




Atypical CLAMP scoresheet

|     |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
|-----|--|------------------------------|----------------|------------------|-------------------------|----------------|--------------|-------------|-------------|-----------------------|-----------|--------------|---------------|--------------|---------------|----------------|-------------|-----------------------|---------------|-------------|------------|-----------------------|-------------|--------------|----------------------------------|------------|---------|-----------|-----------|------------------------|---------|---------|----------|-------|-----|--|--|
| 1   | Scorer   | Locality                     | Latitude       | Longitude        | Altitude                | Date Collected | Completeness | Notes       |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 2   | ABH  | Beryozovo                    | 63° 54.469N    | 64° 56.707E      | 63'                     | 1/8/02         | 1            |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 3   |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 4   |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 5   | Species Number   | Species / Morphotypes        | Lamina Unlobed | Dissection Lobed | Margin Character States |                |              |             |             | Size Character States |           |              |               |              |               |                |             | Apex Character States |               |             |            | Base Character States |             |              | Length to Width Character States |            |         |           |           | Shape Character States |         |         |          |       |     |  |  |
| 6   |  |                              |                |                  | No Teeth                | Tth Regular    | Teeth Close  | Teeth Round | Teeth Acute | Tth Compound          | Nanophyll | Leptophyll I | Leptophyll II | Microphyll I | Microphyll II | Microphyll III | Mesophyll I | Mesophyll II          | Mesophyll III | Apex Emarg. | Apex Round | Apex Acute            | Apex Atten. | Base Cordate | Base Round                       | Base Acute | L:W<1:1 | L:W 1-2:1 | L:W 2-3:1 | L:W 3-4:1              | L:W>4:1 | Obovate | Elliptic | Ovate |     |  |  |
| 7   | 1  | "Bilberry" sp.1              | 1              |                  |                         | 0.5            | 1            | 0.5         | 0.5         |                       | 0.33      | 0.33         | 0.33          |              |               |                |             |                       |               |             |            | 0.5                   | 0.5         |              |                                  | 0.5        | 0.5     |           | 0.5       | 0.5                    |         |         | 1        |       |     |  |  |
| 8   | 2  | Sorbus                       | 1              |                  |                         | 1              | 0.5          |             | 1           | 0.5                   |           |              | 0.5           | 0.5          |               |                |             |                       |               |             |            | 0.5                   | 0.5         |              |                                  | 0.5        | 0.5     |           | 0.33      | 0.33                   | 0.33    |         |          | 1     |     |  |  |
| 9   | 3  | Populus tremula              | 1              |                  |                         | 0.5            | 0.5          | 0.5         | 0.5         |                       |           |              | 0.25          | 0.25         | 0.25          | 0.25           |             |                       |               |             |            | 1                     |             |              | 0.33                             | 0.33       | 0.33    | 0.5       | 0.5       |                        |         | 0.5     | 0.5      |       |     |  |  |
| 10  | 4  | Rosa sp.                     | 1              |                  |                         | 1              | 1            | 0.5         | 0.5         | 0.5                   | 0.2       | 0.2          | 0.2           | 0.2          | 0.2           |                |             |                       |               |             | 0.33       | 0.33                  | 0.33        |              |                                  | 0.5        | 0.5     |           | 0.5       | 0.5                    |         |         | 1        |       |     |  |  |
| 11  | 5  | Vaccinium vitis-idaea        | 1              |                  | 1                       |                |              |             |             |                       | 0.25      | 0.25         | 0.25          | 0.25         |               |                |             |                       |               |             | 0.5        | 0.5                   | 0.5         |              |                                  | 0.5        | 0.5     |           | 0.5       | 0.5                    |         | 0.5     | 0.5      |       |     |  |  |
| 12  | 6  | Alnus sp.                    | 1              |                  | 1                       | 1              |              |             | 1           | 1                     |           |              |               | 0.25         | 0.25          | 0.25           | 0.25        | 0.25                  | 0.25          | 0.25        |            | 0.5                   | 0.5         |              |                                  | 0.5        | 0.5     |           | 1         |                        |         |         |          | 1     |     |  |  |
| 13  | 7  | Salix sp. 4                  | 1              |                  | 1                       |                |              |             |             |                       |           | 0.2          | 0.2           | 0.2          | 0.2           | 0.2            |             |                       |               |             |            |                       | 1           |              |                                  |            |         |           |           |                        |         | 1       |          | 1     |     |  |  |
| 14  | 8  | Salix sp. 2                  | 1              |                  | 1                       |                |              |             |             |                       |           | 0.33         | 0.33          | 0.33         | 0.33          |                |             |                       |               |             |            |                       | 1           |              |                                  | 0.5        | 0.5     |           |           | 0.33                   | 0.33    | 0.33    |          |       | 1   |  |  |
| 15  | 9  | Vaccinium uliginosum         | 1              |                  | 1                       |                |              |             |             |                       | 0.25      | 0.25         | 0.25          | 0.25         |               |                |             |                       |               |             | 0.5        | 0.5                   |             |              |                                  |            | 1       |           | 0.33      | 0.33                   | 0.33    |         | 0.5      | 0.5   |     |  |  |
| 16  | 10   | Unknown sp. 1                | 1              |                  | 0.5                     |                | 0.5          |             | 1           |                       | 0.2       | 0.2          | 0.2           | 0.2          | 0.2           |                |             |                       |               |             |            | 0.5                   | 0.5         |              |                                  |            | 1       |           | 0.33      | 0.33                   | 0.33    |         |          | 1     |     |  |  |
| 17  | 11   | Unknown sp. 2                | 1              |                  | 1                       |                |              |             |             |                       |           | 0.33         | 0.33          | 0.33         |               |                |             |                       |               |             |            | 0.5                   | 0.5         |              |                                  |            | 1       |           |           | 0.5                    | 0.5     |         | 0.5      | 0.5   |     |  |  |
| 18  | 12   | Empetrum sibiricum           | 1              |                  | 1                       |                |              |             |             |                       | 1         |              |               |              |               |                |             |                       |               |             |            | 1                     |             |              |                                  |            | 0.5     | 0.5       |           |                        | 0.5     | 0.5     |          |       | 1   |  |  |
| 19  | 13   | Betula sp. 1*                | 1              |                  |                         | 1              | 1            |             | 1           | 1                     |           |              |               |              |               | 0.33           | 0.33        | 0.33                  |               |             |            |                       | 1           |              |                                  | 0.5        | 0.5     | 0.5       | 0.5       |                        |         |         |          | 0.5   | 0.5 |  |  |
| 20  | 14   | Betula verrucosa *           | 1              |                  |                         | 1              | 1            |             | 1           | 1                     |           |              |               | 0.33         | 0.33          | 0.33           |             |                       |               |             |            |                       | 1           |              |                                  | 0.5        | 0.5     | 0.5       | 0.5       |                        |         |         |          | 0.5   | 0.5 |  |  |
| 21  | 15   | Betula nana                  | 1              |                  |                         | 1              | 1            |             |             | 0.5                   | 0.25      | 0.25         | 0.25          | 0.25         |               |                |             |                       |               |             |            |                       | 1           |              |                                  |            | 0.5     | 0.5       |           |                        |         |         | 0.5      | 0.5   |     |  |  |
| 22  | 16   | Salix sp. 1                  | 1              |                  |                         | 1              |              |             |             |                       | 0.25      | 0.25         | 0.25          | 0.25         |               |                |             |                       |               |             |            | 0.5                   | 0.5         |              |                                  |            | 1       |           |           | 0.25                   | 0.25    | 0.25    |          |       | 1   |  |  |
| 23  | 17   | Salix sp. 3                  | 1              |                  | 0.5                     |                |              |             | 1           |                       |           | 0.25         | 0.25          | 0.25         | 0.25          | 0.25           |             |                       |               |             |            | 0.5                   | 0.5         |              |                                  |            | 1       |           |           | 0.33                   | 0.33    | 0.33    |          |       | 1   |  |  |
| 24  | 18   | Salix sp. 5                  | 1              |                  | 0.5                     |                |              |             | 1           |                       |           | 0.25         | 0.25          | 0.25         | 0.25          | 0.25           |             |                       |               |             |            |                       | 1           |              |                                  |            | 1       |           |           |                        | 0.5     | 0.5     |          |       | 1   |  |  |
| 25  | 19   | Ledum palustre               | 1              |                  | 1                       |                |              |             |             |                       | 0.33      | 0.33         | 0.33          |              |               |                |             |                       |               |             | 0.5        | 0.5                   |             |              |                                  | 0.5        | 0.5     |           |           |                        |         | 1       |          | 1     |     |  |  |
| 26  | 20   | Cranberry                    | 1              |                  | 1                       |                |              |             |             |                       |           |              | 1             |              |               |                |             |                       |               |             |            |                       | 1           |              |                                  |            |         | 1         |           |                        | 0.5     | 0.5     |          |       | 1   |  |  |
| 27  |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 28  |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 110 |  | No. Character States Present |                | 20               | 20                      | 20             | 20           | 20          | 20          | 20                    | 20        | 20           | 20            | 20           | 20            | 20             | 20          | 20                    | 20            | 20          | 20         | 20                    | 20          | 20           | 20                               | 20         | 20      | 20        | 20        | 20                     | 20      | 20      | 20       | 20    | 20  |  |  |
| 111 |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 112 |  | Percentage Score             |                | 0                | 48                      | 38             | 38           | 28          | 33          | 25                    | 15        | 22           | 21            | 20           | 11            | 7              | 3           | 0                     | 0             | 7           | 42         | 52                    | 0           | 2            | 37                               | 62         | 10      | 27        | 25        | 20                     | 19      | 13      | 83       | 5     |     |  |  |
| 113 |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |
| 114 |  |                              |                |                  |                         |                |              |             |             |                       |           |              |               |              |               |                |             |                       |               |             |            |                       |             |              |                                  |            |         |           |           |                        |         |         |          |       |     |  |  |

Copy this line into the footer section of the reference dataset spreadsheet.



## A typical CLAMP scoresheet

Bereyozovo correct.xls [Read-Only]

xls [Read-Only]

U

V

W

X

Y

Z

AA

AB

AC

AD

AE

AF

AG

AH

AI

AJ

</



A CLAMP calibration matrix consists of a number of modern vegetation sites each with a numerical description of the leaves found on at least 20 woody dicot species in each site.

The numerical description is made up of 31 numbers representing an overall percentage score for each of the 31 characters states.

For the PHYSG3BR calibration set the result is a two dimensional array of 144 x 31 numbers.

|     | A                                   | B     | C        | D          | E          | F         | G          | H        | I         | J          | K          | L          | M          | N          | O         | P         | Q         | R         |
|-----|-------------------------------------|-------|----------|------------|------------|-----------|------------|----------|-----------|------------|------------|------------|------------|------------|-----------|-----------|-----------|-----------|
| 1   | Sample                              | Lobed | No Teeth | Regular te | Close teet | Round tee | Acute teet | Compound | Nanophyll | Leptophyll | Leptophyll | Microphyll | Microphyll | Microphyll | Mesophyll | Mesophyll | Mesophyll | Emarginat |
| 2   | Guanica, Puerto Rico                | 3     | 83       | 6          | 9          | 9         | 8          | 6        | 1         | 6          | 17         | 30         | 24         | 14         | 3         | 1         | 4         | 76        |
| 3   | Cabo Rojo, Puerto Rico              | 0     | 87       | 7          | 7          | 13        | 0          | 2        | 5         | 10         | 13         | 25         | 27         | 15         | 4         | 1         | 1         | 55        |
| 4   | Mocuzari A, Sonora                  | 2     | 74       | 5          | 5          | 26        | 0          | 3        | 17        | 8          | 17         | 18         | 17         | 13         | 5         | 3         | 2         | 36        |
| 5   | Mocuzari-B, Sonora                  | 3     | 74       | 5          | 6          | 24        | 2          | 0        | 12        | 13         | 22         | 25         | 17         | 8          | 1         | 1         | 1         | 36        |
| 6   | Natua, Fiji                         | 0     | 79       | 15         | 9          | 18        | 4          | 2        | 0         | 0          | 1          | 8          | 21         | 21         | 23        | 15        | 11        | 23        |
| 7   | Borinquen, Puerto Rico              | 0     | 83       | 7          | 6          | 15        | 2          | 4        | 1         | 5          | 21         | 30         | 35         | 14         | 1         | 1         | 0         | 71        |
| 8   | Cambalache, Puerto Rico             | 0     | 87       | 10         | 4          | 12        | 1          | 3        | 3         | 5          | 7          | 16         | 28         | 23         | 12        | 3         | 3         | 38        |
| 9   | Tres Hermanos, Sonora               | 6     | 75       | 4          | 6          | 23        | 2          | 2        | 11        | 8          | 21         | 24         | 17         | 13         | 4         | 2         | 1         | 38        |
| 10  | Keka, Fiji                          | 0     | 88       | 5          | 4          | 8         | 5          | 0        | 0         | 0          | 0          | 12         | 25         | 31         | 20        | 5         | 7         | 35        |
| 11  | Guajatica, Puerto Rico              | 1     | 72       | 14         | 8          | 19        | 9          | 4        | 1         | 2          | 3          | 10         | 19         | 26         | 21        | 10        | 7         | 28        |
| 12  | Susua Alta, Puerto Rico             | 0     | 80       | 4          | 4          | 20        | 0          | 4        | 4         | 12         | 20         | 22         | 18         | 11         | 5         | 4         | 3         | 57        |
| 13  | Cabo San Lucas, Baja California S   | 6     | 82       | 7          | 8          | 18        | 3          | 5        | 23        | 24         | 22         | 19         | 8          | 3          | 1         | 0         | 0         | 51        |
| 14  | Quiriego, Sonora                    | 4     | 71       | 9          | 13         | 23        | 5          | 4        | 17        | 9          | 15         | 17         | 19         | 11         | 7         | 4         | 1         | 25        |
| 15  | Seqaqa, Fiji                        | 0     | 61       | 16         | 11         | 38        | 2          | 7        | 0         | 0          | 0          | 8          | 16         | 17         | 17        | 26        | 16        | 14        |
| 16  | Nuri, Sonora                        | 5     | 62       | 9          | 12         | 33        | 5          | 6        | 16        | 8          | 12         | 20         | 24         | 16         | 5         | 0         | 0         | 27        |
| 17  | Santiago, Baja California Sur       | 7     | 81       | 9          | 7          | 14        | 4          | 1        | 15        | 15         | 23         | 21         | 15         | 6          | 4         | 1         | 1         | 46        |
| 18  | Alamos, Sonora                      | 5     | 66       | 8          | 9          | 28        | 5          | 4        | 9         | 8          | 13         | 18         | 21         | 19         | 8         | 3         | 2         | 35        |
| 19  | Empalme, Sonora                     | 0     | 77       | 10         | 14         | 17        | 6          | 6        | 24        | 24         | 26         | 16         | 9          | 2          | 0         | 0         | 0         | 42        |
| 20  | Baie d'Magenta, New Caledonia       | 6     | 69       | 6          | 3          | 27        | 4          | 0        | 0         | 0          | 6          | 26         | 35         | 18         | 8         | 3         | 4         | 42        |
| 21  | Avon Park, Florida                  | 5     | 73       | 16         | 13         | 13        | 15         | 2        | 2         | 5          | 9          | 26         | 32         | 16         | 8         | 2         | 0         | 42        |
| 22  | Orlando, Florida                    | 7     | 68       | 16         | 17         | 28        | 4          | 3        | 2         | 5          | 14         | 17         | 33         | 22         | 6         | 1         | 0         | 39        |
| 23  | Todos Santos, Baja California Sur   | 4     | 81       | 5          | 7          | 16        | 2          | 1        | 25        | 27         | 28         | 10         | 8          | 3          | 1         | 1         | 0         | 37        |
| 24  | Buena Vista, Puerto Rico            | 0     | 81       | 10         | 6          | 18        | 1          | 3        | 0         | 6          | 14         | 25         | 30         | 15         | 7         | 1         | 1         | 54        |
| 25  | San Bartolo, Baja California Sur    | 3     | 69       | 15         | 19         | 26        | 5          | 3        | 20        | 16         | 20         | 16         | 16         | 10         | 3         | 0         | 0         | 36        |
| 26  | Canyon Lake, Arizona                | 2     | 78       | 7          | 10         | 18        | 3          | 0        | 41        | 29         | 16         | 9          | 6          | 0          | 0         | 0         | 0         | 23        |
| 27  | Los Divisaderos, Baja California Su | 0     | 78       | 4          | 2          | 16        | 4          | 2        | 12        | 18         | 18         | 22         | 14         | 9          | 5         | 2         | 1         | 52        |
| 28  | Maricao, Puerto Rico                | 1     | 81       | 9          | 4          | 19        | 0          | 0        | 0         | 0          | 5          | 17         | 29         | 26         | 13        | 5         | 5         | 49        |
| 29  | Riv. Bleue, New Caledonia           | 0     | 57       | 10         | 9          | 35        | 9          | 4        | 0         | 0          | 0          | 8          | 12         | 14         | 24        | 22        | 20        | 31        |
| 30  | Bartlett Resvr., Arizona            | 0     | 80       | 10         | 13         | 10        | 10         | 5        | 30        | 20         | 24         | 18         | 6          | 2          | 0         | 0         | 0         | 35        |
| 31  | Mt. Koghiis, New Caledonia          | 0     | 69       | 19         | 12         | 26        | 5          | 4        | 0         | 0          | 2          | 7          | 15         | 19         | 23        | 18        | 16        | 21        |
| 32  | Lake George, Florida                | 13    | 52       | 23         | 13         | 40        | 8          | 4        | 0         | 2          | 9          | 23         | 29         | 23         | 12        | 1         | 1         | 21        |
| 33  | Castle Cr., Arizona                 | 2     | 73       | 10         | 14         | 24        | 3          | 2        | 26        | 26         | 19         | 16         | 9          | 3          | 3         | 0         | 0         | 29        |
| 34  | Silver Bell, Arizona                | 7     | 80       | 13         | 13         | 11        | 9          | 6        | 43        | 23         | 20         | 7          | 6          | 0          | 0         | 0         | 0         | 30        |
| 35  | Saguaro Lake, Arizona               | 4     | 75       | 13         | 15         | 22        | 3          | 2        | 21        | 28         | 22         | 17         | 12         | 1          | 0         | 0         | 0         | 29        |
| 36  | Superior, Arizona                   | 2     | 69       | 16         | 16         | 26        | 5          | 5        | 35        | 20         | 18         | 17         | 9          | 2          | 0         | 0         | 0         | 17        |
| 37  | Roosevelt Lk., Arizona              | 0     | 72       | 9          | 14         | 25        | 3          | 2        | 24        | 30         | 22         | 13         | 8          | 2          | 1         | 0         | 0         | 22        |
| 136 | Agakawa Spa, Chima                  | 11    | 63       | 64         | 56         | 25        | 13         | 39       | 0         | 0          | 5          | 24         | 33         | 18         | 19        | 7         | 1         | 32        |
| 137 | Republic, Washington                | 30    | 20       | 62         | 64         | 39        | 41         | 45       | 0         | 0          | 10         | 25         | 40         | 19         | 3         | 1         | 1         | 4         |
| 138 | Wanakena, New York                  | 15    | 23       | 67         | 65         | 20        | 57         | 50       | 0         | 1          | 12         | 26         | 44         | 9          | 5         | 3         | 0         | 0         |
| 139 | Hanawa-Obono, Honshu                | 13    | 19       | 60         | 56         | 31        | 50         | 29       | 0         | 0          | 0          | 5          | 30         | 33         | 22        | 6         | 4         | 0         |
| 140 | Teshio, Hokkaido                    | 12    | 15       | 65         | 58         | 31        | 54         | 40       | 0         | 0          | 0          | 2          | 25         | 24         | 23        | 15        | 11        | 4         |
| 141 | Kogawa, Hokkaido                    | 14    | 19       | 64         | 61         | 22        | 59         | 44       | 0         | 0          | 2          | 6          | 30         | 30         | 18        | 10        | 5         | 2         |
| 142 | Tadenoumi, Honshu                   | 18    | 7        | 82         | 73         | 20        | 73         | 61       | 0         | 0          | 0          | 9          | 31         | 31         | 21        | 7         | 1         | 0         |
| 143 | Lake Placid, New York               | 23    | 10       | 71         | 68         | 25        | 65         | 58       | 0         | 7          | 10         | 25         | 29         | 20         | 5         | 3         | 0         | 0         |
| 144 | Suganuma, Honshu                    | 12    | 0        | 94         | 91         | 18        | 82         | 71       | 0         | 0          | 0          | 12         | 39         | 30         | 14        | 3         | 2         | 0         |
| 145 | Nukabira, Hokkaido                  | 21    | 9        | 78         | 69         | 26        | 66         | 48       | 0         | 1          | 2          | 2          | 18         | 40         | 25        | 8         | 5         | 0         |
| 146 |                                     |       |          |            |            |           |            |          |           |            |            |            |            |            |           |           |           |           |