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Knotted Pile Rugs of 19th and Early 20th Centuries from Caucasia: A Classification of Area, Shape Ratio, Density and Knot Ratio by Statistic Part II

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ABSTRACT

Histograms are used to describe distributions of area, shape ratio, density and knot ratio of knotted pile rugs. Normalization of area and shape ratio distributions showed that area vary within (0.0-7.0) sq.m. and shape ratio within (1.0-3.4) for most Caucasian rugs. Differences were found in density and knot ratio between south-western and eastern regions. The former has density distribution within (400-1,999) knots/sq.dm. and knot ratio within (0.6-0.8), the latter density distribution within (600-3,399) knots/sq.dm. and knot ratio within (0.6-2.2). All histograms present a narrow interval in each distribution with the maximum number of rugs. Kazak, Gendje and Karabagh rugs have identical interval values. Daghestan, Kuba, Shirvan and Baku rugs show the same trend. Moghan and Talish rugs differ from previous groups in area and shape ratio distributions. Furthermore, Moghan rug density distribution might be due to two different typologies. Talish rugs density distribution varies within (1,200-1,399) knots/sq.dm and knot ratio within (1.0-1.2). Caucasian knotted rugs should be classified on the base of their foundation structure as: Kazak-Gendje- Karabagh and Daghestan-Kuba-Shirvan-Baku. Moghan-Talish rugs should be considered a specific group with identical area and shape ratio distributions.

Keywords: *Pile rugs, Caucasia, Shape ratio, Density, Knot ratio, Kazak, Gendje, Karabagh, Moghan, Talish, Daghestan, Kuba, Shirvan, Baku*

INTRODUCTION

In a previous paper Ref.[1] area, shape ratio, density and knot ratio of knotted pile rugs produced in the Caucasus between 19th and early 20th centuries have been studied by statistic. Normalization, carried out on numerous rugs of southern-western and eastern Caucasus sub-regions, shows that rugs have area mainly distributed in the range within (0.0-7.0) sq.m. and shape ratio within (1.0- 3.4) while structural differences are found in density and knot ratio distributions. Here, histograms of area, shape ratio, density and knot ratio are analyzed region by region without any normalization.

EXPERIMENTAL

All the knotted pile rugs are dated within 19th and early 20th century. The number of rugs used as data sources is reported in Table 1. An analogous Table is shown in Ref.[1], here dimension, density and knots have been increased by new entries. Furthermore, a normalization treatment carried out on these new data, not reported, gave the same results as in Ref.[1].

Table1. *Number of rugs used as data sources of dimension, density and knots for Caucasian regions*

Region	Dimension	Density	Knots
Kazak	192	134	125
Gendje	60	53	50
Karabagh	101	80	75
Moghan	21	14	11
Talish	42	26	23
Daghestan	66	43	37
Kuba	186	169	149
Shirvan	163	136	124
Baku	29	23	21
TOTAL	860	678	615

Table 1 shows that the amount of data for the nine regions is not homogeneous. Kazak, Kuba and Shirvan present the highest amount of data. Karabagh, Daghestan and Gendje follow Talish, Baku and Moghan have the lowest amount of data.

Data Sources

Kazak

Ref.[2] Plates: 148-151, 153-176, 178-186, (37 plates); Ref. [3] Plates: 85, 89-96, (9 plates); Ref. [4] Plate 45, (1 plate); Ref. [5] Plates: 43-45, (3 plates); Ref. [6] Plates: 1-23, (23 plates); Ref. [7] Plates: 6, 28, 44, 121, 80-86, 89, 92, 94, 97, 102, 104, (17 plates); Ref. [8] Pages: 75, 76, 79, 80, 83, 84, 87, 88, 91, 92, 95,96, 98, 100, 103, 104, 107, 108, 11, 112, 115,116, 119, 120, 123, 124, 127, 128, (28 plates); Ref. [9] Plates: 10-12, 14-27, (17 plates); Ref. [10] Plates: 1-31, 33-40, (39 plates); Ref. [11] Plates: 1-9, 14, 31, 54. (12 plates); Ref.[12] Plates: 28,30-34 (6 plates). Total 192 plates.

Gendje

Ref. [2] Plates: 125-133, 135-147. (22 plates); Ref. [3] Plates: 68, 76, 77. (3 plates); Ref. [4] Plate: 41. (1 plate); Ref.[13] Plates: 136, 137. (2 plates); Ref. [6] Plates: 33, 34, 35. (3 plates); Ref.[7] Plates: 27, 35, 48. (3 plates); Ref.[8] Pages: 165, 166, 169, 170, 173, 174, 177, 178, 181,182, 185, 186, 189, 190. (14 plates); Ref. [14] Page: 168. (1 plate); Ref. [9] Plates: 45-52. (8 plates); Ref. [11] Plates 13, 39, 55. (3 plates). Total 60 plates.

Karabagh

Ref. [2] Plates: 188-198, 200, 201, 218-223, 229, 232. (21 plates); Ref. [15] Plates: 8.9-8.12. (4 plates); Ref. [3]. Plates: 78-81, 83. (5 plates); Ref. [4]. Plates: 42-44. (3 plates); Ref.[5] Plates: 54, 55. (2 plates); Ref. [6]. Plates: 25-31, 32. (8 plates); Ref. [7]. Plates: 1, 4, 10, 11, 43, 55, 64, 87, 88, 90, 93, 95,99,100. (15 plates); Ref. [8]. Pages: 133, 134, 137, 138, 141, 142, 145, 146, 149, 150. (10 plates); Ref. [14]. Pages: 354, 355, 357, 371. (10 plates); Ref. [9]. Plates: 28-34, 36, 38-42. (13 plates); Ref. [11]. Plates: 10-12, 15, 33. (5 plates); Ref. [12]. Plates: 37,39-42, 44. (6 plates), Total 102 plates.

Moghan

Ref. [2]. Plates: 203-208. (6 plates); Ref. [15]. Plates 8.41, 8.42. (2 plates); Ref. [3]. Plates: 69, 71, 75. (3 plates); Ref. [4]. Plates: 65, 66. (2 plates); Ref. [6]. Plates 36, 37. (2 plates); Ref. [7]. Plate: 20. (1 plate); Ref. [14]. Page 372. (1 plate); Ref. [9]. Plates: 59-61. (3 plates); Ref. [11]. Plate: 20. (1 plate). Total 21 plates.

Talish

Ref. [2]. Plates: 202, 209-214, 224-226. (10 plates); Ref. [15]. Plates: 8.39, 8.40. (2 total plates); Ref. [3]. Plates: 62-65, 67, 73, 74. (7 plates); Ref. [4]. Plates: 67, 68. (2 plates); Ref. [5]. Plate: 49. (1 plate); Ref. [7]. Plate: 30. (1 plate); Ref. [8]. Pages: 152, 154, 157. (3 plates); Ref. [14]. Pages: 373-375. (6 plates); Ref. [9]. Plates: 53-58. (6 plates); Ref. [11]. Plates: 16, 17, 21, 35. (4 plates). Total 42 plates.

Daghestan

Ref. [2]. Plates: 26-29. (4 plates); Ref. [15]. Plates: 8.5, 8.8. (4 plates); Ref. [3]. Plates: 25-29,32, 33. (7 plates); Ref. [4]. Plates: 34-39. (6 plates); Ref. [5]. Plates: 47, 49, 50. (3 plates); Ref. [13]. Plates: 437, 470, 471, 545. (4 plates); Ref. [6]. Plates: 55-64, 66, 67. (12 plates); Ref. [8]. Pages: 307, 308, 311, 312, 315, 316, 319. (7 plates); Ref. [14]. Pages: 358-361. (5 plates); Ref. [9]. Plates 123, 125, 127, 129, 130, 132, 133-137. (11 plates); Ref. [11]. (3 total plates). Total 66 plates.

Kuba

Ref. [2]. Plates: 1-20, 22-25, 30-61. (56 plates); Ref. [3]. Plates: 11, 13, 19-24. (8 plates); Ref. [4]. Plates: 48-64. (17 plates); Ref. [5]. Plate: 53. (1 plate); Ref. [6]. Plates: 40-47, 49-54. (14 plates); Ref. [7]. Plates: 3, 5, 8, 9, 12, 17, 21, 24, 31, 32, 45, 47, 51, 56. (18 plates); Ref. [8]. Pages: 233, 234, 237, 238, 241, 242, 245, 246, 249, 250, 253, 254, 257, 258, 261, 262, 265, 266, 269, 270, 273, 274, 277, 278, 281, 282, 285, 286, 289, 290, 293, 294, 297, 298, 301, 302. (36 plates); Ref. [9]. Plates: 101-113, 115-118. (17 plates); Ref. [11]. Plates: 32, 34, 37, 40, 42, 44-49. (11 plates); Ref. [12]. Plates: 55-62. (8 plates). Total 186 plates.

Shirvan

Ref. [2]. Plates: 63-114. (52 plates); Ref. [3]. Plates: 35, 37, 39, 41-49, 51, 61. (14 plates); Ref. [4]. Plates: 69-76. (8 plates); Ref. [5]. Plates: 58-60. (3 plates); Ref. [6]. Plates: 68, 70-97. (plates 29); Ref. [7]. Plates: 18, 19, 23, 41, 42, 48, 50. 52-54, 62. (11 plates); Ref. [8]. Pages: 158, 161, 195, 196,199, 200, 203, 204, 207, 208, 211, 212, 215, 216, 219. (15 plates); Ref. [9]. Plates: 68-80. (13 plates); Ref. [11]. Plates: 18, 19, 24-30, 38, 41, 50.(12 plates); Ref. [12]. Plates: 45, 46, 50-52, 54 (6 plates); Ref. [13]. Plate 112. (1 plate). Total 164 plates.

Baku

Ref. [2]. Plates: 115, 118, 122. (3 plates); Ref. [3]. Plates: 59, 60. (2 plates); Ref [3]. Plate: 40. (1 plate); Ref. [5]. Plate: 56. (1 plate); Ref. [6].

Plates: 38, 39. (2 plates); Ref. [7]. Plates: 22, 25, 33, 59, 60, 61. (6 plates); Ref. [8]. Pages: 220, 223, 224, 227, 228. (5 plates); Ref. [9]. Plates: 83-89. (7 plates); Ref. [11]. Plates: 22, 23. (2 plates). Total 29 plates.

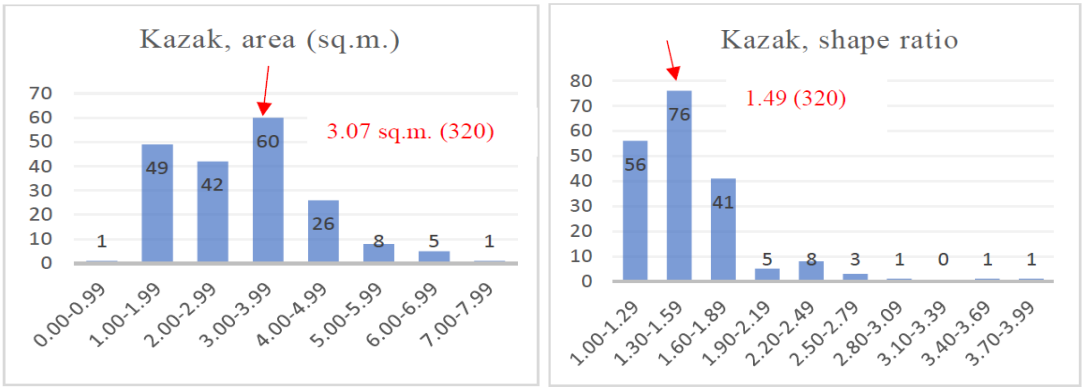
Data Treatment

Area [length*width] (sq.m.), shape ratio [length/width], density [knots in a dm of warp* knots in a dm of weft] (knots/sq.dm.) and knots ratio [knots in a dm of warp / knots in a dm of weft], obtained from foundation structure, are defined for each region by four histograms. The number of rugs is counted within incrementing intervals of 1.0 sq.m. (area), 0.3 (shape ratio), 200 knots per sq.dm. (density) and 0.2 (knot ratio). Histograms of area, shape ratio, density and knot ratio are shown in Figures 1a, b - 18a, b. When shape ratio distribution ranges within (1.0-1.3) the rugs might have square or pseudo-square shape. The histogram distributions are compared with the mean values obtained by Stone Ref. [16] pg 42 inside the appropriate interval of histograms. Stone's mean values and number of examined rugs, between parenthesis, are red marked and indicated by red arrows over the histogram. The values should fall inside, borderline or far from the interval which contain the highest number of rugs. Excel 365 per Mac 15.10. is used in performing both calculations and graphs.

Results

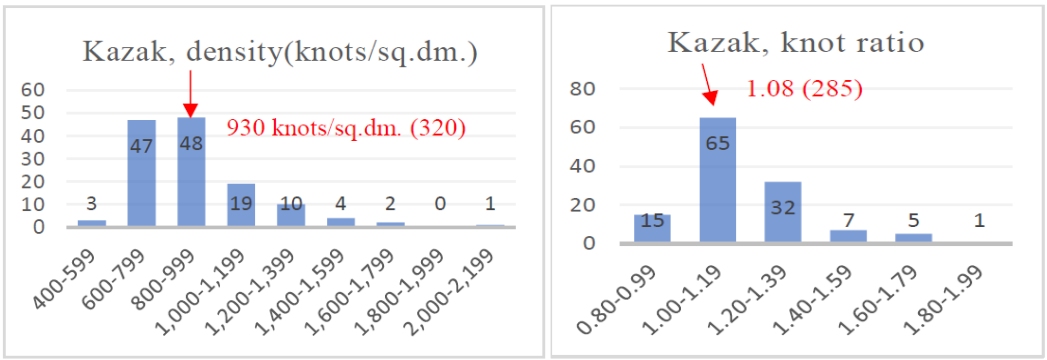
Kazak

Figures 1a, b show that area distribution for 192 Kazak rugs spreads within (0.0-8.0) sq.m. and the shape ratio within (1.0-4.0). From the shape ratio distribution one can observe that 29% of the rugs, i.e. 56*100/192, might be of pseudo-square shape.



Figures1a, b. *Area and shape ratio histograms for 192 Kazak rugs*

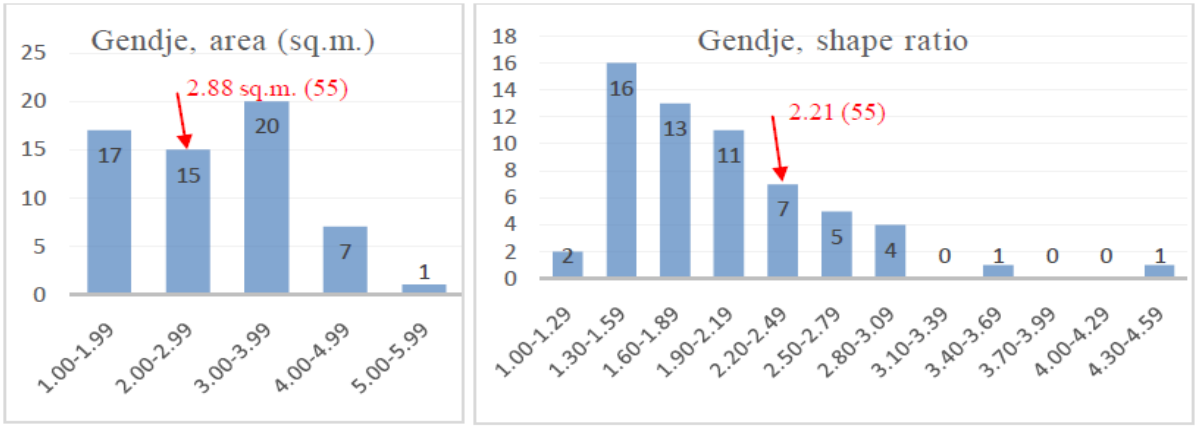
Density distribution ranges within (400-2,199) knots/sq.dm. and the knot ratio within (0.8-2.0) for 134 and 125 rugs, Figures 2a, b. Mean values of area, shape ratio, density and knot ratio fall inside the highest peak of distributions.



Figures2a, b. *Density and knot ratio histograms for 134 and 125 Kazak rugs*

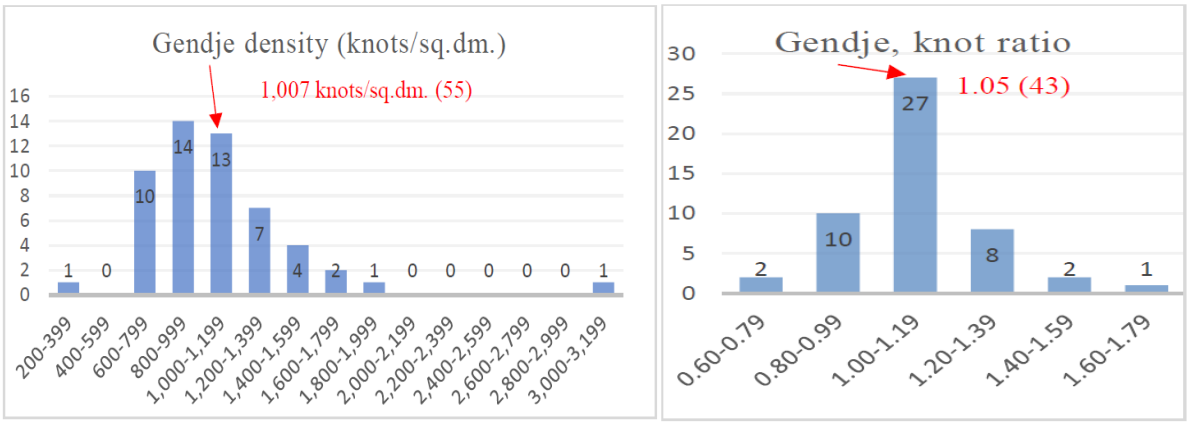
Gendje

Figures 3a, b show that Gendje rugs spread area distribution within (1.0-6.0) sq.m. and shape ratio within (1.0-4.6) for 60 Gendje rugs.



Figures3a, b. *Area and shape ratio histograms for 60 Gendje rugs*

The density of the Gendje rugs, Figure 4a, varies within (200-3,199) knots/sq.dm. and the knot ratio within (0.6-1.8), Figure 4b. Among all the Caucasian pile rugs examined a Gendje rug, Ref. [11] plate 39, has the lowest density, 372 knots/sq.dm.

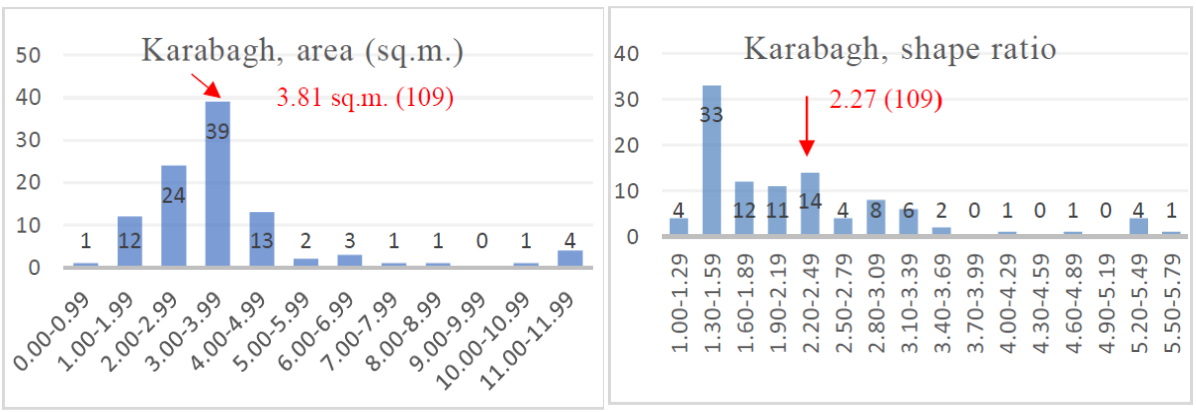


Figures4a, b. *Density and knot ratio histograms for 53 and 50 Gendje rugs*

Only the mean value of knot ratio, Figure 4b, falls inside the maximum of its distribution. Area and density mean values fall borderline, Figures 3a and 4a. Shape ratio mean value falls far from the highest peak, Figure 3b.

Karabagh

Figures 5a, b shows that for 101 Karabagh rugs area varies within (0.0-12.0) sq. m. and shape ratio within (1.0-5.8).



Figures5a, b. *Area and shape ratio histograms for 101 Karabagh rugs*

Density and knot ratio histograms are shown in Figures 6a, b, they vary within (400-3,599) knots/sq.dm. and (0.6-1.8) respectively for 80 and 75 Karabagh rugs. The prayer rug in the interval (3,400-3,599) knots/sq.dm. Ref. [6] plate 3, has an unusual foundation structure. The

warp is white cotton and undyed silk with structure Z3S, formed with one thread of silk plied with two of cotton. The weft is pink silk with two shoots. The pile is wool.

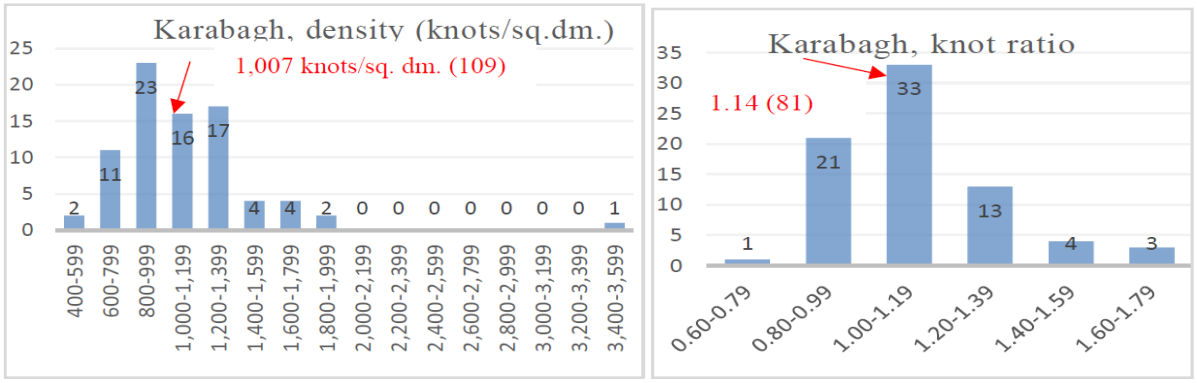


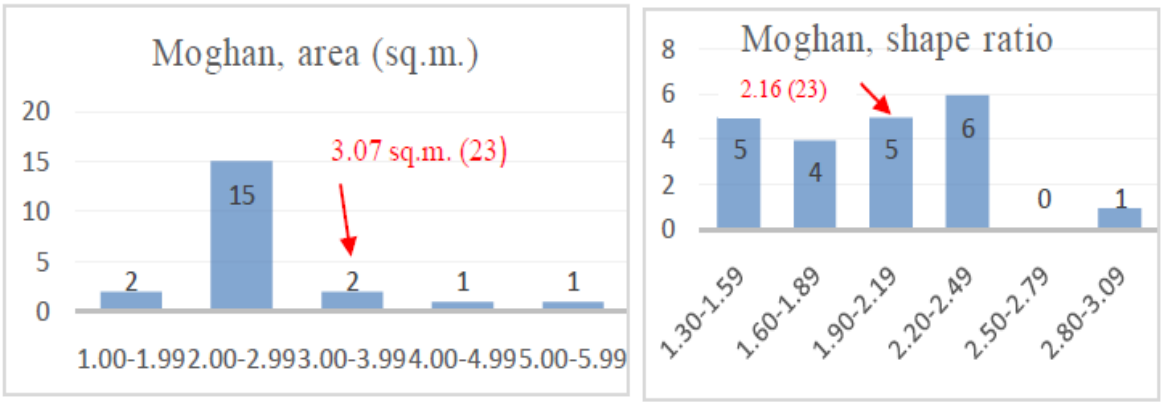
Figure6a, b. *Density and knot ratio histograms for 80 and 75 Karabagh rugs*

Mean values of area, and knot ratio, Figures 5a and 6b, fall inside the distributions.

Density mean value is borderline, Figure 6a. Shape ratio value falls far from the maximum, Figure 5b.

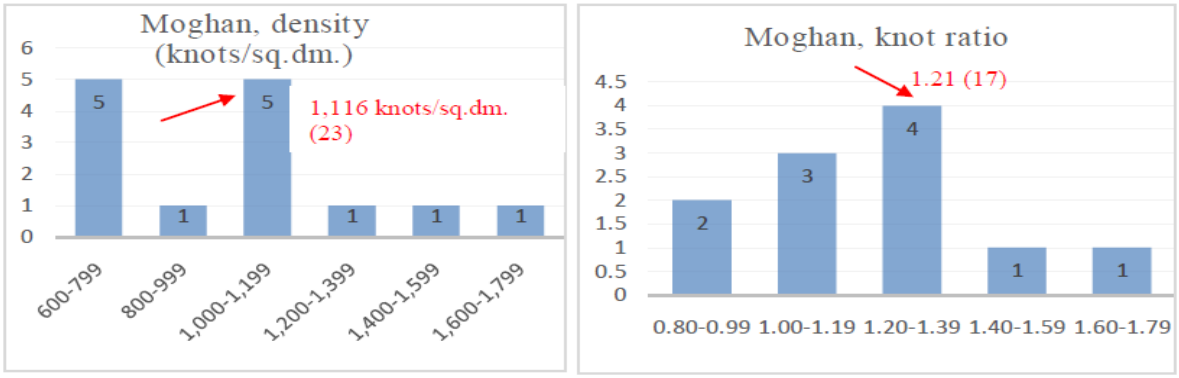
Moghan

As underlined by Stone Ref. [16] pg 141, the number of Moghan rugs is the lowest among all the Caucasian regions, see also Table 1. The area distribution of 21 Moghan rugs varies within (1.0-6.0) sq. m. and shape ratio within (1.3-3.1), Figures 7a, b.



Figures7a, b. *Area and shape ratio histograms for 21Moghan rugs*

Density distribution of 14 rugs and knot ratio of 11 Moghan rugs spread within (600-1,799) knots/sq.dm. and (0.8-1.8) respectively Figure 8a, b.



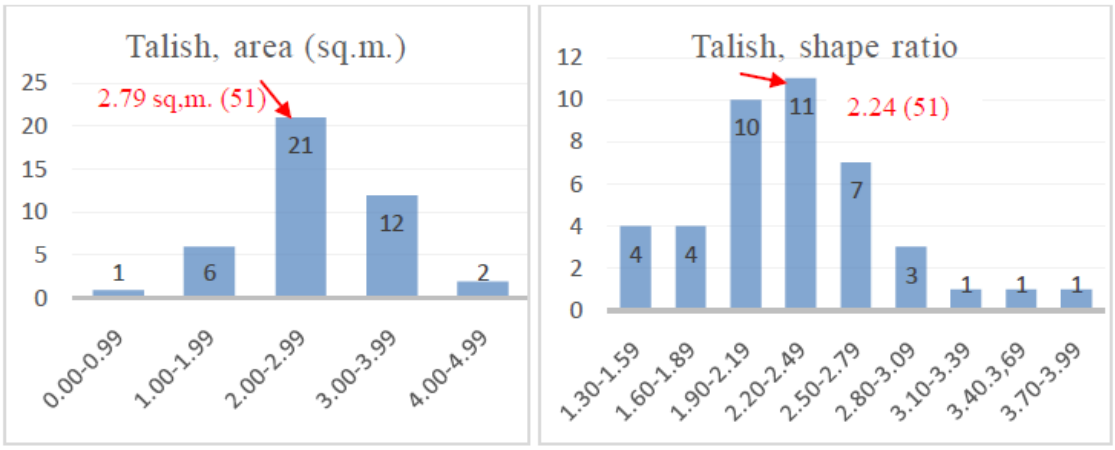
Figures8a, b. *Density and knot ratio histograms for 14 and 11 Moghan rugs*

Mean values of area and shape ratio are close to their distributions, Figures 7a, b. Mean density and knot ratio are compatible with distribution, Figures 8 a, b. The anomalous column of density within (600-799) knots/sq.dm. will be discussed in the next section.

Talish

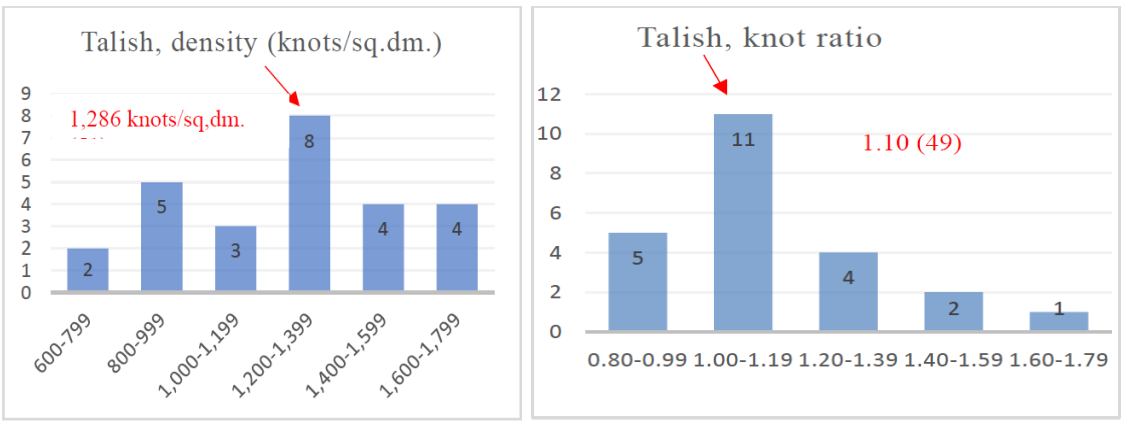
Area and shape ratio histograms, of 41 Talish, are shown in Figures 9a, b.

Area ranges within (0.0-5.0) sq.m. and shape ratio within (1.3-4.0). Bennett for Talish rugs suggests a shape ratio within (1.9-2.5) Ref. [17], pg 153.



Figures9a, b. *Area and shape ratio histograms for 41 Talish rugs*

Density and knot ratio for 26 and 22 Talish rugs are shown in Figure 10a, b. Density ranges within (600-1,799) knots/sq.dm. Bennett suggests that for Talish knotting averages around 1,200 to 1,400 knots/sq.dm. although he has counted knots over 1,500 knots/sq.dm. Ref. [17] pg 153, knot ratio ranges within (0.8-1.8)

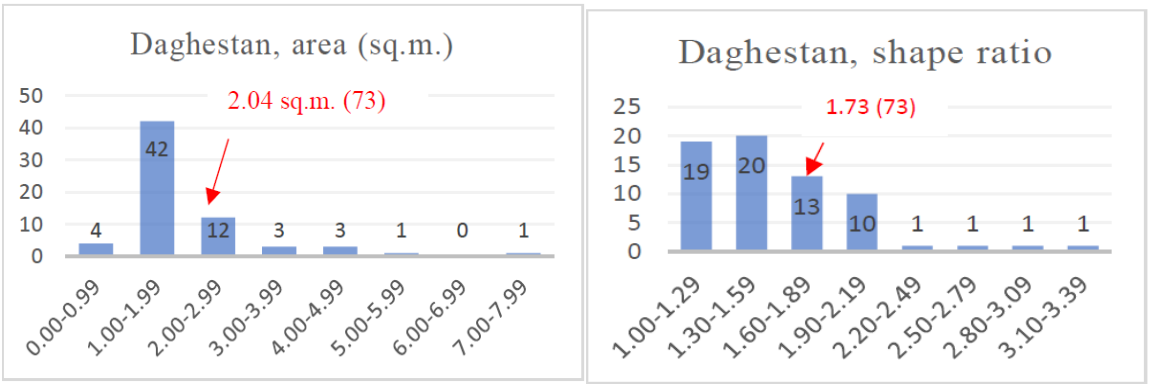


Figures10a, b. *Density and knot ratio histograms for 26 and 22 Talish rugs*

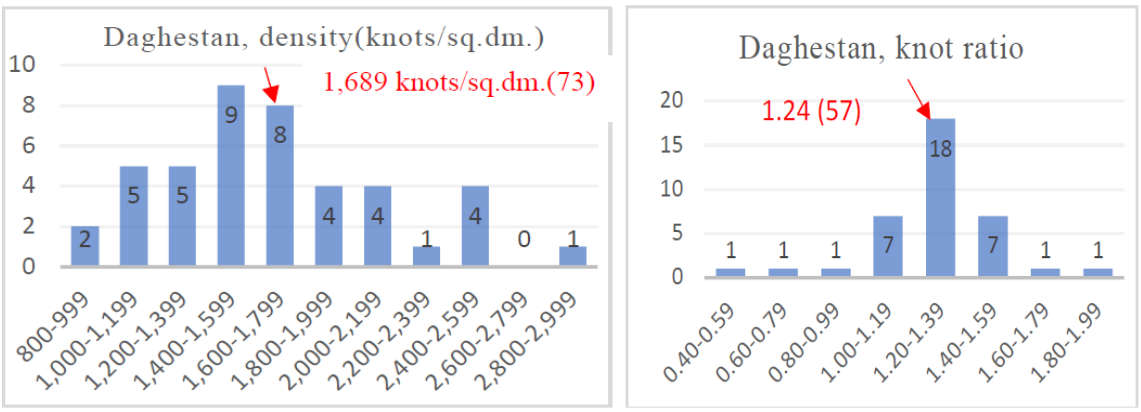
Mean values of area, shape ratio, density and knot ratio fall inside the highest peak of distribution.

Daghestan

Area and shape ratio distributions of 66 Daghestan rugs are shown in Figures 11a, b. Area distribution spreads within (0.0-8.0) sq.m. and shape ratio within (1.0-3.4). The 29% of the rugs, 19*100/66, might be of pseudo-square shape.



Figures11a, b. *Area and shape ratio histograms for 66 Daghestan rugs*

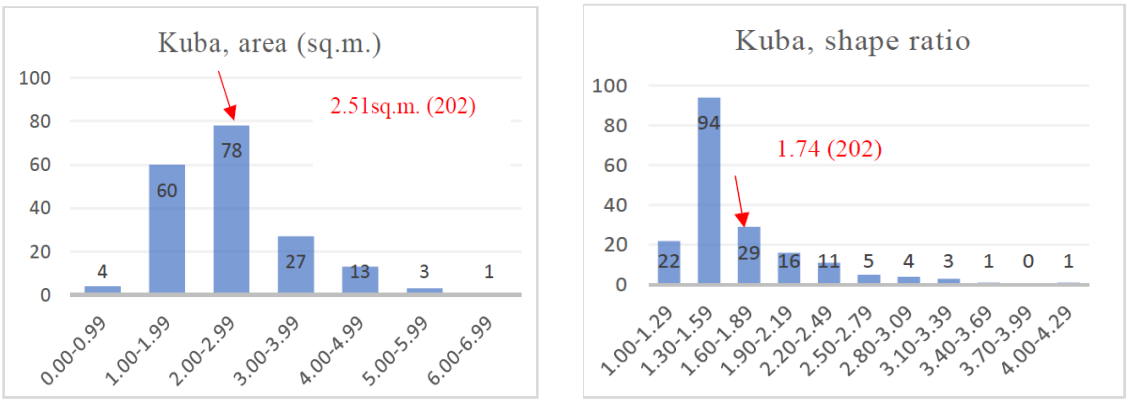


Figures12a, b. *Density and knot ratio histograms for 43 and 37 Daghestan rugs*

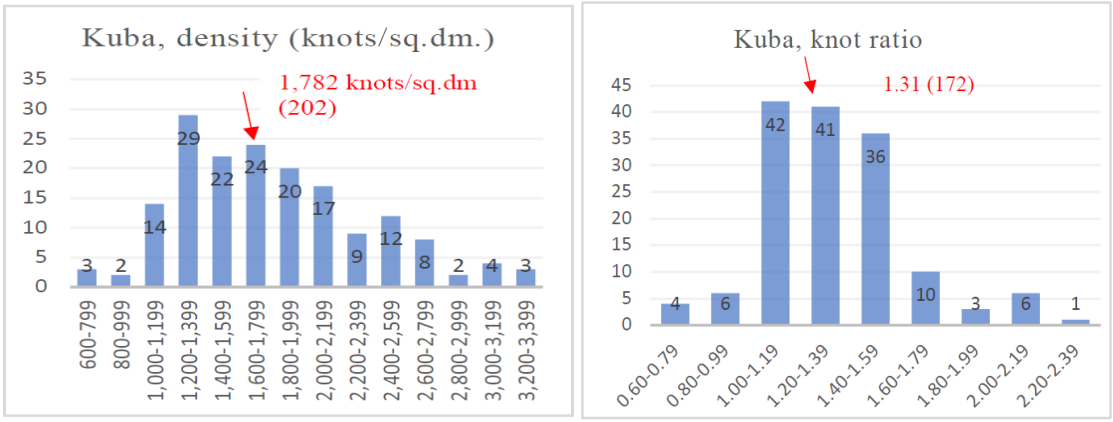
Density and knot ratio distribution's, Figures 12a, b varies within (800-3,000) knots/sq.dm. for 43 rugs and within (0.4-2.0) for 37 Daghestan rugs respectively. Mean values of area, shape ratio and density, Figures 11a, b. and 12a, are borderline with the distributions while knot ratio is inside the highest peak of distribution, Figure 12b.

Kuba

Distributions of area and shape ratio of 186 Kuba rugs are shown in Figures 13a, b. Area distribution spreads within (0.0-7.0) sq.m. and shape ratio within (1.0-4.3).



Figures13a, b. *Area and shape ratio histograms for 186 Kuba rugs*



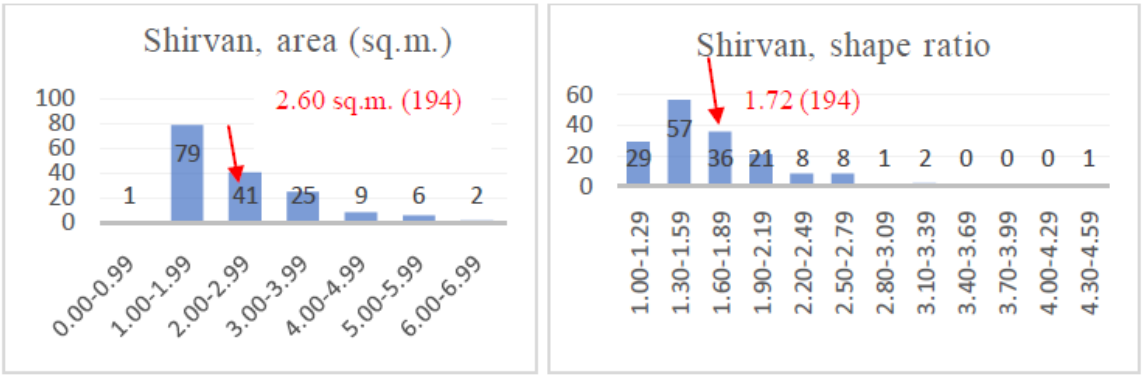
Figures14a, b. *Density and knot ratio histograms for 169 and 149 Kuba rugs*

Density and knot ratio vary as shown in Figure 14a, b within (600-3,400) knots/sq.dm. for 169 rugs and within (0.6-2.4) for149 rugs. Mean values of shape ratio and knot ratio are borderline with the distributions, Figures 13b and 14b. Area mean value falls inside the highest peak of distribution, Figure 13a. Density mean value is near to the highest peak of the distribution, Figure 14a.

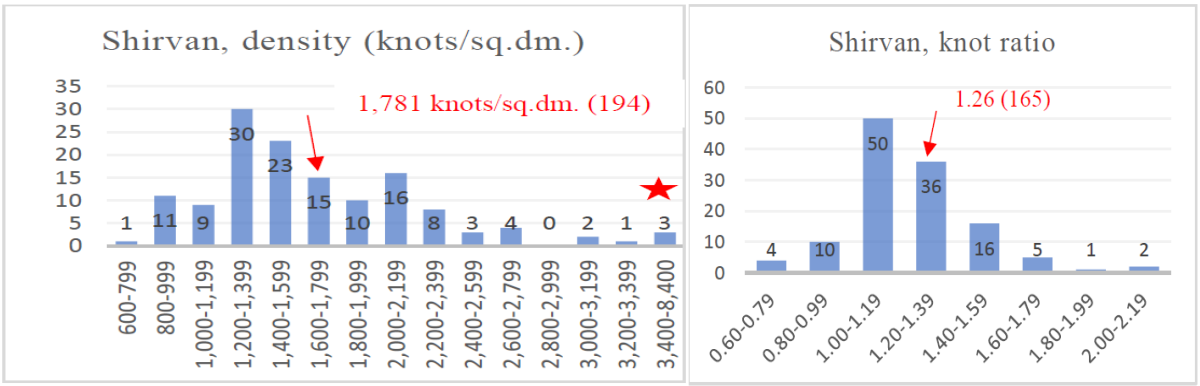
Shirvan

Distribution of area and shape ratio for 163 Shirvan rugs are shown in Figure 15a, b.

Area spreads within (1.0-7.0) sq.m., shape ratio within (1.0-4.6).



Figures15a, b. *Area and shape ratio histograms for 163 Shirvan rugs*



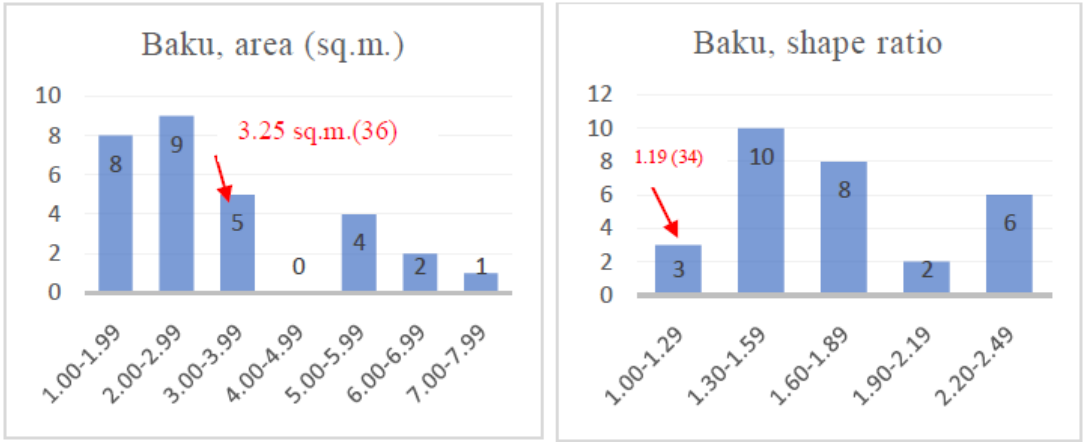
Figures16a, b. *Density and knot ratio histograms for 136 and 124 Shirvan rugs*

Density distribution ranges within (600-8,400) knots/sq.dm. while knot ratio within (0.6-2.2). They are shown in Figure 16a, b. The red starred range within (3,400-8,400) knots/sq.dm. in Figure 16a corresponds to twenty five increments of two hundred knots/sq.dm. The densities of three prayer rugs Ref. [6], plates 91, 93, and 95, fall within the range of 4,600, 8,400 and 4,284 knots/sq.dm. The density of 8,400 knots/sq.dm. is the highest found in this study.

Mean values of area, shape ratio and knot ratio, Figures15a, b and Figure 16b,are borderline with distributions while density, Figure 16a, has a mean value far from the highest peak of the distribution.

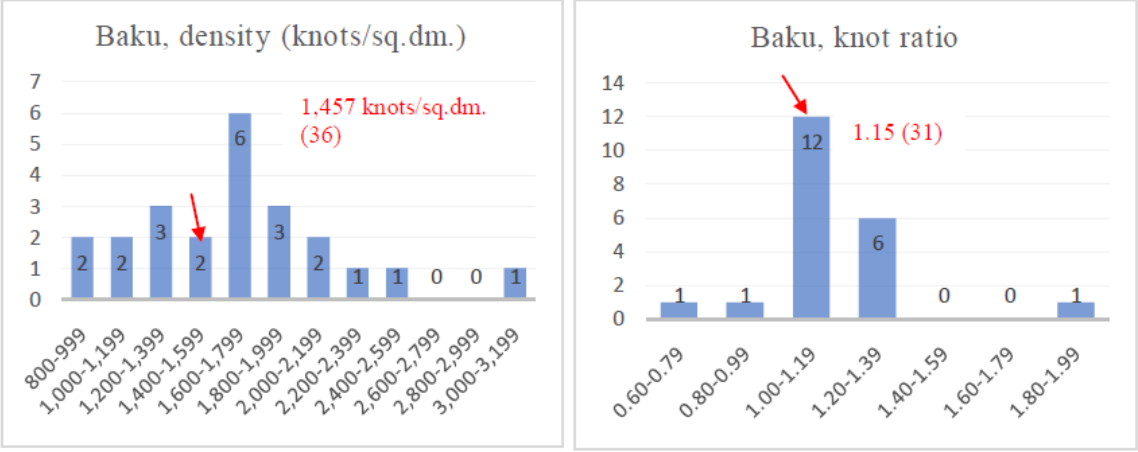
Baku

Distributions of area and shape ratio for 29 Baku rugs are shown in Figures 17a, b. They vary within (1.0-8.0) sq.m. and within (1.0-2.5).



Figures17a, b. *Area and shape ratio histograms for 29 Baku rugs*

Density and knot ratio distributions are shown in Figures 18a, b for 23 and 21 Baku rugs. Density vary within (800-3,199) knots/sq.dm. and knot ratio within (0.6-2.0).



Figures18a, b. *Density and knot ratio histograms for 23 and 21 Baku rugs*

Mean values of area, shape ratio and density are borderline with the distributions, Figure 17a, b and Figure 18a, while knot ratio mean value, Figure 18b, is inside the highest column of the distribution.

Discussion

The intervals of the histograms with the highest number of rugs for area, shape ratio, density and knot ratio are collected in Table 2 together with their percent of rugs for each region (%).

Table2. *Intervals with the highest number of rugs for area, shape ratio, density and knot ratio with the relative percent (%) of rugs*

Region	Areasq.m.	%	Shape ratio	%	Densityknots/sq.dm.	%	Knot ratio	%
Kazak	(3.0-4.0)	31	(1.3-1.6)	40	(800-999)	36	(1.0-1.2)	52
Gendje	(3.0-4.0)	33	(1.3-1.6)	27	(800-999)	26	(1.0-1.2)	54
Karabagh	(3.0-4.0)	39	(1.3-1.6)	33	(800-999)	29	(1.0-1.2)	44
Moghan	**(2.0-3.0)**	**71**	**(2.2-2.5)**	**29**	**(600-799)**	**36**	**(1.2-1.4)**	**36**
		0			**(1,000-1,199)**	**36**		
Talish	**(2.0-3.0)**	**66**	**(2.2-2.5)**	**27**	**(1,200-1,399)**	**31**	**(1.0-1.2)**	**50**
Daghestan	(1.0-2.0)	64	(1.3-1.6)	30	(1,400-1,599)	21	(1.2-1.4)	49
Kuba	(2.0-3.0)	42	(1.3-1.6)	51	(1,200-1,399)	17	(1.0-1.2)	28
Shirvan	(1.0-2.0)	48	(1.3-1.6)	35	(1,200-1,399)	22	(1.0-1.2)	40
Baku	(2.0-3.0)	31	(1.3-1.6)	34	(1,600-1,799)	26	(1.0-1.2)	57

Table 2 shows that Kazak, Gendje and Karabagh rugs have the maximum number of rugs in the same interval of area, shape ratio, density and knot ratio, i.e.: (3.0-4.0) sq.m., (1.3-1.6), (800-999) knots/sq.dm. and (1.0-1.2). **Moghan and Talish** rugs have the same interval of area (2.0-3.0) sq. m. as well shape ratio (2.2-2.5). Density distribution, Figure 8a, shows two peaks with the same intensity within (600-799) and (1,000-1,199) knots/sq.dm. Bennett suggested that "*none* Moghan rugs *fall below 960 knots/sq.dm., the largest number have between 1,050 and 1,250 knots/sq.dm. and a not inconsiderable number have knot counts as high as 2,000 knots/sq.dm.*" Ref. [17] pg. 167.Two hypotheses might be: i) erroneous assignments as Moghan rugs of Ref. [2], plates 204-207 and Ref. [11], plate 20 or, ii) there are two different typologies of Moghan, one with density within (1,000-1,199) knots/sq.dm. and another with density within (600-799) knots/sq.dm. The lack of data does not help to resolve the doubts. Kerimov and Azadi Ref. [2] pg. 99 consider *Mokan, Talysh and Bahmanli Lenkoran*, distinctive group of Talish, rugs knotted in the Jebrail and the Fizuli districts in Karabagh although, differently to Karabagh rugs, they often have cotton wefts.

Daghestan, Kuba, Shirvan and Baku have area distribution within (1.0-3.0) sq.m., shape ratio within (1.3-1.6), density within (1,200-1,799) knots/sq.dm. and knot ratio within (1.0-1.4). Bennett pointed out difficulties in identifying the provenience of these rugs. *To distinguish between Daghestan, Kuba, Shirvan and Baku rugs, especially prayer rugs, is a task so subjective as to be almost meaningless* Ref. [17], pgg 218 and 308.

CONCLUSION

In general. Statistical treatment of area, shape ratio, density and knot ratio of numerous Caucasian rugs of nine weaving regions has been carried out normalizing area, shape ratio, density and knot ratio for south-western (Kazak, Gendje, Karabagh, Moghan and Talish) and eastern regions (Daghestan, Kuba, Shirvan and Baku). The result showed that in all the Caucasus, area and shape ratio distributions mainly vary within (0.0-7.0) sq. m. and (1.0-3.4) respectively. Differences were found in density and knot ratio distributions, rugs of south-western regions have density distribution within (400-1,999) knots/sq.dm. and knot ratio distribution within (0.6-1.8), rugs of the eastern regions within (600-3,399) Ref. [18] and knot ratio distribution within (0.6-2.2).

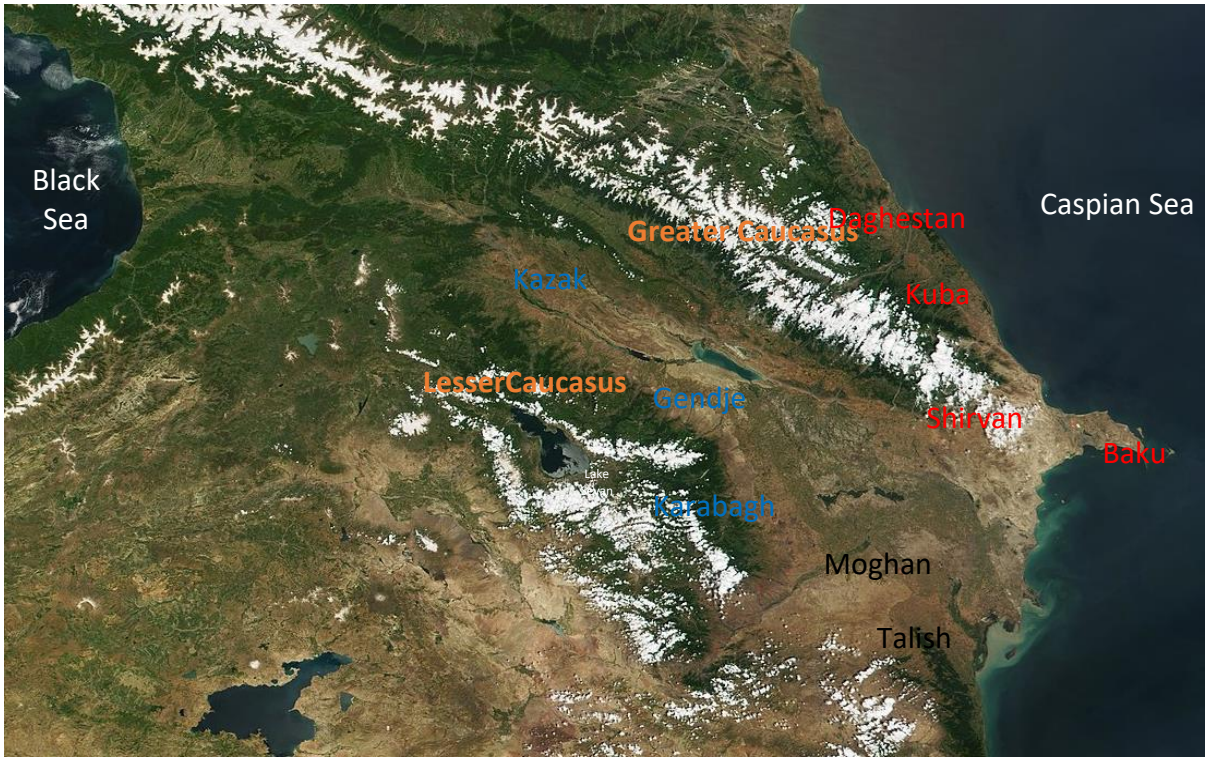


Figure19. *Approximate description of the Caucasian weaving regions*

In particular. By analysing the interval with the maximum number of rugs for area, shape ratio, density and knot ratio in each histogram, identical values are found for the distribution of area, shape ratio, density and knot ratio of Kazak, Gendje and Karabagh. Similar situation is verified for Daghestan, Kuba, Shirvan and Baku. **Moghan** and **Talish** rugs could be considered a separate group from South-western and Eastern group as annotated by Kaffel Ref. [6] pg 29.

Finally, statistic has shown to be a powerful method to put in evidence properties of the pile rug foundation (pile, warp, and weft). Normalization of area, shape ratio density and knot ratio histograms of numerous Caucasian rugs showed that dimension (area and shape ratio) in all the Caucasus has the same distribution while different is the knotting (density and knot ratio) from south-western and eastern regions. The intervals of the histograms with the highest number of rugs for area, shape ratio, density and knot ratio suggest a close statistic structure similarity inside Kazak-Gendje-Karabagh group and inside Daghestan-Kuba-Shirvan-Baku group. Moghan-Talish cannot be considered a self-consistent group since they have only area and shape form in common. These weaving regions are approximatively described in Figure 19.

REFERENCES

[1] Verani G., "Knotted Pile Rugs of 19th and early 20th Centuries from Caucasia: A Classification of Area, Shape Ratio, Density and Knot Ratio by Statistic" Journal of Cultural and Social Antropology, Vol 1, issue 3, pgg 37-43, 2019.

[2] Azadi S. U., Kerimov L. and Zollinger W., "Azerbaijani-Caucasian Rugs", The Ulmke Collection, Switzerland, Production Offizin Paul Hartung, Hamburg 2001.

[3] Benardout R., "Caucasian Rugs", CTD Printers Twickenham Middlesex, England, 1978.

[4] Coen L. and Duncan L., "The Oriental Rugs", Harper and Row, Publisher New York, 1978.

[5] Curatola G., "Tappeti", Arnoldo Mondadori Editore, Milano, 1981.
[6] Kaffel R., "Caucasian Prayer Rugs", Published by Laurence King Publishing in association with Hali Publications Limited, London, 1998.
[7] Kerimov L., Stepanian N., Grigoliya T. and Tsitsishvili D., "Rugs and Carpets from the Caucasus. The Russian Collections", Allen Lane/Penguin Books Aurora Art Publishers, Leningrad, 1984.
[8] Gans-Ruedin E., "Caucasian Carpets", Time and Hudson Ltd, London, 1986.
[9] Schürmann U., "Caucasian Rugs", Distributors for Great Britain and the Commonwealth: George Allen & Unwin, Ltd., London. Verlag: Klinkhardt& Biermann, Braunschweig, 1964.
[10] Tschebull R., "Kazak", The Near Eastern Art Research Center, Incorporated The New York Rug Society, Incorporated, New York, 1971.
[11] R. E. Wright, "Rugs and Flatweaves of the Transcaucasus", Printed by Chas. M. Henry Printing Co., Greensburg, Pa, 1980.
[12] Tschebull R., "Quarajeh to Kuba. Rugs and Flat Weaves from East Azarbayjan and the Transcaucasus" Produced in UK by HALI Publication Ltd, 8 Ability Plaza, Arbutus Street, London E84DT, edited by Daniel Shaffer, Ben Evans, Printed and bound by Graphicom, Vicenza, Italy, 2019.
[13] Ford P. R. J., "Il Conoscitore di Tappeti Orientali. Guida ai motivi, disegni e simboli", Longanesi e C, Milano, 1988.
[14] Sabahi T., "L'Arte del Tappeto d'Oriente", Mondadori Electa Spa, Milano, 2007.
[15] Banfo C., Basilico D.,"Tappeti Orientali, Guida per conoscerli e collezionarli", Hoepli, Milano 1993.
[16] Stone P. F., Rugs of the Caucasus: Structure and Design, Greeleaf Co. Chicago IL, 1984.
[17] Bennett I., Oriental Rugs, Volume I, Caucasian, Antique Collectors 'Club Ltd, Woodbridge, Suffolk, 1993.
[18] In Ref. [1] pgg 37 and 42 the range within (600-1,999) knots per sq.dm. is wrong, the correct value is (600-3,399) knots per sq.dm. as shown in Figure 9 pg 42.

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