-------|--------|--------|----------|
|             |        |       |          |        |       |        |        |          |
| Mean        | 0.827  | 4.759 | 123.130  | 9.221  | 1.975 | 4.303  | 22.680 | 44.514   |
| TreatMSS    | 10.950 | 2.732 | 9601.942 | 19.149 | 0.466 | 8.049  | 67.386 | 1153.818 |
| ErrMSS      | 0.562  | 0.296 | 1166.950 | 1.437  | 0.056 | 0.410  | 3.092  | 172.359  |
| F Ratio     | 19.475 | 9.224 | 8.228    | 13.323 | 8.343 | 19.655 | 21.790 | 6.694    |
| Probability | 0.000  | 0.000 | 0.000    | 0.000  | 0.000 | 0.000  | 0.000  | 0.000    |



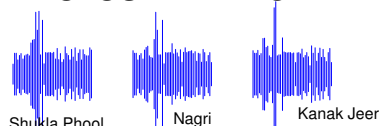
|            |                                                   |                  |                  |                  |                  |                  |                  |                  |
|------------|---------------------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|            | Euclidean <sup>2</sup> : Cluster Distances : Ward |                  |                  |                  |                  |                  |                  |                  |
|            | <b>1 Cluster</b>                                  | <b>2 Cluster</b> | <b>3 Cluster</b> | <b>4 Cluster</b> | <b>5 Cluster</b> | <b>6 Cluster</b> | <b>7 Cluster</b> | <b>8 Cluster</b> |
| 1 Cluster  | 124.415                                           |                  |                  |                  |                  |                  |                  |                  |
| 2 Cluster  |                                                   | 206.908          |                  |                  |                  |                  |                  |                  |
| 3 Cluster  |                                                   | 103.541          | 312.028          |                  |                  |                  |                  |                  |
| 4 Cluster  |                                                   |                  | 255.595          | 186.507          |                  |                  |                  |                  |
| 5 Cluster  |                                                   |                  | 150.233          | 136.405          | 184.904          |                  |                  |                  |
| 6 Cluster  |                                                   |                  |                  | 203.779          | 154.660          | 246.249          |                  |                  |
| 7 Cluster  |                                                   |                  |                  | 42.273           | 86.976           | 180.313          | 214.180          |                  |
| 8 Cluster  |                                                   |                  |                  |                  | 93.046           | 247.029          | 165.982          | 221.625          |
| 9 Cluster  |                                                   |                  |                  |                  | 94.276           | 147.615          | 230.378          | 158.044          |
| 10 Cluster |                                                   |                  |                  |                  |                  | 47.333           | 111.173          | 229.113          |
| 11 Cluster |                                                   |                  |                  |                  |                  |                  | 102.731          | 70.130           |
| 12 Cluster |                                                   |                  |                  |                  |                  |                  | 51.983           | 106.656          |
| 13 Cluster |                                                   |                  |                  |                  |                  |                  |                  | 108.233          |
| 14 Cluster |                                                   |                  |                  |                  |                  |                  |                  | 96.743           |
| 15 Cluster |                                                   |                  |                  |                  |                  |                  |                  | 42.833           |
| 16 Cluster |                                                   |                  |                  |                  |                  |                  |                  |                  |
| 17 Cluster |                                                   |                  |                  |                  |                  |                  |                  |                  |
| 18 Cluster |                                                   |                  |                  |                  |                  |                  |                  |                  |
| 19 Cluster |                                                   |                  |                  |                  |                  |                  |                  |                  |
| 20 Cluster |                                                   |                  |                  |                  |                  |                  |                  |                  |

|            | 9 Cluster | 10 Cluster | 11 Cluster | 12 Cluster | 13 Cluster | 14 Cluster | 15 Cluster | 16 Cluster |
|------------|-----------|------------|------------|------------|------------|------------|------------|------------|
| 1 Cluster  | 227.548   | 201.907    | 220.982    | 221.173    | 223.858    | 233.634    | 201.735    | 198.865    |
| 2 Cluster  | 167.483   | 133.225    | 154.620    | 145.313    | 147.150    | 171.562    | 144.112    | 149.759    |
| 3 Cluster  | 213.857   | 205.981    | 226.440    | 213.381    | 224.494    | 226.868    | 225.789    | 227.589    |
| 4 Cluster  | 79.929    | 46.743     | 72.794     | 77.337     | 65.344     | 88.223     | 59.131     | 56.443     |
| 5 Cluster  | 123.628   | 92.713     | 117.059    | 119.205    | 111.746    | 132.834    | 103.988    | 103.774    |
| 6 Cluster  | 123.204   | 85.027     | 111.814    | 112.978    | 106.466    | 143.960    | 110.905    | 107.255    |
| 7 Cluster  | 107.112   | 73.007     | 95.433     | 109.679    | 92.070     | 119.668    | 92.367     | 88.658     |
| 8 Cluster  | 91.681    | 63.947     | 88.320     | 100.556    | 78.966     | 119.027    | 84.587     | 85.209     |
| 9 Cluster  | 55.356    | 75.567     | 100.003    | 111.182    | 92.495     | 130.665    | 93.435     | 91.304     |
| 10 Cluster |           | 34.612     | 63.490     | 73.020     | 48.455     | 87.813     | 57.141     | 54.537     |
| 11 Cluster |           |            | 53.412     | 100.390    | 79.131     | 109.558    | 83.734     | 82.164     |
| 12 Cluster |           |            |            | 73.864     | 91.039     | 118.026    | 88.918     | 88.190     |
| 13 Cluster |           |            |            |            | 36.131     | 94.133     | 71.272     | 65.275     |
| 14 Cluster |           |            |            |            |            | 78.594     | 95.022     | 96.265     |
| 15 Cluster |           |            |            |            |            |            | 56.384     | 48.971     |
| 16 Cluster |           |            |            |            |            |            |            | 22.331     |
| 17 Cluster |           |            |            |            |            |            |            |            |
| 18 Cluster |           |            |            |            |            |            |            |            |
| 19 Cluster |           |            |            |            |            |            |            |            |
| 20 Cluster |           |            |            |            |            |            |            |            |

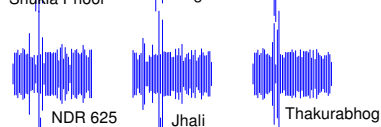
|            | 17 Cluster | 18 Cluster | 19 Cluster | 20 Cluster |
|------------|------------|------------|------------|------------|
| 1 Cluster  | 222.916    | 269.697    | 424.469    | 726.568    |
| 2 Cluster  | 174.395    | 211.717    | 356.440    | 646.654    |
| 3 Cluster  | 250.708    | 290.184    | 432.313    | 704.260    |
| 4 Cluster  | 82.910     | 118.429    | 274.489    | 574.587    |
| 5 Cluster  | 127.885    | 168.201    | 332.622    | 614.204    |
| 6 Cluster  | 135.826    | 170.876    | 297.087    | 625.911    |
| 7 Cluster  | 109.488    | 150.034    | 297.143    | 596.712    |
| 8 Cluster  | 113.702    | 149.462    | 305.206    | 580.292    |
| 9 Cluster  | 107.106    | 155.787    | 313.217    | 602.385    |
| 10 Cluster | 87.918     | 119.893    | 271.925    | 562.026    |
| 11 Cluster | 100.818    | 153.214    | 260.720    | 607.582    |
| 12 Cluster | 112.049    | 151.389    | 304.203    | 601.802    |
| 13 Cluster | 105.610    | 133.337    | 259.926    | 588.464    |
| 14 Cluster | 120.727    | 163.109    | 320.106    | 645.598    |
| 15 Cluster | 85.824     | 120.758    | 284.162    | 609.592    |
| 16 Cluster | 75.905     | 112.614    | 268.774    | 620.237    |
| 17 Cluster | 68.700     | 150.880    | 326.459    | 642.661    |
| 18 Cluster |            | 36.548     | 353.743    | 660.844    |
| 19 Cluster |            |            | 68.818     | 791.829    |
| 20 Cluster |            |            |            | 34.493     |

## CLUSTER INFORMATION

Cluster No. 1



Cluster No. 2



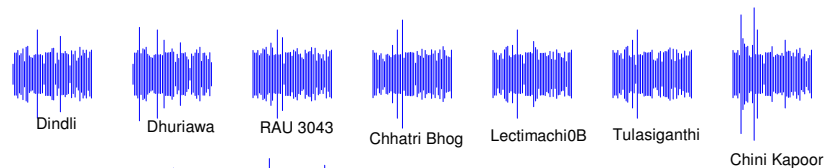
Cluster No. 3



Cluster No. 4



Cluster No. 5



Cluster No. 6



Cluster No. 7



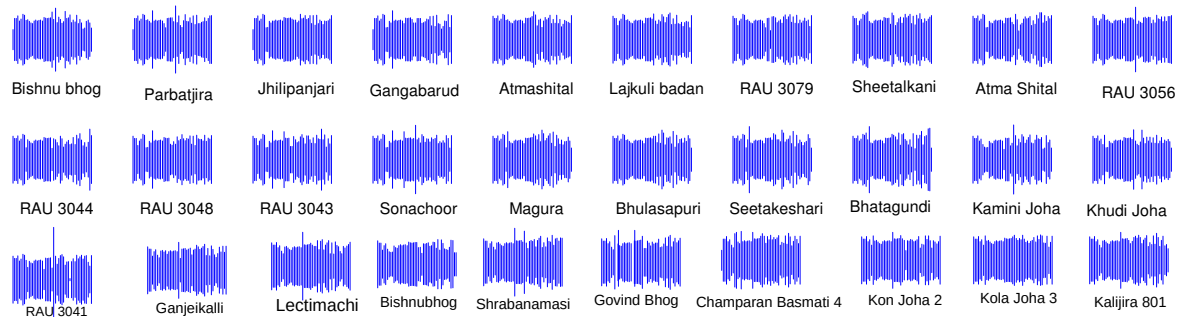
Cluster No. 8



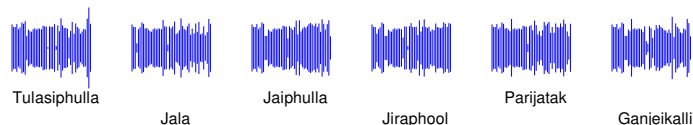
Cluster No. 9



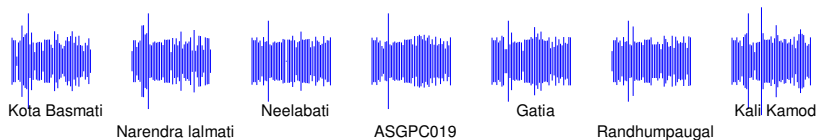
Cluster No. 10



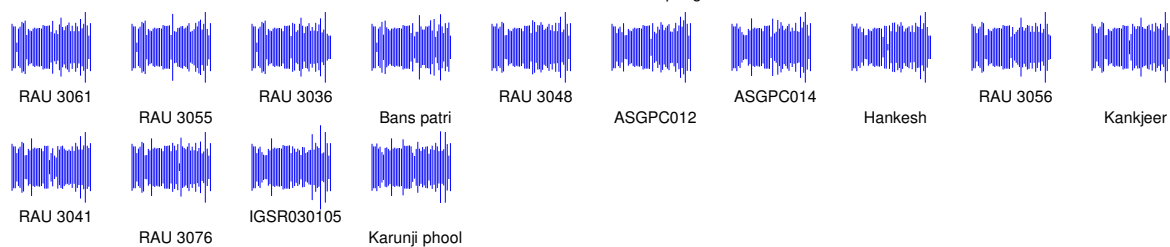
# Cluster No. 11



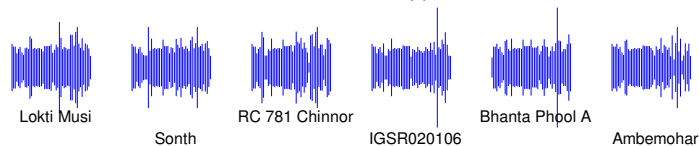
# Cluster No. 12



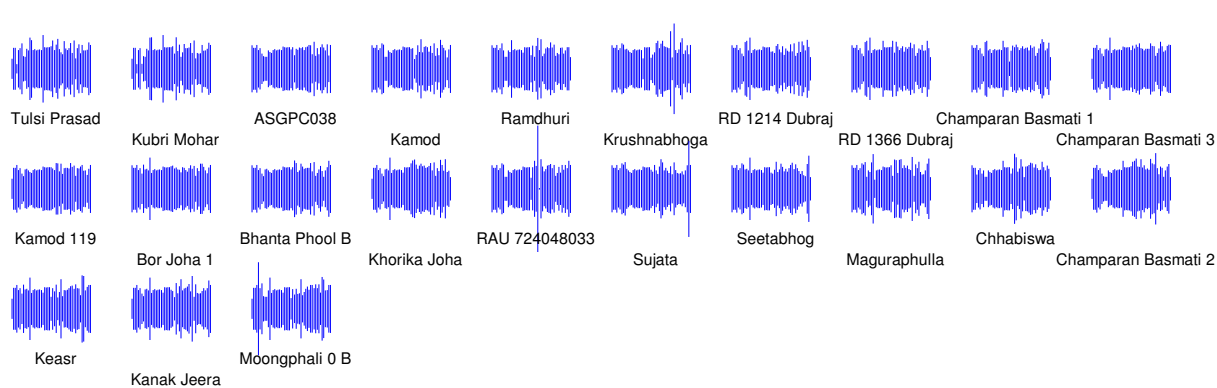
# Cluster No. 13



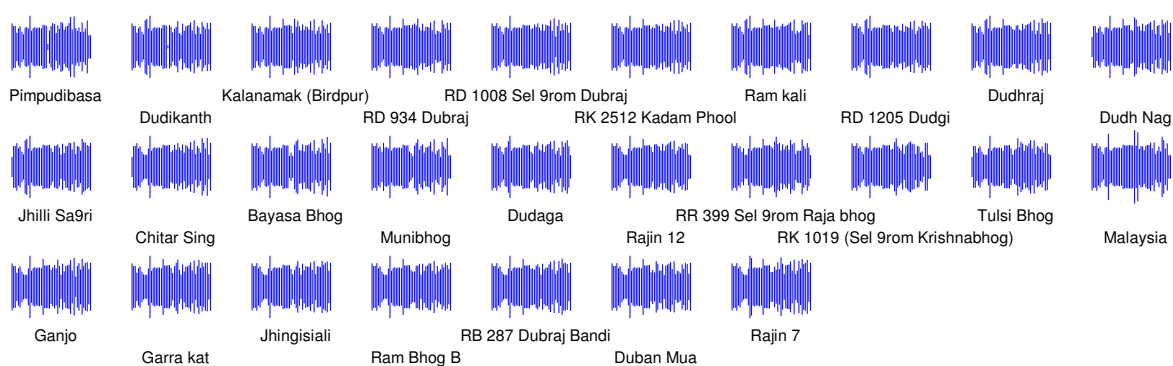
# Cluster No. 14



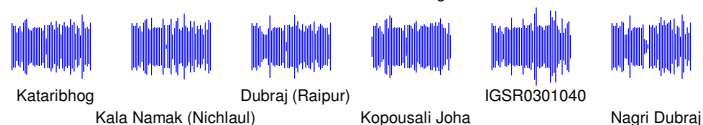
# Cluster No. 15



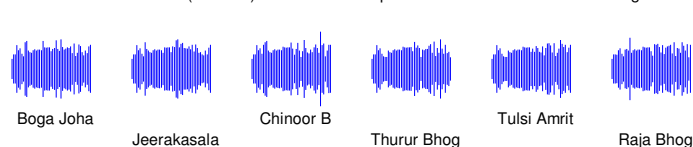
# Cluster No. 16



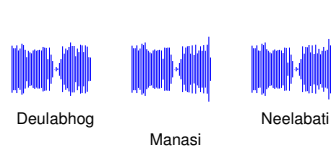
# Cluster No. 17



# Cluster No. 18



# Cluster No. 19



# Cluster No. 20

