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Baluchistan District Gazetteer Series.

VOLUME V.

QUETTA-PISHIN DISTRICT.

TEXT.

BY

R. HUGHES-BULLER, I.C.S.

ASSISTED BY

RAI SAHIB DIWAN JAMIAT RAI, E.A.C.



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PREFACE.

THE present volume is the first of the series of District Gazetteers which are now in course of preparation for Baluchistán. As Quetta-Pishín is the most advanced District in the Province, fuller information has been given than will probably be possible with other Districts.

The greater part of the work consists of original matter obtained by the Gazetteer staff. In collecting and arranging it, I have gratefully to acknowledge the great assistance rendered me by Rai Sáhíb Diwán Jamiat Rai. His intimate knowledge of the area dealt with, and his unsparing diligence have been most valuable.

My thanks are also due to Major C. Archer, now Revenue Commissioner in Baluchistán, who has kindly given advice and suggestion on the drafts, to Mr. E. Vredenburg of the Geological Survey of India for the article on Geology, and to Major T. E. Marshall, R.A., and Major C. G. Nurse, 113th Infantry, for contributions which have been included in the appendices.

Assistance has been derived from the Settlement Report of the Pishín Tahsíl by Mr. E. G. Colvin, I.C.S., and Khán Bahádúr Qázi Jalál-ud-dín, C.I.E., and from the official reports written by Mr. J. A. Crawford, I.C.S., on the Quetta Settlement and on the levy of revenue in Toba Achakzai. A bibliography of other books relating to the District, which have also been found useful, has been given at the end of Chapter IV.

The drafts were examined and passed by Major M. A. Tighe, Political Agent, Quetta-Pishín, and his successor, Captain A. B. Dew.

As it has been found necessary to employ a good many vernacular terms in the section on agriculture, the more important have been collected in two glossaries which have been printed as appendices.

QUETTA,
September, 1905.

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APPENDIX I.

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashtú name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|----------------|--|-----------------------------|--|---|
| 1. Aghér Páuræ | Gentiana Olivieri Griseb. | ... | All hills | A drug for inducing perspiration. See also <i>bangéra</i> , No. 15 below. |
| 2. Alu Bálu .. | Cerasus vulgaris or Cerasus cabroniana | Cherry, Sour (Dwarf cherry) | Quetta ... .. | ..... |
| 3. Alu Bukhára | Prunus Bokhariensis | Plum, blue ... | Gardens ... .. | ..... |
| 4. Alúcha ... | Prunus communis ... | Plum, yellow... | „ ... .. | ..... |
| 5. Amrat ... | Pyrus communis ... | Common pear | „ ... .. | ..... |
| 6. Anángah ... | Prunus cerasus ... | Common cherry | All hills | The wild cherry. |
| 7. Anár ... | Punica granatum ... | Pomegranate ... | All gardens especially in Ináyat Ullah Kárez. | ..... |
| 8. Angúr ... | Vitis vinifera ... | Grape ... | All gardens especially in Quetta, Kiráni, Gulistán, Ináyat Ullah Kárez and Kamálzai. | The principal varieties are <i>haira</i> , <i>husaini</i> , <i>kalamak</i> , <i>lál</i> , <i>raocha</i> , <i>sáhibi</i> , <i>sheikh ali</i> , <i>sptn kishmishi</i> , <i>sra kishmishi</i> , <i>tandán</i> , <i>tor</i> , <i>kuláh ghaochak</i> , <i>amtri</i> , <i>askri</i> , <i>khalí</i> , <i>khalchíni</i> , and <i>fakhri</i> . |

APPENDIX I.—(contd.).

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashlá name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|----------------------------|--|--------------------------|--|--|
| 9. Arghuch ... | Scorzonera (?) mollis, Bieb. | Scorzonera ... | All hills | Used as a famine food. |
| 10. Arghunkae... | " " | (Small " variety) | " | Root used as a vegetable. |
| 11. Babrozae ... | ..... | ... | " ... .. | Fodder for cattle, sheep and goats. |
| 12. Báclám ... | Prunus amygdalus (Amygdalus com- munis). | Almond ... | All gardens especially in Gulistán Kárez. | ..... |
| 13. Bakáin (Pun- jábi). | Melia azidarach ... | Persian Lilac... | At Quetta and Pishin... | Scarce. |
| 14. Bang ... | Hyoscyamus reticula- tus, L. | Species of hen- bane. | Toba Achakzai ... | Poisonous plant ; drug for tooth-ache. |
| 15. Bangéra ... | Gentiana Olivieri ... | ... | All hills | See <i>ughér páwrae</i> , No. 1 <i>supra</i> . |
| 16. Barara ... | ... | ... | " | Used for fuel. |
| 17. Bartang ... | Plantago cancelata... | ... | Along water channels... | Drug for cough among infants. |

| | | | | |
|-------------------|-----------------------------------|-------------------------------------|---|--|
| 18. Bili | ... Cydonia vulgaris | ... Quince | ... In gardens, especially in Gulistán Kárez. | ..... |
| 19. Bushka | ... Lepidium draba, L | ... .. | Wheat and barley fields | Used as a vegetable. |
| 20. Busundak, Br. | Sophora alopecuroides | Wild bush | Quetta tahsil | See <i>ghurézah</i> , No. 33 below. |
| 21. Chinár | ... Platanus orientalis | ... Oriental plane (The plane tree) | ... Roadside tree in Quetta, Pishin and Chaman towns. | ..... |
| 22. Chinjan Butae | Nepeta glomerulosa | ... .. | All hills | Fodder for sheep and goats, also used as fuel. |
| 23. Chinjan Wulli | Echinops | ... .. | Toba Achakzai | Drug for killing lice and worms. |
| 24. Dangar Sélae | Cucumis | ... .. | „ | Roots used as a purgative. Juice of the green leaves used for making cheese. |
| 25. Ganacha | ... Salvia spinosa Linn | ... .. | All hills | Seed is used as a drug for tooth-ache and sore eyes. |
| 26. Ganatai | ... Leontiae leontopodium. | ... .. | Toba Achakzai | Roots used in lieu of soap. |
| 27. Gandhér | ... Nerium odorum | ... Sweet scented oleander | ... Tang Masézai | ... Wild bush injurious to camels. |
| 28. Gangu | ... Othonopsis intermedia, Boiss. | ... Wild bush | ... Hills in Quetta tahsil | ... Infusion of the leaves used for washing children in cases of fever. Twigs used as fuel. See also <i>mungli</i> , No. 67 below. |

APPENDIX I.—(contd.).

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashtú name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|-------------------|----------------------------------|-----------------------|--|---|
| 29. Gázarra ... | ..... | Wild bush ... | Toba Achakzai | Fodder for cattle, sheep, goats and camels. |
| 30. Gharwásha... | <i>Iris songarica</i> , Schrenk. | ... | Chaman and Pishin hills | A purgative and medicine for diarrhoea. |
| 31. Ghaz ... | <i>Tamarix orientalis</i> ... | Tamarisk ... | In Toba Achakzai, Pishin, and Shorarud | Used for fuel and making wattle. |
| 32. Ghoelára ... | <i>Alyssum heterotric-leum</i> . | ... | Wild plant in wheat and barley fields. | Flowers eaten raw. See also <i>shamshaka</i> , No. 90 below. |
| 33. Ghurézah ... | <i>Sophora alopecuroides</i> | Wild bush ... | Quetta Hills | Fuel : leaves used as manure for <i>pálszát</i> . See <i>basundak</i> , No. 20 <i>supra</i> . |
| 34. Gowan ... | ..... | ... | Toba Achakzai | Roots used as fodder for sheep, goats and camels in times of scarcity. |
| 35. Gul Guláb ... | <i>Rosa damascena</i> ... | Rose, Persian | ..... | Rose water and scent manufactured in Quetta. |
| 36. Hinja ... | <i>Ferula foetida</i> ... | <i>Asafoetida</i> ... | Zarghún hills | Condiment and drug. |
| 37. Injá-ora ... | <i>Allium sphaerocephalum</i> . | Wild garlic ... | Found throughout the District. | Used as a vegetable. |

| | | | | |
|------------------|---|---------------|--|--|
| 38. Inzar ... | <i>Ficus carica</i> ... | Fig ... | In gardens, especially in Gulistán and Kila Abdulla. | ..... |
| 39. Jámboi ... | <i>Brassica campestris</i> , Napus. | Wild mustard | Wild plant in wheat and barley fields. | Eaten raw and cooked, as a vegetable. |
| 40. Janz ... | <i>Juglans regia</i> ... | Walnut ... | Gardens in Quetta ... | ..... |
| 41. Káhkúti ... | <i>Zizyphora clinopodioides</i> , (z. <i>tenuior</i> , Linn). | ... | Hills ... | Cooling drink prepared from the leaves. |
| 42. Kalpora ... | <i>Teucrium stocksianum</i> , Boiss. | ... | Wild plant found everywhere. | Drug for fever. |
| 43. Kandabugh | ..... | ... | Toba Achakzai ... | Famine food ; roots used in lieu of soap. |
| 44. Kanganbútae | <i>Diarthron vesiculosum</i> . | ... | „ ... | Wild plant used for killing lice in the hair. |
| 45. Kárgahtikai | ..... | ... | All over the District ... | Fodder for cattle ; infusion is a cooling drink. |
| 46. Karoskae ... | <i>Berberis vulgaris</i> ... | True barberry | Zarghún and Toba hills | Roots boiled in water and used for tanning skins. Decoction also given to human beings and cattle in cases of internal injuries. See <i>zralg</i> , No. 134 below. |
| 47. Khákshír ... | <i>Sisymbrium sophia</i> ... | ... | All hills ... | Seeds used as cooling medicine mixed in <i>sharbat</i> . |

APPENDIX I.—(contd.).

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashtú name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|------------------------|-------------------------------|----------------------|---|---|
| 48. Khamérae ... | Scorzonera ramosissima, D. C. | ... | Toba Achakzai | A wild plant eaten by Achakzais in times of scarcity. |
| 49. Khanjak (Wanna). | Pistacia Cabulica ... | Pistachio nut tree. | In Khwája Amrán, Chiltan, Zarghún and Mashélah hills. | Fruit much prized by the people. Excellent fuel. Two varieties are recognised, <i>bághi</i> and <i>na-bághi</i> . |
| 50. Khátol ... | Tulipa stellata ... | Wild tulip ... | All hills | There are two varieties called <i>sárgul</i> , i.e. red tulip and <i>zhargul</i> i.e. the yellow tulip. |
| 51. Kharorak ... | Arnebia, Sp. | ... | All over the district ... | Fodder for sheep, goats, camels and donkeys. Also eaten raw by the poor. |
| 52. Khulfa (Achakzais) | Portulaca oleracea ... | Indian purslane. | Toba | See <i>mirri</i> , No. 66 below. |
| 53. Khwazha Walla. | Glycyrrhiza glabra ... | Liquorice ... | ..... | See <i>malkhuzi</i> , No. 59 below. |
| 54. Kumála .. | ... | Wild plant ... | Toba Achakzai ... | Fodder for sheep, goats and horses. |
| 55. Léghúnæ ... | Daphne oleoides, Schreb. | Poisonous wild bush. | | |

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|---------------------|------------------------------------|-----------------------------|--|---|
| 50. Lúkha ... | Typha angustifolia ... | ... | | |
| 57. Mákhai ... | Astragalus ... | ... | All hills ... | Flowers eaten raw: branches used as fuel. |
| 58. Malangián ... | Zizyphora, Sp. ... | ... | Wild plant in hills in Pishin and Chaman. | Seeds are a medicine for dysentery. |
| 59. Malkhuzi ... | Glycyrrhiza glabra ... | Liquorice | Wild plant in ravines in Pishin and Chaman. | Drug for cough. See also <i>khuzha wala</i> , No. 53 <i>supra</i> . |
| 60. Manra (Quetta). | Pyrus malus ... | Apple | In gardens ... | See also <i>seb</i> , No. 85 below. |
| 61. Marwandi ... | Vites agnus ... | ... | Chaman ... | A dyeing plant. |
| 62. Mastang ... | Castus ... | ... | Achakzai and Kákari Toba. | Roots used as famine food, fodder for sheep, goats and camels. |
| 63. Matsotsak ... | Orobanche Indica, Ham. | Mustard parasite. | ..... | Parasitic plant injurious to melons. |
| 64. Maurai ... | Zizyphora clinopodioides, M. Bieb. | ... | Toba and Pishin hills ... | Used as drug for typhus fever. |
| 65. Mézhaghzai | Eryngium carlinoides, Boiss. | ... | ..... | ..... |
| 66. Mirri ... | Portulaca oleracea ... | The common Indian purslane. | Wheat and barley fields and also cultivated. | See also <i>khulfa</i> , No. 52 <i>supra</i> . Used as vegetable. |

APPENDIX I.—(contd.).

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashtú name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|----------------------|-------------------------------|-------------------|--|---|
| 67. Mungli (Br.) | Othonopsis intermedia, Boiss. | Wild bush ... | Hills in Quetta tahsil ... | See <i>gangu</i> , No. 28 <i>supra</i> . |
| 68. Murgha (Chaman). | Poa bulbosa, Linn ... | Common fodder | Throughout district ... | Fodder for sheep, horses, goats and cattle. |
| 69. Naghuncha... | Crataegus oxyacantha. | Hawthorn ... | Quetta and Hanna ... | ..... |
| 70. Naghura ... | ..... | ... | Wild plant in hills ... | Roots used as a famine food. |
| 71. Nána ... | Mentha viridis ... | Mint | Near water channels ... | Condiment and drug. |
| 72. Pada ... | Populus Euphratica. | Euphrates poplar. | Quetta and Pishin ... | Roadside tree. |
| 73. Pápúka ... | ..... | ... | Wild plant in wheat and barley fields in Quetta. | Roots eaten by the poor. |
| 74. Parkae ... | ..... | ... | Pishin and Shorarúd ... | Used for making crude potash. |
| 75. Patrae ... | Herniaria hirsuta, L. | ... | Everywhere | Fodder for cattle, camels, etc. |
| 76. Péchak ... | Cuscuta | ... | | |

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|---|---------------------------------|---------------|--|---|
| 77. Pérwatti ... | | ... | Everywhere | Fodder for sheep, goats, cattle etc. |
| 78. Potsakai ... | Euphorbia caeladenia, Boiss. | ... | Toba hills | Juice used for making cheese. |
| 79. Pukka tátúka | ..... | ... | „ ... .. | Roots used as a famine food. |
| 80. Pushai. (Ra- wásh Per- sian). | Rheum emodi ... | Rhubarb ... | Khwája Amrán range, Rod Malézai and Bar- shor. | The plant is eaten by the people and considered cooling. |
| 81. Raghbolae ... | Peucedanum Sp. ... | ... | All hills | Famine food. |
| 82. Sába ... | ..... | ... | „ | Grass. |
| 83. Samballa ... | Euenus stellata, Boiss | ... | Wild plant in hills ... | ..... |
| 84. Sargarai ... | ..... | ... | Grass found in all hills. | Fodder for horses, cattle, sheep and goats. |
| 85. Sób ... | Pyrus malus ... | Apple ... | ..... | See <i>manra</i> , No. 60 <i>supra</i> . |
| 86. Séji ... | Eremurusaurantiacus, Baker. | ... | Wild plant in hills ... | Cooked as a vegetable. |
| 87. Shaftal ... | Trifolium repens ... | Clover ... | Grows in Pishín and Quetta. | ..... |
| 88. Shaftálu ... | Prunus Persica ... | Peach ... | All gardens | Especially Ináyat-ullah Kárez. |
| 89. Shalíl ... | Amygdalus Persica ... | Nectarine ... | ..... | ..... |

APPENDIX I.—(contd.).

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashtó name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|-------------------|---|-------------------|--|--|
| 90. Shamsháka... | ..... | ... | Wild plant in wheat and barley fields. | See <i>ghoeldra</i> , No. 32 <i>supra</i> . |
| 91. Shang ... | <i>Fraxinus xanthoxyloides</i> . | Ash | All hills ... .. | ..... |
| 92. Shátara ... | <i>Fumuria parviflora</i> ... | ... | Wheat and barley fields. | Drug for purifying blood. |
| 93. Shariwi ... | ..... | ... | Tree found in Toba and Pishin hills. | ..... |
| 94. Shawi ... | <i>Koelipinia linearis</i> , Pall. | ... | Grass in all hills ... | A famine food. |
| 95. Shinshobae... | <i>Mentha Sylvestris</i> ... | Peppermint ... | ..... | Fodder for sheep, goats, donkeys and camels. |
| 96. Shkrae ... | ..... | ... | Grass found in hills in Pishin and Chaman. | Fodder for cattle, sheep, horses, goats etc. |
| 97. Shorae ... | <i>Haloxylon Griffithii</i> , Bunge. | Barilla plant ... | ..... | ..... |

| | | | | |
|------------------------------|-------------------------|-----------------------------------|--|---|
| 98. Sinjid ... | Elaeagnus hortensis... | Trebizond date or Bohemian olive. | Fruit tree in Pishin and Toba. | Fruit eaten dry, good timber. |
| 99. Spánda. P. Kasán Kur Br. | Peganum harmala ... | Garden Rue ... | Everywhere | Seed used as a drug. |
| 100. Spédár ... | (1) Populus alba ... | The <i>alb</i> or white poplar. | Quetta, Pishin and Chaman. | ..... |
| | (2) Populus Nigra ... | Black or Lombardypoplar. | Quetta town and cantonment. | ..... |
| 101. Spérawan ... | ..... | ... | Tree found in Toba hills. | Fuel. |
| 102. Spéshta ... | Medicago sativa ... | Lucerne or purple lucerne. | ..... | Green fodder. |
| 103. Spínamaurai. | Thymus ... .. | ... | ..... | ..... |
| 104. Sra Tirkha... | A variety of Artemisia. | ... | ..... | Drug for fever. Also used as fuel. |
| 105. Staghjár ... | ..... | ... | A species of asafetida occurring in hills. | ..... |
| 106. Sundrézhae... | ..... | ... | All hills | Fodder for sheep, goats and cattle etc. Green leaves eaten by the people. |
| 107. Surghashae... | Saccharum ciliare -- | -- | A kind of grass found in hills. | Fodder for cattle, sheep etc. |

APPENDIX I.—(contd.).

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ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashú name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|----------------------------|------------------------------------|---------------|--|---|
| 108. Sárgul ... | ..... | .. | Shorarúd ... | Bush from which crude potash is made. |
| 109. Sár Gul (Gul-i-Lala.) | Tulipá stellata ... | ... | ..... | Red tulip. See <i>khátol</i> , No. 50 <i>supra</i> . |
| 110. Sursánda ... | Hymenocrater sessilifolius, Benth. | .. | ..... | Cooling infusion is made from leaves for children suffering from fever. |
| 111. Tála ... | ..... | Common grass. | Toba Achakzai and Chaman Sahara. | Fodder for sheep, goats, horses and cattle. |
| 112. Tátika ... | Scorzonera, (Sp.) ... | .. | Pishin and Chaman hills, | Roots eaten by poor classes. |
| 113. Tirkha ... | Artemisia ... | ... | A wild bush found all over the district. | Fodder for sheep, goats and donkeys, also used as fuel. |
| 114. Toralu ... | ..... | ... | ..... | Variety of black plum. |
| 115. Tor sag ... | ..... | .. | Wild plant in wheat and barley fields. | Used as vegetable. |
| 116. Tút ... | Morus ... | Mulberry ... | ..... | The principal varieties are <i>bor</i> , <i>khaz tút</i> , <i>tor</i> , <i>bédina</i> , <i>kishmishi</i> , <i>paiwandi</i> , and <i>shuri</i> . |

QUETTA-PISHIN.

| | | | | |
|-------------------|------------------------|-------------|---|---|
| 117. Ubashta ... | Juniperus excelsa ... | Juniper ... | Chinár hills in Toba, Toba Kákari, Chiltan, Zarghún, Takatu and Súrghund hills. | Timber and fuel. |
| 118. Umán ... | Ephedra pachyclada | ... | Wild bush found in hills. | The twigs are used for tanning <i>mashk</i> leather; also as fuel. Ashes mixed with tobacco for chewing. |
| 119. Ushu nár ... | Ferula Oopada, Boias. | ... | All hills | Variety of Asafetida, eaten like <i>stagh-nár</i> . |
| 120. Wahúnár ... | ..... | .. | " ... .. | The upper skins of the stalks are burnt in hot ashes and eaten by the Achakzais. |
| 121. Wahwásha ... | ..... | ... | Grass found in Toba and Pishín hills. | Fodder for sheep and goats. |
| 122. Wanakka ... | ..... | ... | All hills | Fodder for sheep, goats and cattle. |
| 123. Washti ... | Stipa pennata, Linn... | .. | Achakzai and Kákari Toba. | Fodder for cattle, sheep, goats and horses. |
| 124. Wízha ... | ..... | ... | All hills | Grass. |
| 125. Wulla .. | Salix | Willow ... | ..... | Timber and fuel. The principal varieties are <i>béd mushk</i> (scented willow), Kábuli, Kandahári, <i>mujlán</i> or weeping willow and <i>sara</i> or red willow. |
| 126. Yárlang ... | Onosma echioides, L. | ... | Pishín ... .. | ..... |

APPENDIX I.—(contd.).

ALPHABETICAL LIST OF THE COMMONER TREES AND PLANTS OF THE QUETTA-PISHIN DISTRICT.

| Pashtú name. | Scientific name. | English name. | Locality where found. | Brief remarks as to local uses. |
|------------------------------|--------------------------------|------------------------------------|--|--|
| 127. Žardálu ... | Prunus Armeniaca .. | Apricot ... | Common everywhere ... | ..... |
| 128. Zawal ... | Achillea Santolina, Stocks. | Common grass | Throughout District ... | Flowers form a cooling drink for children. Fodder for sheep and goats. |
| 129. Zira ... | Cuminum cyminum ... | Cumin ... | Zarghún and Kand hills. | Condiment. |
| 130. Zirga ... | Prunus eburnea ... | Small wild al- mond | Common everywhere ... | Fruit is eaten; gum also used. |
| 131. Zmai ... | ..... | ..... | Pishín, Shorarúd and Quetta. | Used for making crude potash. |
| 132. Zoz ... | Alhagi camelorum ... | Camel thorn ... | ..... | Fodder for camels. |
| 133. Zral. (Shin- gulai). | Cichorium intybus ... | The wild or Indian En- dive. | ..... | Punjábi <i>kishni</i> . The roots are soaked in water in the night and the infusion is drunk in the morning in cases of fever. |
| 134. Zralg ... | Berberis vulgaris ... | True Barberry | Zarghún and Toba hills. | See <i>karóskae</i> , No. 46 <i>supra</i> . |
| 135. Zúfa (Zúpa) | Hyssopus officinalis... | Hyssop ... | Achakzai and Kákari Toba. | ..... |
| 136. Zunkai ... | ..... | ... | Wild plant occurring in wheat and barley fields | Fodder for sheep, goats and cattle, also eaten raw by the people. |

APPENDIX II.

Note on Ornithology in the vicinity of Quetta, by Captain T. Marshall, R.A.

These notes refer to the hill portion of Baluchistan, chiefly in the vicinity of Quetta. I propose to take the different species in the order they come in the "Fauna of British India" series, and before coming to details would like to make a few general remarks. The actual resident birds of this tract of country are not many, but a good many species pass through on migration from the plains to central Asia, and vice versa; some of these remain here to breed in the summer, and some only come here in winter. As far as I know there are no birds peculiar to this District.

Family Corvidæ.—The first family we come to is that of the Corvidæ or crows. This is fairly represented; what is lacking in numbers of different species is fully made up for by the number of individuals of one particular species, i.e., (1) *Corvus corax*, the Raven. This bird quite takes the place of the common Indian crow, taking a delight in sitting on the top of the chimney in the hot weather, and cawing down it; if that does not wake you, he proceeds to pull a few of the bricks off the chimney and drop them on the tin roof: this is usually most effectual. Breeds in the hills about February to March. (2) *Corvus frugilegus*, the Rook. A few come round the fields in winter, but they are scarce. (3) The common Magpie, *Pica rustica*, is very common at Ziárat, and in the cold weather can often be seen on the hills near Quetta: breeds at Ziárat.

Both the Indian Choughs visit these parts. (4) The red-billed Chough, *Graculus eremita*, being very common in the cold weather, feeding in flocks in the ploughed fields, and returning to the high hills in summer. (5) The yellow-billed Chough, *Pyrrho-corax alpinus*. This bird I am not quite sure about; I think I saw some at about 11,000 feet near Quetta in May, and the natives certainly say there are two kinds, one with a big red bill, and the other with a short white one.

Coming to Tits, the only common one near Quetta is (6) *Parus atriceps*. The Indian Grey Tit, seen chiefly in the cold weather. Some few (7) Red-headed Tits, *Aegithaliscus erythrocephalus*, are to be seen at Ziárat in May. The only other one is (8) the Simla Black Tit, *Lophophanes rufinuchalis*, which is common in Ziárat in May, and also in the better wooded hills in the vicinity of Quetta: this bird almost certainly breeds here.

Family Crateropodæ.—These are chiefly birds of the plains, and are not represented much in this District. (9) *Trochalopteryx lineatum*, the Himalayan streaked laughing Thrush. This bird is common at Tor-khán near Harnai in February. I also have seen it in the hills near Quetta. (10) *Myiophonus temmincki*, the Himalayan whistling Thrush. This handsome bird is not common, but may often be met with in the hills, frequenting some rocky stream: its bright yellow bill and blue plumage render it very conspicuous.

Of bulbuls the only one at all common is (11) the white-eared Bulbul, *Molpastes leucotis*. This bird arrives in the spring, but is nowhere really common, and I do not think stays to breed. There is also one species of red-vented bulbul which is probably the Punjab variety, *Molpastes intermedius*, but this I have only heard of, and never seen.

Family Sittidæ.—The only representative of this family is (12) *Sitta tephronota*, the eastern rock Nuthatch. It is a most interesting little bird.

It is very common in the hills, and very noisy if any one approaches its haunts, and has a curious habit of raising himself up and down on his legs as if he was going through some gymnastic exercise. Its general colouring is pale blue. Its nest is, however, the most interesting part about it, for it is usually placed on the face of a rock, a hole being selected, which is filled with agglutinated mud. This is then brought out in the form of a cone, 8 inches or more in length, through which is the entrance to the nest. The inside is lined, chiefly with camel's hair, and the outside decorated with feathers. The nest, when built, is almost as solid and hard as mortar.

Family Dicruridæ.—(13). The familiar King Crow, *Dicrurus ater*, is common enough at Harnai, but does not get up much higher.

Family Certhiidæ.—Of the Creepers, the only representative is (14) the wall Creeper, *Tichodroma muraria*. This is not common, but I have seen it at Quetta in the winter. It is a beautiful little bird with its crimson wing spots, and curious habit of climbing up perpendicular rocks in search of food.

Family Silviidæ.—The Warblers again are a family that do not greatly affect Quetta; only one species, as far as I know, breeding here. That is (15) *Hypolais rama*, Sykes' tree Warbler. This minute little bird arrives in spring and breeds about May in any low bush usually near water. The male has a pretty little song. (16) *Sylvia jerdoni*, the eastern Orphean Warbler, is not uncommon in the hills on migration, and can be readily recognised by his black cap. (17) *Sylvia ulthæa*, Hume's lesser white throated Warbler, I identified at Ziārat as common in May, but I may be wrong. The bird, whatever it was, had a very sweet song of the usual white throat order. (18) *Sylvia minuscula*, the small white throated Warbler, is common on migration. (19) *Phylloscopus tristis*, the brown willow Warbler. These little warblers are very hard to identify, but I think I got this one right. It is fairly common, feeding in the trees in small flocks in winter.

Family Laniidæ.—The Shrikes are fairly well represented in summer; none in winter here. The true shrikes are a very well marked group; their colours are usually grey, chestnut, black, white, and they have a very strong notched bill; they live almost entirely on insects, although the larger ones will occasionally seize and kill a young bird. They all have a harsh call note, sometimes often repeated. (20) *Lanius lahtora*, the Indian grey Shrike. I have only seen two near Quetta in April. (21) *Lanius vittatus*, the bay-backed Shrike. This little shrike with (22) *Lanius erythronotus*, the rufous-backed Shrike, are the two commonest in Quetta, coming in in the spring, and remaining to breed. The latter one is particularly in evidence; hardly a garden in Quetta but has at least a pair breeding in it. A favourite habit of the bird is to sit on some post or bare bough, from which there is a good view all round, ready to pounce on any unfortunate grass hopper or the like, that moves within its range of vision. (23) *Lanius isabellinus*, the pale-brown Shrike. This is common in the District in spring, but avoids houses. It breeds freely some years near Quetta. (24) *Lanius cristatus*, the brown Shrike. I once saw one close to Quetta, in April.

Family Oriolidæ.—There is one species of yellow oriole which visits Quetta in the summer, probably (25) *Oriolus kundoo*, the Indian Oriole. Its easily remembered note may often be heard in the fine trees in the Residency garden at Quetta.

Family Sturnidæ.—Starlings and Mynahs are poorly represented. (26) *Pastor roseus*, the rose coloured Pastor. This handsome bird usually makes his appearance about May when the mulberries are ripe, of which it consumes a great deal. (27) *Sturnus menzibieri*, the common Indian Starling. Only stragglers of this species seem to reach Quetta. I have seen small flocks occasionally in the winter. The same remarks

apply to that well known bird (28) the common Myna, *Acridothera tristis*.

Family Muscicapidæ.—Flycatchers again are all migratory, only passing through Quetta on their annual moves. (29) *Muscicapa grisola*, the spotted Flycatcher. This well known English bird arrives very early in January or February and stays till late, in fact I have seen them up to June. (30) *Siphia parva*, the European red breasted Flycatcher. Common in spring; may be seen in any garden at that season catching flies with the utmost assiduity. (31) *Terpsiphone paradisi*, the Indian paradise Flycatcher. This very handsome bird occasionally visits Quetta in the summer, but not, I think, often. The male has two very long tail feathers, which produce a most curious effect when he is flying. Curiously enough, when fully adult, that is, about 4 years old, he loses these feathers, the general colour of his plumage at the same time turning from chestnut to white.

Family Turdidæ.—This family, especially in the sub-family of Chats, is pretty well represented. The chats feed on insects, usually capturing them on the ground, and like nice open country with stones, and not too many trees. They are well suited, therefore, round Quetta. (32) *Pratincola cuprata*, the common pied Bush-Chat. Very common in summer and breeds here. I think every one must have noticed this little fellow, looking all black with a white wing spot, and has a very sweet short song. Breeds in a hole in a bank, in much the same positions as the English robin. (33) *Pratincola maura*, the Indian Bush-Chat. Common on migration up to May. A pretty little bird, very conspicuous with his black head, white collar, and red breast.

We now come to the true *Saxicola*. These are the birds of the stony plains, and are usually black and white abelline. (34) *Saxicola picata*, the pied Chat. Arrives in spring and breeds all over the hills, usually choosing a hole in a rock for his nest, often under a large stone on the ground. He has sometimes a curious habit of building his nest on a foundation of small pebbles, especially if the hole selected is rather a large one. His plumage is simply black and white, as his name implies; the male sings well in the breeding season. (35) *Saxicola Barnesi*, Barnes' Chat. Common in the bare hills in the cold weather; does not breed as far as I know. (36) *Saxicola Isabellina*, the Isabelline Chat. Comes early and breeds about the end of March. This is a common bird about the country, and can be easily recognised by its generally sandy colour, with a white tail, and black tip which shows up clearly when the bird flies. It breeds deep down in old rat holes, sometimes 4 feet in or more. (37) *Saxicola deserti*. The desert Chat. This bird is not uncommon in the spring, but I do not think it breeds.

The next sub-family is that of the Redstarts; three of these frequent Quetta at different times of the year. (38) *Ruticilla erythronota*, Eversmann's Redstart. Pretty common in the cold weather. (39) *Ruticilla rufiventris*, the Indian Redstart. This little bird is common in the cold weather and needs little description, his brilliant chestnut tail which, by the way, he is continually shaking and showing off, at once proclaims him to be a redstart. This bird breeds high up on the hills near Quetta, and I have found the nest. (40) *Cyanecula suecica*, the Indian Bluethroat. On migration is common; but as it is of rather a retiring disposition it may easily be missed. (41) *Merula atrigularis*, the black throated Ouzel. This bird usually goes by the name of thrush in Quetta, and is well known. It is very common in some winters but rarer in others; it feeds on the ground very like a blackbird or thrush at home, and has a regular blackbird's chuckle when alarmed.

Of the Rock Thrushes, (42) *Petrophila cyanus*, the western blue Rock-Thrush, is the bird of these parts. This bird is not uncommon in the hills in spring, and breeds. It has a very sweet song, which sounds to

very great advantage up in the hills in some rocky gorge away from all habitations. The nest is usually placed on a ledge in a cave and is a large and massive structure. (43) *Monticola saxatilis*, the Rock-Thrush. I have only seen two, probably stragglers migrating in spring. More common in autumn. (44) *Turdus viscivorus*, the Missel-thrush. This fine fellow is common in the higher hills in winter, and remains there at least up to May, so that it probably breeds. Its loud hoarse call-note can frequently be heard at that time; it does not come down to Quetta. (45) *Tharrhaleus atrigularis*, the black throated Accentor. This is the last of this large family. I have only seen one small flock feeding in one of the spinnies near Quetta in December.

Family Fringillidæ.—This comprises Finches, Buntings, Grosbeaks, and is, on the whole, well represented. To begin with the Grosbeaks: (46) *Pycnorhampus carneipes*, the white-winged Grosbeak. This is common at Ziárat in spring, and in the hills round Quetta in the cold weather; it feeds in flocks on the juniper berries; the family can always be recognised by the large size of the beak. (47) *Coccothraustes Humei*, Hume's Hawfinch. This little finch is common round Quetta in the cold weather and spring; some few breed. It is a common cage bird, and has a nice little song. Its general colour is sandy pink, with black round the bill.

Of Rose-Finches, there are two species. (48) *Propaseer grandis*, the red-mantled Rose-Finch. This is common in spring at Ziárat, but I have not seen it elsewhere. (49) *Carpodacus erythrinus*, the common Rose-Finch. Not at all rare in certain places in the hills in spring, but breeds higher up; common at Ziárat in May. As their name implies, these birds, at least the males, are of very handsome bright red plumage. (50) *Carduelis caniceps*, the Himalayan Goldfinch. This closely resembles the well known European bird. Never common near Quetta, but often seen in the cold weather and spring right on to June. (51) *Metoponia pusilla*, the gold-fronted Finch. To be seen in flocks in the cold weather and spring in the hills. This handsome bird is one of the smallest of the finch tribe, and can easily be recognised by its crimson crown. (52) *Passer domesticus*, the house Sparrow. Our old friend is the same here as elsewhere, noisy, destructive and cheeky to a degree; he causes a great amount of loss both to fruit growers and all cultivators. He only remains in Quetta in the summer, moving off directly it gets cold. (53) *Passer montanus*, the tree Sparrow. Much preferable to the last named; this is the resident sparrow of Quetta, staying the whole year. Both sexes are alike.

We next come to Buntings, of which there is a fair variety. (54) *Emberiza leucocephala*, the pine Bunting. This visits us in large flocks in the cold weather, feeding in the open fields, where it is a good deal harried by the Sparrow hawk. (55) *Emberiza Stewarti*, the white-capped-Bunting. This striking little bird, with his white cap and broad rufous band on his breast, is common in the hills in summer; he does not frequent the plains. (56) *Emberiza Buchananii*, the grey-necked Bunting. Seen on migration in April and May. This bird is of plain plumage, and feeds on the ground, so I do not expect it is much noticed. I have seen it in the fields all round Quetta. (57) *Emberiza luteola*, the red-headed Bunting. The only place I have seen this bunting was Kahan on the way to Ziárat. If seen, it can generally be easily recognised, the general tint of its plumage being bright yellow turning to dark red on the head. (58) *Emberiza striolata*, the striolated Bunting. This is the last of the Quetta buntings. Some years it is very common in the hills in summer; probably breeds, as I have heard it singing in June. It is smaller than the majority of the genus, and has a curious black and white head.

Family Hirundinidæ.—This family comprises the Swallows and Martins. They are summer visitors, with, perhaps, the exception of

the Crag Martin. (59) *Hirundo rustica*, the Swallow. This familiar bird arrives in Quetta towards the end of February: it is extremely common during the summer and breeds freely.* (60) *Chelidon urbica*, the Martin. I have seen this bird in the hills in May, and shot one for identification. It is, however, by no means common. The genus Crag Martin is represented by one species, (61) *Ptyonoprogne rupestris*, the Crag Martin. This bird is generally distributed all over the hills, wherever there are rocks: I have seen it as late as December, so probably it is resident all the winter. It makes a saucer shaped nest of mud against a face of rock, often on the overhanging roof of a cave and generally inaccessible. The bird can easily be recognised, being of a smoky brown colour with white spots on the tail. (62) *Hirundo Smithii*, the wire tailed swallow. This bird is easily recognised by the great length of his outer tail feathers, which are about 7 inches long. The only place I have seen it was at Harnai, where it was breeding in June; the nest was placed against the perpendicular side of a large rock, and was a very shallow saucer of mud, close to a stream. (63) *Hirundo nepalensis*, Hodgson's striated Swallow. This is a common bird in the hills, and may often be seen hawking for flies with the ordinary swallow. I have found one nest in a culvert under the railway.

Family Motacillidæ.—The Wagtail family is migratory at Quetta; only one species, as far as I know, remaining over the winter; the remainder only appear on migration. (64) *Motacilla alba*, the white Wagtail. This bird is very common in winter and spring, but leaves in the hot weather. It is much the same to look at as the pied wagtail at home. The remaining species are only to be seen about April and May, when most of them are by no means rare. They probably appear on the return migration. They are (65) *Motacilla melanope*, the gray Wagtail. This species is rare. (66) *Motacilla borealis*, the gray headed Wagtail. This species is also rare. (67) *Motacilla feldeggii*, the black headed Wagtail. Is common. (68) *Motacilla citreola*, the yellow headed Wagtail. Not uncommon. All these latter are species of yellow wagtails, and not at all easy to differentiate.

Closely allied to the wagtails come the Pipits, of which there are a fair variety in the Quetta district. (69) *Anthus trivialis*, the Tree Pipit. This is the bird familiar to English writers. Numerous flocks visit the country round Quetta in the cold weather: (70) *Anthus similis*, the brown Rock Pipit. This is one of the largest of the genus, and can always be recognised near Quetta by its size. Arrives about March, stays the summer and nests in the hills. (71) *Anthus campestris*, the tawny Pipit. This, like the Tree Pipit, visits us in the cold weather.

Family Alaudidæ.—This comprises the true Larks. These birds resemble the pipits in general, being of the same style of coloration, etc. (72) *Alauda arvensis*, the Skylark. This well known friend is very common round Quetta; in winter every field is full of them; in summer, though not quite so common, many stay to breed, and can be heard singing any day in spring. (73) *Calandrella brachydactyla*, the short-toed Lark. Common in the cold weather; very probably some stay to breed as I have seen them up to May. (74) *Galeria cristata*, the crested Lark. This is probably the commonest bird in the vicinity of Quetta: in every field and alongside every road it is always to be seen, summer and winter. (75) *Ammomanes phoenicuroides*, the desert Finch-lark. This bird seems to be most numerous in September in the low hills. I have not

* It is called Kir kishi in Bráhui and Delwári, and is looked on as the fore-runner of spring.

"Cat-footed swallow, come, sit on my door:
Give me a piece of mutton fat, for my feet are cracked," says the Bráhui
verse.—Ed.

noticed it in summer at all, and not often in winter. It has a note very like a sisi, for which I have often mistaken it.

Family Picidæ.—I have only observed one species of woodpecker near Quetta, namely (76) *Dendrocopos sindiannus*, the pied Sind Woodpecker. This bird was common at Shélabágh in May. (77) *Iynx torquilla*, the common Wryneck. This is occasionally seen about Quetta on migration in April.

Family Coraciadæ.—This comprises the Rollers, or Blue Jays as they are often called. (78) *Coracias garrula*, the European Roller. This bird is common in May, disappearing almost entirely by the end of June. I do not know where it breeds.

Family Meropidæ.—The Bee-eaters are represented by one species: (79) *Merops apiaster*, the European Bee-eater. This bird arrives about May and although it stays late, (some right through the hot weather), yet it does not seem to breed here. This handsome bird can always be recognised by its conspicuous plumage and fine rolling note; the colours comprise bright yellow throat, golden bronze back, emerald green breast and belly.

Family Alcedinidæ.—King-fishers are represented by one species: (80) *Alcedo isipida*, the common King-fisher. It is not common in Quetta, and is more numerous in spring than at other times, disappearing in summer, though a few remain through the winter.

Family Upupidæ.—Of the two species of Hoopoe, the European one, (81) *Upupa epops* is the one that visits Quetta. Arrives in April, and breeds generally in some hole in an old tree, or even in the rocks.

Family Cypselidæ.—The Swifts are well represented; of course all are summer visitors. (82) *Cypselus melba*, the Alpine Swift. This fine swift is not uncommon, especially in the hills. I have seen it as late as June. Can always be recognised in the air by its large size and white belly. (83) *Cypselus apus*, the European Swift. This, in the spring, is the commonest swift in Quetta; huge flocks of them can always be seen. They move on as it gets hotter. I once found 3 nests in the roof of a cave in June. (84) *Cypselus affinis*, the common Indian Swift. Sometimes a fair number, but not exactly common. Some few breed, as I have found their nests in the hills in May. This bird can always be distinguished from the last named, when flying, by a broad white band across the rump.

Family Caprimulgidæ.—The Nightjars are represented by (85) the European Nightjar, *Caprimulgus Europaenus*, pretty common in the hot weather.

Family Cuculidæ.—Here again we have an old friend in (86) *Cuculus canorus*, the European Cuckoo. This bird, as in England, comes in spring in large numbers, and then I suppose moves up to the higher hills. I have seen as many as 15 in a drive of about 2 miles.

Family Asionidæ.—I have only observed two species of owls near Quetta. (87) *Bubo ignavus*, the great horned Owl, or Eagle Owl. In the spring this bird is not uncommon in the hills. It can always be recognised by its size, except perhaps from *Bubo bengalensis*, the Rock horned Owl. Both of them run to about 2 feet long. (88) *Athene bactriana*, Hutton's owl. This curious little owl is quite common about Quetta, and is, I think, a resident. I have seen it in July, and also in December.

We now come to the birds of prey, and I should like to say that in this department my identifications are not as complete as I would wish.

Family Vulturidæ.—The true vultures are represented by two species: (89) *Vultur monachus*, the cinereous Vulture. This fine vulture is by no means uncommon; it may breed in the hills but I am not sure. It appears black all over. (90) *Gyps fulvus*, the Griffon Vulture. This is the common vulture of the District and breeds in the

hills. (91) *Neophron percnopterus*, the Egyptian Vulture. This ugly, but extremely useful member of society, arrives in Quetta about April. Some breed in the hills. It is very common in the hot weather. (92) *Gypaetus barbatus*, the Lammergeyer. Very common round Quetta. In the cold weather can always be seen flying over cantonments or picking up rubbish, bones etc. in company with ravens and kites. It can always be recognised in the air by its great size, pointed wings, and wedge shaped tail. It breeds on precipitous cliffs in the hills, making a huge nest of sticks, generally in some cave in the cliff face.

We next come to eagles, and of these I am not sure. I have seen, however, (93) the golden Eagle, *Aquila chrysaetus*, in the hills and had an egg brought me. (94) *Hieraetus fasciatus*, Bonelli's Eagle, is by no means rare, and breeds in the hills. Out chikor shooting more than once this eagle has carried off a wounded bird from under my nose. It is a very fine sight to see one swoop out of the sky after a chikor that is lagging a bit behind the covey. This is a fine strong bird. I have seen one carry off with ease a red crested pochard which I had shot. (95) *Milvus govinda*, the pariah Kite. This is the ordinary kite of India. It is very common in the cold weather and spring, but appears to get rather scarce in the hot weather, though it never entirely disappears. (96) *Milvus migrans*, the black Kite. This, I think, is the kite of the hills and breeds freely on the cliffs. It does not frequent cantonments, so far as I know, and is a more solitary bird than the last. Of the harriers, there are a good many species that visit Quetta, only, however, on migration. (97) *Circus cyaneus*, the Hen Harrier. Some of these may be Pale Harriers, but I think most are Hen Harriers. The only ones I have shot belonged to this species. This bird is common in the cold weather, especially on migration. In April outside Quetta, 50 may be seen in an afternoon, quartering over the open fields. (98) *Circus aeruginosus*, the Marsh-Harrier. To be seen in suitable places in the cold weather; not by any means common. (99) *Buteo ferox*, the long-legged Buzzard. This is a common bird in the cold weather: its great variations of plumage make it difficult to identify. It can, however, usually be recognised as a buzzard by its heavy flight. (100) *Accipiter nisus*, the Sparrow-hawk. This is the English bird, and is by no means uncommon in the cold weather. The Gymkhana at Quetta is one of its favourite hunting places. Of the true falcons, the only one I have actually made sure of is (101) *Falco jugger*, the Laggar Falcon. This bird is common in the hills in the cold weather and catches a good many chikor, I should imagine. (102) *Tinnunculus alaudarius*, the Kestrel. Very common and resident; breeds in the hills.

Family Columbidae.—This comprises the pigeons and doves, of which there are 4 species, 2 of each genus, in this District. (103) *Columba livia*, the blue rock Pigeon. This is the blue rock of Europe; is very common, resident, and breeds. In the autumn, after the crop is sown, very large flocks collect in the fields. One of the favourite nesting places of this bird is down the *kārkāzes*, or under-ground water channels. (104) *Palumbus castotis*, the eastern Wood-pigeon. This bird is very common at Ziārat, breeds, and probably stays the cold weather. It is by no means uncommon also in the hills nearer Quetta. It much resembles the common wood pigeon of Europe. (105) *Turtur cambayensis*, the little brown Dove. This is the smaller of the two doves seen about Quetta; it is also commoner, and certainly some stay the winter. It breeds about April and May freely, at which time its soft musical "coo" can be heard anywhere where there are trees. (106) *Turtur risorius*, the Indian Ring-dove. This is a larger bird than the last, and only visits Quetta in the spring. Breeds freely in certain localities, but is not so generally met with. Its note is quite different from that of the last bird, being very deep and not so often repeated.

Family Pteroclidæ.—The sand-grouse family brings in the game birds. These, on the whole, are not plentiful as regards different species, but individuals occur in very large numbers. Sand-grouse pass through here on migration in very large flocks; probably there are more species than I know of. The only two species I actually have seen are (106) *Pterocles arenarius*, the black bellied Sand-grouse, which passes through in enormous flocks in September and October, and (107) *Pteroclorurus exustus*, the common Sand-grouse. This passes through also, but I have seen more of the first named than any other species in this District.

Family Phasianidæ.—One species of quail that I am certain of is (108) *Coturnix communis*, the common or grey Quail. This is never common near Quetta, stragglers only arriving here in the spring. There is another species of quail in the hills, probably some kind of bush quail, but I have never shot one, though I have seen them occasionally. The next bird we come to is the mainstay of *shikār* near Quetta, namely (109) *Caccabis chucar*, the Chikor. This bird is very plentiful in all the hills round Quetta, breeds plentifully in good seasons, and, in spite of the fact that it is shot by Pathāns over water more or less all the year, and in large numbers by Europeans in the shooting season, yet, given a good breeding season, appears as plentiful as ever. It may be mentioned as a curious fact about this bird, which was noticed in 1902 after a very dry winter, that the chikor never paired at all, but kept in packs right through the summer. This appears to be a provision of nature as, owing to the want of rain, there were practically no grass or flower seeds in the hills on which these birds largely feed; so that, if any young ones had been hatched out, it would have been more or less impossible for them to have kept themselves alive. The old birds managed to get along by digging up roots etc., large spaces on the hills being burrowed into, 4 to 6 inches deep, by them in their endeavours to find food. I thought at first that these places must be caused by rats, till I watched and saw the chikor at work. (110) *Ammoperdix bonhami*, the Sisi. Very common also, frequents lower ground than the chikor, and is not in such large numbers. (111) *Francolinus vulgaris*, the black Partridge. I have seen and shot these birds at Bābar Kach, and I believe they are plentiful near Sibi.

Family Rallidæ.—(112) *Fulica atra*, the Coot. Very common in any open water of any extent in the winter. Khushdil Khān near Pishin is full of them.

Family Otididæ.—(113) *Haubara Macqueeni*, the Haubara. This bird is not uncommon near Quetta on migration. March seems the usual month for them.

Family Glareolidæ.—(114) *Cursorius gallicus*, the cream coloured Courser. A few small flocks, on migration in September, is all I have seen of this bird.

Family Charadriidæ.—This comprises the plovers, and is by no means well represented near Quetta. (115) *Vanellus vulgaris*, the Lapwing or Peewit. This, the familiar peewit of England, is a rare winter visitor. I have never seen more than a few together, more frequently only one. (116) *Aegialitis dubia*, the little ringed Plover. This fellow is common in spring, in all the fields round Quetta; some stay late, even up to June, but I do not think they breed. (117) *Limosa belgica*, the black-tailed Godwit. I shot one of these birds in March at Bābar Kach, and that is the only one I have seen. (118) *Totanus hypoleucus*, the common Sandpiper. (119) *Totanus glareola*, the wood Sandpiper. (120) *Totanus ochropus*, the green Sandpiper. These three sandpipers or snippets, as they are commonly called, are fairly numerous round Quetta on migration in spring. Some, especially green sandpipers, stay during the cold weather. I think they all leave before the middle of June. (121) *Pavoncella pugnax*, the Ruff. I shot one female near Khushdil

Khán in December. I never saw any more. (122) *Scolopax rusticola*, the Woodcock. Is not common, but every year some are seen and shot in the vicinity of Quetta. (123) *Gallinago coelestis*, the common Snipe. There is not much suitable ground for snipe near Quetta, but usually a few are about in the cold weather. The same remark applies to (124) *Gallinago gallinula*, the Jack Snipe. (125) *Gallinago solitaria*, the Himalayan solitary Snipe. This, I believe, has been procured near Quetta but never by me.

Family Laridæ.—(126) *Larus brunneicephalus*, the brown headed Gull. I saw large flocks of this gull on Khushdil Khán in March.

Family Pelecanidæ.—*Pelecanus onocrotalus*, the white Pelican. I saw large numbers of these birds flying over Bábar Kach going north in February. A native brought me one in, he had shot out of a flock with a bullet. It was just over 6 feet long.

Family Ardeidæ.—My observations of this group are by no means complete. There are only about two large pieces of water near Quetta, about 40 miles away: and these I have only visited for a few days in the cold weather. I have no doubt that many other species than the few I have noticed frequent these places at other times of the year. (127) *Ardea cinerea*, the common Heron. This is a cold weather visitor, not very common near Quetta, numerous at Khushdil Khán. (128) *Herodias alba*, the large Egret. I saw a good many of these birds at Khushdil Khán in the cold weather; I have also seen one or two flying over near Quetta.

Family Phoenicopteridæ.—(129) *Phoenicopterus roseus*, the common Flamingo. I once saw a very large flock of these birds, which must have numbered many hundreds, at Khushdil Khán in March.

Family Anatidæ.—This comprises the ducks and geese, of which a fairly large variety visits the District. The two tanks in Pishin, which are both open and have very little cover, contain many varieties, in winter, more perhaps than in any place in which I have shot in India. In 3 days' shoot in February, 12 different species were bagged.

(130) *Anser ferus*, the grey lag Goose. I shot two of these birds at Bábar Kach in February; I have no doubt they visit Khushdil Khán occasionally, but I did not happen to meet with any. (131) *Tadorna cornuta*, the Sheldrake. I saw two of these handsome ducks on Khushdil in March, but did not get one. They cannot ever be mistaken for any other species, at any rate on the water, the white in the plumage being very conspicuous. (132) *Casarca rutila*, the ruddy Sheldrake. This, the well known Brahminy duck, is not common, there were a few of them at Khushdil Khán in February. (133) *Anas boschas*, the Mallard. A fair number at Khushdil in February, but not so common as in many other places in Northern India. Out of a bag of 110 in February, 17 were Mallard. (134) *Chauliasmus streperus*, the Gadwall. Rather rare; always a few about but certainly not common. This is a duck of plain colours chiefly brown, white, black, and with some chestnut in the wing. The upper breast in the male has a number of very well marked brown, crescent-shaped bars on the white, by which it can usually be identified. (135) *Nettion crecca*, the common Teal. This little duck is fairly common: out of the bag of 110 referred to above, 20 were teal. (136) *Dafila acuta*, the Pintail. Rather scarce, at any rate in February: there were always some small parties, but not many. (137) *Spatula clypeata*, the Shoveller. Much the same with regard to numbers as the last; always to be seen. This bird requires no description, as it can always be recognised by its extremely broad and ugly bill. (138) *Marmaronetta angustirostris*, the marbled Duck. Rare; only 2 or 3 were seen. This is a small duck, smaller than a gadwall; both sexes are alike, general colour lightish brown, each feather marked darker, and again each feather has a lightish tip, thus giving the plumage a curious mottled appearance, hence its name. (139) *Netta rufina*, the red-crested

Pochard. This occurs in very large flocks, but gets very wary, after a little gunning; it is one of the most common ducks on Khushdil. With his bright buff head and neck, and black under parts he presents a very conspicuous appearance, and can hardly be mistaken for any other species either swimming or flying. His bright vermilion bill, and red legs also serve to identify him. At Khushdil in February they were practically uneatable. (140) *Nyroca ferina*, the Pochard. This is the ordinary pochard or dun bird of Europe, and is, certainly in February, by far the commonest duck on Khushdil. Nor are they anything like as wary as most of the others, most of them not liking to leave the place, like the red-crested ones do. Out of our bag of 110, 41 were ordinary pochards. (141) *Nyroca ferruginea*, the white eyed Duck. This little duck is rather rare. It can always be identified by its white eye: it must however be remembered that it is only in adults that the iris is perfectly white; in young birds it is yellowish. In the air they appear half black and half white. Both sexes are coloured much alike. (142) *Nyroca fuligula*, the tufted Duck. In February there were very few of these birds, but on another occasion when I visited this tank in March, they were present in very large numbers. It is a small duck with dark black head; the breast and all the upper parts, head and neck, are slightly glossed with green; a long crest from the top of the head is glossed with purple. Underneath, from the breast, it is chiefly white; the female is much browner. It is a very fine diver. (143) *Erismatura leucocephala*, the white headed Duck. This, I think, is more commonly known as the stiff tailed Duck and is an ugly squat-shaped bird, with a curious bill much swollen at the base of the upper mandible, and of a pale blue colour. Its chief characteristic, however, is the tail, which consists of 18 very narrow stiff pointed feathers. When I was at Khushdil, there was a small flock of about 6 of these birds. I shot two with great difficulty. They do not fly much, but are very rapid swimmers and good divers. (144) *Mergus albellus*, the Smew. Fairly common, a fast fier and, as such, perhaps, worth a shot but useless to eat.

Family Podicipedidæ.—*Podiceps cristatus*. I saw what I believe to be these birds on Khushdil in February in small numbers. Also (145) *Podiceps albipennis*, the Indian Dabchick. The latter are common.

APPENDIX III.

Note on the Insect fauna of Baluchistan, by Major C. J. Nurse, 113th Infantry.

The following remarks refer exclusively to the insects found near Quetta and Pishin, where the writer has had opportunities for collection and observation.

Among the Orthoptera, two species of locusts are the most conspicuous, and do considerable damage. One of these, *Schistocerca peregrina*, frequently called *Acridium peregrinum*, is very widely spread. The other species is probably *Pachytylus cinerascens*. During the present year (1903) the former species appeared in large numbers in March, but a spell of cold weather killed most of them off.

Many species of Neuroptera are common, especially dragonflies. These insects serve a most useful purpose in killing large numbers of flies and mosquitoes. I believe that the larvæ of dragonflies also destroy mosquito larvæ. During the present year (1903) enormous swarms of a large species of dragonfly appeared in June and July, and to their presence I attribute the comparative scarcity of mosquitoes. *Termitidae* (white ants) are also numerous, and do some damage, but less than at most places in India. *Myrmeleonides* (Ant-lions) are not uncommon, and one very large species occurs. Among the lesser known Neuroptera, a species of *Embia* is found, and I received some years ago from Pishin a species of *Nemoptera*, which is a very remarkable looking insect.

Hymenoptera (Bees, Wasps, etc.) are very numerous, and as my attention has been chiefly devoted to this family, I will give a somewhat longer account of those that occur in Baluchistán. Situated as the country is, on the border of the Palearctic and Oriental regions, the species that occur here comprise many Indian and European species. There is also some resemblance between the Hymenopterous fauna of Kashmir and that of Baluchistán. As may be expected, many of the species that occur here have been found in Russian Central Asia, and have been described by Russian naturalists. Sawflies I have not found; they are usually numerous only in well wooded country. The *Parasitica* are not common; I obtained a species of *Leucopsis*, one or two *Braconidae*, a species of *Evania*, besides several *Ichneumonidae*. The latter are, however, less numerous than might be expected. *Chrysididae* (Ruby or Cuokoo wasps), are common, and numerous species occur. I obtained examples, many of which were hitherto undescribed, of the following genera: *Ellampus*, *Hedychridium*, *Hedychrum*, *Stilbum*, and *Chrysis*. The latter is a large genus, and many species occur. All the species of this family are parasitic on other Hymenoptera, and the more conspicuous species, such as *Stilbum splendidum* and *Chrysis orientalis*, may frequently be observed in verandahs, seeking for the nests of their victims, in which they deposit their ova.

The Apidae are numerous, both in species and individuals, but I have never come across a specimen of the true honey bee (*Apis*), though three species occur in India. As soon as the fruit trees come into blossom in the spring, they are surrounded by crowds of bees, chiefly belonging to the genus *Tetralonia*, but *Osmia* and *Andrena* are also represented. Later on in the summer, in addition to the above genera, the following occur:—among the short-tongued bees, *Colletes* and *Prosopis*; and among the long-tongued bees, *Sphecodes*, *Halictus* (many

species), *Panurgus*, *Nomia*, *Nomada*, *Megachile* (many species), *Anthidium*, *Parasaspis*, *Ceratina*, *Coelioxys*, *Crocisca*, *Anthophora* (many species), and one species of *Xylocopa*. The latter is crepuscular in its habits, frequenting hollyhocks, and its larva feeds on the wood of willow and possibly other trees, usually I believe attacking those that are dead or dying. Specimens of two genera, *Ctenoaspis* and *Melanaspis*, which have hitherto not been found outside the Punjab and Baluchistán, also occur, the former being very common. Among the Diptera, or Wasps, several species of each of the following genera are found: *Eumenes*, *Odynerus*, *Polistes* and *Vespa*. The largest species, *Vespa orientalis*, which is brown with a yellow band across the abdomen, frequently nests in the roofs of houses. Several of the common European wasps of the same genus are also found in some numbers. The Fossores, or digging wasps, are well represented. Among these are found the following genera: *Apterogyna*, *Mutilla*, and *Iswarra*, all having apterous females; none of them are common here, though occasionally the males come to light at night. Coming to the *Scoliidae*, another tribe of Fossores, two species of *Meria* are common, though the females are seldom seen; *Scolia* is represented by several species, two of which are large conspicuous insects, which are spread throughout the whole of Europe and Central Asia. Two or more species of *Elis* also occur, and one of *Sapyga*, the latter genus not having been found elsewhere in Indian limits.

Another tribe of Fossores, the *Ceropalidae*, till recently called the *Pompilidae*, is represented by a few large, and many medium-sized and small species. As, however, entomologists have not settled definitely the generic division of this tribe, I will not attempt to enumerate the genera which are found in Baluchistán. The largest species found here, and also perhaps the commonest, is *Salix nicevillei*. A further tribe of Fossores, the *Sphégidae*, comprises some of the largest and also some of the smallest of existing wasps. Representatives of the following genera occur within our limits: *Tachytes*, *Tachysphex*, *Larra*, *Homogambrus*, *Notogonia*, *Liris*, *Palarus*, *Miscophus*, *Gastrosericus*, *Pison*, *Trypoxylon*, *Ammophila*, *Sceliphron*, *Sphex*, *Pemphredon*, *Passaloecus*, *Diadotus*, *Gorytes*, *Stizus*, *Bembex*, *Philanthus*, *Cerceris*, *Oxybelus*, and *Crabro*.

The Formicidae, or Ants, are numerous in individuals, but not so in species. The largest and most conspicuous ant, frequently found in and about houses, is *Myrmecocystus setipes*, which occurs commonly in the Punjab.

Coleoptera (Beetles) are numerous, the most noticeable being various species of *Scarabaeus*, which act the part of scavengers by breaking up and burying the droppings of cattle and other animals, in which they lay their eggs. Several species of *Cicindelidae* (Tiger-beetles) are also common. The willow, poplar, and other trees are much subject to the depredations of some large species of beetles, but I am not certain to what genera these belong.*

Of the Lepidoptera (Butterflies and Moths), the former are not very numerous, at least in the immediate neighbourhood of Quetta. Perhaps the most common is the almost ubiquitous Painted Lady (*Pyrameis cardui*). The following are the other butterflies which commonly occur near Quetta:—*Canoris* sp., *Belenois mesentina*, *Limnas chrysipus*, *Synchlœa daplidice*, *Colias* sp., *Teracolus faustus*, *Hipparchia parisatis* and *H. telephassa*, *Polyommatus boeticus*, *Aphnaeus hypargyrus*, *Chrysothamus phloas*, *Azanus ubaldus*, *Zizera karsandra*, *Lycaena balucha*, *L. persica*, *L. hylas*, and *L. bracteata*, with perhaps a few more *Lycaenidae*.

The moths include *Deilephila livornica*, a species of *Macroglossa*, a *Cutocula*, *Tarache sulphuralis*, one or two species of *Plusia*, and many others.

* This subject was investigated in 1905 by Mr. E. P. Stebbing, Forest Entomologist to the Government of India.—Ed.

Diptera or flies, which include of course gnats and mosquitoes, are very numerous. Some of them, especially the predatory *Asilidae*, are of very large size, and prey upon other insects. A species of this latter genus which occurs commonly at Quetta is about $1\frac{1}{4}$ inches in length, and is most voracious, preying upon butterflies, moths, and other insects, sometimes seizing those which are twice its own size and weight. *Culicidae* (gnats and mosquitoes) are fairly numerous during the summer, a few certainly passing the winter in houses in a state of hibernation. The genus *Anopheles* has attained an unenviable notoriety during the last few years as being the intermediate host of the malarial parasite. Several species of this genus doubtless occur here; last year (1902) individuals were not numerous, owing to the prevailing drought, and during the present year I attribute their comparative scarcity, as before mentioned, to the unusual number of dragonflies. *Simuliidae* (sand-flies) are very common, and few escape their irritating attentions. Blood sucking flies, also frequently called gad-flies, are very numerous at times, and are especially annoying to horses and camels, the females biting them to such an extent as frequently to cause considerable swellings on the abdomen. I have seen several horses during the present year, including one of my own, which were quite unfit for work owing to their bites.

The Oestridae (Bot-flies), are not very frequently seen in the imago stage, but some species are certainly numerous, among them *Cephalomyia maculata*, the larva of which comes to maturity in the camel's nostril, causing great irritation. A species of *Hippobosca* is also common, attacking both horses and dogs.

Among the lesser known classes of insects may be included the Hemiptera (Bugs), of which a considerable number of various species occur, among them being of course *Cimex lectularius*, so noxious to the human race. *Cicadas*, a species of which appeared in enormous numbers during the present year, are part of this family: the noisy song of the males cannot fail to attract attention. This group is of interest, as the larva frequently takes many years to develop, the perfect insect appearing sometimes at intervals of 13 and even 17 years. These insects did some damage to trees during this year, being present in millions; many kinds of birds may have been observed preying on them. *Aphidae*, frequently called plant-lice, do great damage to many fruit trees, and I believe that the galls, which so disfigure many of the poplar trees in and near Quetta, are the work of an insect of this group.

The above is, of course, only a rough outline of the numerous insects which are found near Quetta. In the present state of our knowledge of entomology it is impossible to give anything like a complete list of the insect fauna of any portion of the Indian Empire.

APPENDIX IV.

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE AND SHEPHERDS' TERMS.

| Term in Pashtú. | Explanation. |
|------------------------------------|--|
| 1. Abi (Quetta)* ... | Irrigated land. See <i>bináwa</i> also <i>aví</i> , Nos. 41 and 18 below. |
| 2. Abjosh ... | The dry raisins made from the <i>haita</i> grape. |
| 3. Adám (Toba) ... | Fields along slopes of hills. See <i>andám</i> , No. 11 below. |
| 4. Adígar ... | Village artizan. |
| 5. Adígari ... | Wages in kind paid to an artizan. |
| 6. Alor ... | The refuse of the fodder after it has been eaten by cattle. See also <i>kangar</i> , No. 134 below. |
| 7. Alwoi or Aloi ... | Half ripe corn. Also corn parched in fire. |
| 8. Ambár ... | Manure; also granary. |
| 9. Ambárcchi (Chaman) | A servant engaged to watch the <i>ambár</i> or granaries. |
| 10. Ambár Khána (Pish-in). | Granary. |
| 11. Andám ... | Fields along slopes of hills. See also <i>adám</i> , No. 3 <i>supra</i> . |
| 12. Andám Kawal (Pish-in, Chaman). | The irrigation of hill side fields by means of series of small openings in a water channel. In Quetta it means to smooth the ground. |
| 13. Angúri Bágh ... | Vineyard. |
| 14. Aqúq ... | Unripe fruit especially apricots. See also <i>tarnak</i> and <i>putai</i> , Nos. 342 and 257 below. |
| 15. Asiwán or Aséwán | Miller. |
| 16. Ashar ... | Borrowed labour for agricultural purposes. |
| 17. Ashar Bánrae ... | Labourers obtained under the <i>ashar</i> system. |

* Where a word is peculiar to a particular locality the latter is shown in brackets.

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|-------------------------|--|
| 18. Avi | Irrigated land. See also <i>ábi</i> , No. 1 <i>supra</i> and <i>vináwa</i> , No. 41 below. |
| 19. Bachak | The second crop of maize, which does not ripen. |
| 20. Bádár | Land owner (as distinguished from <i>bazgar</i>), No. 34 below. |
| 21. Bádi Kawal | To winnow the grain with <i>chár shákha</i> . See also <i>duráwal</i> , No. 74 below. |
| 22. Bád Mála | Ears of wheat withered by wind. |
| 23. Badriza | Leather-covered rope, with which the lower part of the aperture in the yoke is secured. |
| 24. Bágh | Garden. |
| 25. Baghali | A side channel to lead off water from a <i>kárez</i> well, which has been blocked. |
| 26. Bághcha | Small garden. |
| 27. Band | Embankment. See <i>lath</i> and <i>pula</i> , Nos. 190 and 258 below. |
| 28. Bandobast | Settlement. |
| 29. Bára | Stone embankments or walls made to protect fields from encroachment by hill torrents. |
| 30. Brazar | To bring home sheep and goats in the morning to be milked. |
| 31. Bashakál | Rainy season. |
| 32. Baskhulae (Hanna) | Maize flowers. See also <i>char khulae</i> and <i>kats khulae</i> , Nos. 52 and 145 below. |
| 33. Batái | Division of crops. |
| 34. Bazgar | Tenant (as distinguished from <i>báddr</i> , No. 20 <i>supra</i>). |
| 35. Bébozh (Kákars) ... | Crops sown late. See also <i>tandae</i> , No. 339 below. |
| 36. Bédah (Chaman) ... | Bundles of millet stalks. |
| 37. Bégár | Forced labour. |
| 38. Bék-h-josh | Off-shoots of a tree. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|-------------------------------|---|
| 39. Béla (Quetta) ... | An earthwork dam thrown across a stream. See <i>wand</i> , No. 380 below. |
| 40. Béta (Chaman) ... | Open grounds, where flocks are kept for the night. |
| 41. Bináwa (Pishín and Toba). | Irrigated land. See also <i>abi</i> and <i>ávi</i> , Nos. 1 and 18 <i>supra</i> . |
| 42. Bogarae | A piece of land given to a tenant or <i>mullá</i> free of rent for cultivation. |
| 43. Bohál | Rent paid in kind by a tenant to landlord. |
| 44. Bohalla | Short showers of rain during spring. |
| 45. Bráimjo | Open <i>kúrez</i> channel. |
| 46. Buchar (Kákars) ... | Ears of maize, from which the grain has been extracted. |
| 47. Bútak | Green wheat crop damaged by cold about end of March. |
| 48. But-ba (Chaman) ... | A labourer engaged to cut and bring fuel. |
| 49. Chakkanak (Pishín) | A flock composed of sheep and goats belonging to several. |
| 50. Chao (Chaman) ... | Open water channel. |
| 51. Charai. Br. *(Quetta) | Trench between ridges in a melon field. See <i>jóá</i> , No. 121 below. |
| 52. Char-khulae ... | Maize flowers. <i>Kats khulae</i> , No. 145 below and <i>baskhulae</i> , No. 32 <i>supra</i> . |
| 53. Chér | Cleaning water channels in spring. |
| 54. Chin | A single plucking of <i>púléz</i> produce. |
| 55. China | A spring. See also <i>chishma</i> , No. 57 below. |
| 56. Chinjan or Chimjan | Affected by <i>chinjaí</i> insects—Thus <i>chinjan khatakae</i> , a melon affected by insects. |
| 57. Chishma | A spring. See also <i>china</i> , No. 55 <i>supra</i> . |
| 58. Chodakki (Chaman) | Ears of maize, from which corn has been extracted. See also <i>nutkírae</i> and <i>duandar</i> , Nos. 220 and 65 below. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|---------------------------|---|
| 59. Chond (Quetta) ... | Short lucerne plants grazed by cattle. See also <i>kurund</i> , No. 177 below. |
| 60. Dab | Stagnant water. |
| 61. Dad (Chaman) ... | Wheat or barley, when knots have appeared in the stalks. |
| 62. Dagárai (Quetta) ... | Hard soil, with which stones are mixed; unfit for cultivation. |
| 63. Dam | Water running slowly owing to a block in a <i>kárev</i> . |
| 64. Dána Bandi ... | Appraisalment of crop for fixing Government demand in kind. Used specially for grain crops. See also <i>tashkhts</i> , No. 344 below. |
| 65. Dandar (Pishín) ... | Ears of maize, from which the grain has been extracted. See also <i>chodakki</i> , No. 58 <i>supra</i> and <i>mutkarae</i> , No. 220 below. |
| 66. Dandi-pález ... | <i>Pález</i> sown in a plot of land, in which rain water has been collected. |
| 67. Darwazh ... | A cut made by flock-owners in kids' ears to serve as a distinguishing mark. Also a sheep or goat set apart for sacrifice at a shrine. |
| 68. Déma Ghanam (Chaman). | Late wheat. See also <i>Sra ghanam</i> , No. 326 below. |
| 69. Dénro ... | A milch sheep or goat given on loan. See also <i>lwaghzi</i> , No. 200 below. |
| 70. Doa Haliza (Quetta) | Second ploughing. |
| 71. Doáwa (Toba) ... | Second watering of fields. |
| 72. Dramand (Pishín)... | A heap of threshed crop before grain is separated. See also <i>durmand</i> , No. 76 below. |
| 73. Dukál | Drought, also famine. See also <i>kákhti</i> , No. 130 below. |
| 74. Duráwal (Chaman) | To winnow. See also <i>bádi kawal</i> , No. 21 <i>supra</i> . |
| 75. Durba | Rainy days in winter.. |
| 76. Durmand | A heap of threshed crop before grain is separated. See also <i>dramand</i> , No. 72 <i>supra</i> . |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|-----------------------------|---|
| 77. Durmand-záé ... | Threshing floor. |
| 78. Gagra | A menial, who assists in cleaning the threshing floor. |
| 79. Galai | Tunnel connecting wells of a <i>kátréz</i> . |
| 80. Ganda darao ... | First crop of lucerne. |
| 81. Gardawo (Chaman) | A quantity (generally one <i>kása</i>) of grain given annually by each family to the blacksmith. |
| 82. Gáshwán | A crop-watcher. See also <i>walári tohae</i> and <i>sozwán</i> , Nos. 379 and 320 below. |
| 83. Gawanda or Gonda | A bullock sack. |
| 84. Gazára | Chaff. |
| 85. Gédai | Half ripe corn ; also bunches of ears of corn. |
| 86. Gham | Government revenue demand. |
| 87. Ghamdeh, Gham- kash. | Revenue paying land. |
| 88. Gham-i-naukar ... | Men-at-arms supplied under Afghán rule in lieu of land revenue. |
| 89. Ghaocha | Holes made close to the roots of fruit trees or melon plants for manure. |
| 90. Gharak | A skin used for churning milk. |
| 91. Ghat fasal (Toba) ... | The principal or spring harvest. |
| 92. Ghéli (Chaman) ... | A small number of sheep. |
| 93. Ghichae | Sods of turf. |
| 94. Ghoba | Cow-herd. |
| 95. Ghobal | To thresh. |
| 96. Ghojil | Place in a house or tent set apart for bullocks. |
| 97. Gholba | A plot of land, which can be ploughed by a pair of oxen in 12 hours. See <i>jora</i> , No. 123 below. |
| 98. Ghora | Unripe grapes. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|------------------------------|---|
| 99. Ghozah | Ear of maize. |
| 100. Ghúndaē | A large bullock sack. |
| 101. Ghunj | Ditto. |
| 102. Ghutai | Buds. |
| 103. Ghwa | Cow. |
| 104. Ghwayae | Bullock. |
| 105. Gol Largaē | The pole in the centre of the threshing floor, around which bullocks revolve. |
| 106. Grift or Graut | A handful of cut crop. |
| 107. Gul | The state of a crop when flowers have appeared. |
| 108. Gul Giri Kawal | Picking of superfluous flowers from melon plants. |
| 109. Gumána | The head or trial well of a <i>káréz</i> . See also <i>kurkaē</i> , No. 175 below. |
| 110. Hadúkaē (Quetta)... .. | Apricot stones. See <i>mandaka</i> , No. 208 below. |
| 111. Haq-i-Malkána | Remuneration paid to a village headman for collecting Government demand, usually 5 per cent. |
| 112. Hatsk (Chaman) | A holding. See also <i>tanraē</i> , No. 340 below. |
| 113. Haud | A tank, in which <i>káréz</i> water is collected. |
| 114. Haud Kae | Smaller tank. |
| 115. Héra | A plot larger than a <i>kurd</i> , No. 174 below. |
| 116. Ijára | Lump assessment. |
| 117. Jalatta (Chaman) | An earthen receptacle covered with mats used for storing grain. |
| 118. Jambast | Fixed cash assessment. |
| 119. Jarib | Survey. |
| 120. Járkrúnaē | The first <i>káru</i> (measure) taken out of a heap of grain when measuring it and given to the <i>mulá</i> . |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|--------------------------|--|
| 121. Joá | Trench between ridges in melon fields. See <i>chara</i> , No. 51 <i>supra</i> . |
| 122. Jongae | A camel calf. |
| 123. Jora | A plot of land, which can be ploughed by a pair of oxen in 12 hours, also a pair of plough oxen. See <i>gholba</i> , No. 97 <i>supra</i> . |
| 124. Jowaki | Melon cultivation growing in trenches or on ridges, also vine. |
| 125. Jurang | Melon plants; any creeping plant. |
| 126. Jwál | A sack. |
| 127. Kad-hal (Chaman) | A structure, built of stone-in-mud for storing grain. |
| 128. Kaftarak Kawal ... | To sprinkle manure with the hand in vegetable fields. |
| 129. Káhdána | An earthen structure for storing <i>bhúsa</i> , also a pit covered over with earth, in which <i>bhúsa</i> is stored. |
| 130. Kákhti (Chaman) ... | Scarcity. See also <i>dukúl</i> , No. 73 <i>supra</i> . |
| 131. Kákul (Chaman) ... | Maize flowers. |
| 132. Kandak | A flock of sheep. See also <i>park</i> , No. 243 below. |
| 133. Kandú (Chaman) ... | Earthen receptacle for storing grain. See also <i>kohlai</i> , No. 170 below. |
| 134. Kangar (Pishín) ... | The refuse of the fodder after it has been eaten by cattle. See also <i>alor</i> , No. 6 <i>supra</i> . |
| 135. Kankút (Pishín) ... | Crop cut for making crop experiments. |
| 136. Kanta (Quetta) ... | Ditto. |
| 137. Kaoda | A bundle of crop cut. |
| 138. Kara | Sowing melons by hand in a line made with the plough. See <i>taki</i> , No. 338 below. |
| 139. Karaba | Maize stalks. |
| 140. Kárez | Underground water channel. |
| 141. Karhanra | Cultivation. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|------------------------------|--|
| 142. Kárigar | An artizan especially a <i>káiréz</i> digger. In Quetta a bullock (Br: and B). |
| 143. Karwanda | Cultivable land lying fallow. |
| 144. Kats | A plot of cultivable land in the bed of a stream. |
| 145. Kats Khulæ. (Ká-kars). | Same as <i>char khulæ</i> , No. 52 <i>supra</i> . |
| 146. Kattæ | Mung chaff. |
| 147. Kér | Sheep-pen. |
| 148. Khák Bél Warkawal. | Putting dry earth at the foot of the melon plants. |
| 149. Khar Balg | Large leaves of vines, which are considered injurious to the growth. |
| 150. Kharkáwa | First watering of a crop. |
| 151. Khar Khul | A pair of shears. |
| 152. Khar-lao | Pruning the hard branches of vines to strengthen the young ones. |
| 153. Khasíl | Green wheat and barley crop cut for fodder. See <i>khíd</i> , No. 157 below. |
| 154. Khat Kashi | A custom, by which a man sinks a new <i>káiréz</i> in another man's land on condition of getting a share, generally half, in the proprietorship both of land and water, the proprietor of the land keeping the other half. |
| 155. Khawandi Mzakka | Land held individually not jointly. |
| 156. Khazán Angúr | Over ripened grapes. |
| 157. Khíd (Quetta, Br.) | Green wheat or barley cut for fodder. See also <i>khasíl</i> , No. 153 <i>supra</i> . |
| 158. Khula Band (Quetta). | Wells of a <i>káiréz</i> , the tops of which are covered. See also <i>khula sarposh</i> , No. 160 below. |
| 159. Khula Khwand (Chaman). | The tip given to a miller in addition to his wages for grinding corn. |
| 160. Khula Sarposh (Pishín). | Wells of a <i>káiréz</i> , the tops of which are covered. See also <i>khula band</i> , No. 158 <i>supra</i> . |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|--|--|
| 161. Khush Bar (Quetta and Pishin). | The <i>rabi</i> or spring crop. |
| 162. Khushdarao ... | All cuttings of the lucerne crop except the first called <i>ganda darao</i> and the last called <i>chond</i> . See also <i>shakar darao</i> , No. 300 below. |
| 163. Kushka Prékawal... | To prune vines. |
| 164. Khushkawa ... | Dry crop. See <i>wuchobi</i> , No. 374 below. |
| 165. Khwa (Chaman) ... | To clear land of shrubs etc. |
| 166. Khwara | Fixed contribution paid to a <i>mullá</i> , Saiad or shrine. |
| 167. Kila (Quetta) ... | An association of more than two ploughs cultivating in common. |
| 168. Kisht | Cultivation. |
| 169. Kishtgar (Toba and Pishin) | A tenant who provides half the seed, bullocks and labour and gets one-third to one-half of the produce. |
| 170. Kohlai | Earthen receptacle for storing grain. See also <i>kandu</i> , No. 133 <i>supra</i> . |
| 171. Khoshkak | A dam made of brushwood in a stream to lead off water. |
| 172. Kotán (Chaman) ... | A small pen in which kids are kept. |
| 173. Krutkánri (Quetta) | A kind of soft soil, in which white stones are mixed. |
| 174. Kurd | Small bed or plot in a field. |
| 175. Kurkae | The trial well of a <i>kiréz</i> . See also <i>gumina</i> , No. 109 <i>supra</i> . |
| 176. Kursai (Quetta) ... | A shepherd's hut. |
| 177. Kurund (Pishin) ... | Short lucerne plants grazed by cattle. See also <i>chond</i> , No. 59 <i>supra</i> . |
| 178. Kwarra (Pishin and Chaman). | Small heaps of grain made at the time of <i>butti</i> . |
| 179. Kwatta (Quetta) ... | Ditto. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|---------------------------------------|--|
| 180. Lagh Kawal ... | Plucking the superfluous leaves of vines. |
| 181. Lálgar | Reaper. See also <i>lau garrae</i> , No. 192 below. |
| 182. Laikashi | Cleaning of a <i>kárez</i> . |
| 183. Lalúnae Kawal ... | Weeding, also to clear land of shrubs, etc. |
| 184. Lambúr | Tunnel between the wells of a <i>kárez</i> . |
| 185. Langa Ghwa ... | Milch cow. |
| 186. Lao | Harvesting. |
| 187. Laré Kulmé (Quetta) | (Offal). Threshing floor sweepings, in which grain is mixed given to the <i>gagra</i> . |
| 188. Lásh | Melon field or orchard, from which all fruit has been picked. |
| 189. Lashtae | A small irrigation channel. |
| 190. Lath | Embankment. See also <i>band</i> , No. 27 <i>supra</i> , and <i>púla</i> , No. 253 below. |
| 191. Lathband(Quetta)... | The man who first constructs the <i>lath</i> round a field, and thus acquires a right of occupancy. |
| 192. Lau Garrae (Chaman) | Reaper. See also <i>lálgar</i> , No. 181 <i>supra</i> . |
| 193. Lawae | Reaper. See also <i>lau garrae</i> , No. 192 <i>supra</i> . |
| 194. Lawai | Wages paid to the reapers. |
| 195. Lékha | A fixed rent in kind or cash, paid by the tenant to the landlord. |
| 196. Lérba | A shepherd who tends young kids. |
| 197. Loazhaghæ ... | Wages, consisting of food, a quantity of wool and cash given to a shepherd during the season when sheep and goats are dry. |
| 198. Lora | A hill torrent carrying flood water. |
| 199. Lwagh (Chaman and Pishín). | To milk. See also <i>lwasal</i> , No. 201 below. |
| 200. Lwaghzi or Lwagh-zungi (Pishín). | A milch sheep or goat given on loan. See also <i>déuro</i> , No. 69 <i>supra</i> . |
| 201. Lwasal (Quetta) ... | To milk. See also <i>lwagh</i> , No. 199 <i>supra</i> . |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|------------------------------|---|
| 202. Máfi | Revenue free holding. |
| 203. Mahsúl | The Government revenue in cash or kind. See also <i>gham</i> , No. 86 <i>supra</i> . |
| 204. Máldágh | Cattle tax. |
| 205. Maliki | Payment formerly made to headmen or <i>maliks</i> or land exempted from revenue for collecting Government demands. |
| 206. Mámatta | A field close to a village enclosed in walls. |
| 207. Mandak | Young melons called <i>mora</i> by the Kanda-háris. |
| 208. Mandaka (Pishín) ... | Apricot stones. See also <i>hudúkae</i> , No. 110 <i>supra</i> . |
| 209. Marai (Toba Kákari) | Unripe melon. See also <i>shinkae</i> , No. 307 below. |
| 210. Mattana Mzakka ... | Soil, which contains silt or <i>mat</i> . |
| 211. Mazh | Ram. |
| 212. Mézha | Sheep. |
| 213. Mián Kharta ... | A portion of grain set aside out of the main heap for the wages of artizans and village expenses. See also <i>sarkoi</i> , No. 285 below. |
| 214. Mírás (Quetta) ... | Ancestral land. See also <i>mírásí mzakka</i> , No. 215 below. |
| 215. Mírásí Mzakka (Pishín). | Ditto. See also <i>mírás</i> , No. 214 <i>supra</i> . |
| 216. Míráv (Pers. Míráb) | A village official appointed by the villagers to superintend the division of water and the maintenance of water channels. |
| 217. Mora | Bundle of dry lucerne. |
| 218. Mulk | Property in land. |
| 219. Mushraff | An official care-taker for crops. |
| 220. Mutkárae (Kákars) | Ears of maize, from which the grain has been extracted. See also <i>chodakki</i> and <i>dundar</i> , Nos. 58 and 65 <i>supra</i> . |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|--------------------------------------|--|
| 221. Muz or Muzd (Pishín and Chaman) | Wages, especially wages paid for grinding corn. See also <i>shágirdána</i> , No. 298 below. |
| 222. Nágha | Second seed sown in a melon field to replace such as have failed. Also seed that has failed. |
| 223. Naghurra (Chamán) | Ears of maize. |
| 224. Ná Khunáo | First watering of <i>pálezát</i> . |
| 225. Náli. Br. (Quetta)... | A drill. Drilling. |
| 226. Nár | Land cleared of its crop. |
| 227. Nárai | Wheat or barley stubble. See <i>palála</i> , No. 238 below. |
| 228. Náwa | First watering before land is ploughed. |
| 229. Náwar (Pishín) ... | A hollow or pit, in which drinking water stored. |
| 230. Nézakae (Chaman)... | A wedge in the plough. |
| 231. Nihál | Young trees. |
| 232. Nihál Khána | Nursery garden. See also <i>zakhtra</i> , No. 398 below. |
| 233. Núz | A flood. See also <i>séldo</i> and <i>sél</i> , Nos. 295 and 294 below. |
| 234. Obo Khwar | The place for watering flocks. |
| 235. Ola | A flock of kids. |
| 236. Paiwand | Grafting |
| 237. Pakhé Oba | Perennial water. See <i>toré-oba</i> , No. 354 below. |
| 238. Palála (Br). | Wheat or barley stubble. See <i>nárai</i> , No. 227 <i>supra</i> . |
| 239. Páléz | Generic term for cucurbitaceous crops. Also the beds, in which they are cultivated. |
| 240. Pálezwán or Pález-kár. | A cultivator of cucurbitaceous crops. |
| 241. Panerae | Seedlings. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|--------------------------------|--|
| 242. Parghat (Quetta) ... | Second threshing as distinguished from <i>ghobal</i> , No. 95 <i>supra</i> . See also <i>sparkhae</i> and <i>surkh koi</i> , Nos. 322 and 331 below. |
| 243. Park | A flock of sheep. See also <i>kandak</i> , No. 132 <i>supra</i> . |
| 244. Paro | Cash wages paid to shepherd. |
| 245. Páshaki | Sowing melons broad-cast among other crops. |
| 246. Pasbát (Pishin) ... | Chaff scattered on the threshing floor, apart from the main heap. See also <i>séka</i> , No. 293 below. |
| 247. Pasta Mzakka ... | Soft soil. See also <i>potae</i> , No. 252 below. |
| 248. Patrae | Young green wheat and barley clinging to the ground. See <i>tikai</i> , No. 348 below. |
| 249. Patwárae | Village accountant. |
| 250. Péchak | Vine tendril; also a creeper that grows over vines. |
| 251. Pézi | Withered (fruit). |
| 252. Potae (Chaman) ... | Soft soil. See also <i>pasta mzakka</i> , No. 247 <i>supra</i> . |
| 253. Pré Kawal | To pluck grapes. |
| 254. Pror | Chopped straw (<i>bhúsa</i>). |
| 255. Proti Tohae ... | A guard for the threshing floor. |
| 256. Púji Kawal ... | Pruning of trees. |
| 257. Pukai (Pishin) ... | Unripe fruit especially apricots. See also <i>tar-nak</i> , No. 342 below and <i>aqúg</i> , No. 14 <i>supra</i> . |
| 258. Púla (Pishin and Chaman). | Embankment. See also <i>lath</i> and <i>band</i> , Nos. 190 and 27 <i>supra</i> . |
| 259. Puli Spára | Wheat or barley crop, in which some of the ears have appeared. |
| 260. Punga | Buds of vines. |
| 261. Push (Quetta and Pishin). | Blacksmith. See also <i>ustákar</i> , No. 372 below. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE,
AND SHEPHERDS' TERMS.—(contd.).

| Term in Pashtú. | Explanation. |
|---------------------------------------|---|
| 262. Pushta | Ground between two channels in melon fields. |
| 263. Qalam | Cuttings. |
| 264. Rágha | Land along the skirts of hill. |
| 265. Rama | A flock of sheep as distinguished from <i>tawae</i> , a flock of goats. |
| 266. Régai or Régana Mzakka | Sandy soil. |
| 267. Riása or Riášha ... | Grain heap on the threshing floor. |
| 268. Roína | Open <i>kárez</i> channel. See <i>brátmjo</i> , No. 45 <i>supra</i> and <i>sáp</i> No. 329 below. |
| 269. Rozmána | Lambing season. |
| 270. Saikra | The allowance at 5 per cent, paid to the headmen for collecting Government demand (<i>huq-i-malkána</i> , No. 111 <i>supra</i>) |
| 271. Sailába | Flood irrigation. |
| 272. Sama (Barshor) ... | First watering of a crop. |
| 273. Sámáni | The main channel in a melon field or vineyard, from which smaller channels (<i>joá</i>) branch off. |
| 274. Sámborae | A fattened sheep. |
| 275. Sanghín | Lining a water channel with stones. |
| 276. Sáp | Crop of wheat or barley, in which all the ears of corn have appeared. |
| 277. Sára or Spín Ghanam | Early wheat as distinguished from <i>tauda ghanam</i> or late wheat. |
| 278. Sarband | Seeds which do not germinate. |
| 279. Sarchák | Open channel in the middle of a <i>kárez</i> . |
| 280. Sar Drakht | All fruit trees except vines. |
| 281. Sar Drakht Bágh ... | Orchard containing <i>sar drakht</i> . |
| 282. Sar gala | Term formerly used for cattle tax by Afghan officials. See also <i>sar-i-rama</i> , No. 283 below. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|--|--|
| 283. Sar-i-rama (Pishin). | Term formerly used for cattle tax by Afghán officials in Pishin. See also <i>sar gala</i> , No. 282 <i>supra</i> . |
| 284. Sarkao | Cutting wheat or barley to strengthen the plants. |
| 285. Sarkoi (Pishin) ... | A portion of grain set aside out of the main heap for wages to artisans and village expenses. See also <i>mián kharts</i> , No. 213 <i>supra</i> . |
| 286. Sarputti | Wheat or barley, the ears of which have formed, but in which the corn is not visible. |
| 287. Sarrah (Quetta) ... | Manure. |
| 288. Sarsáya | A quantity of grain given annually by each family to the village <i>mullá</i> . |
| 289. Sar-súba | The well in a <i>káret</i> ; next to the <i>gumána</i> , No. 109 <i>supra</i> . |
| 290. Sauz-bar | Kharif or autumn harvest. |
| 291. Sauz-chat | A disease peculiar to maize and lucerne. |
| 292. Sawáraták | Vines on wooden poles or trees as distinguished from <i>jowaki</i> or vines grown in trenches. |
| 293. Séka (Pishin) ... | Chaff scattered on the threshing floor apart from the main heap. See also <i>pasbát</i> , No. 246 <i>supra</i> . |
| 294. Sél (Chaman) ... | Flood. See also <i>núz</i> , No. 233 <i>supra</i> and <i>séláo</i> , No. 295 below. |
| 295. Séláo (Pishin) .. | A flood. See <i>núz</i> and <i>sél</i> , No. 233 and 294 <i>supra</i> . |
| 296. Shafta | A disease of lucerne, melon and vine leaves. |
| 297. Shagai, Shagana or Sagai Mzakka (Hanna and Toba). | Sandy soil containing gravel. |
| 298. Shágirdána ... | Wages paid for grinding corn. See also <i>muz</i> , No. 221 <i>supra</i> . |
| 299. Shagúpa. (Pers. Shagúfa). | Blossoms. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|------------------------------------|---|
| 300. Shakar Darao (Chaman). | All cuttings of the lucerne crop except the first called <i>ganda darao</i> and the last called <i>chond</i> . See also <i>khush-darao</i> , No. 162 <i>supra</i> . |
| 301. Shakarpára ... | A species of apricot, the dried fruit of which is imported from Kandahár. |
| 302. Shal (Pishín) ... | Water-divide. See also <i>taghr</i> , No. 333 below. |
| 303. Sharana Mzakka ... | Salt land. |
| 304. Sharíki Mzakka (Chaman). | Undivided or common land. See also <i>tumani mzakka</i> , No. 336 below. |
| 305. Shawae (Chaman)... | Plots in fields. |
| 306. Shéla | A small hill torrent. |
| 307. Shinkae | Unripe melon. See also <i>marai</i> , No. 209 <i>supra</i> . |
| 308. Shíra | Half formed grain. |
| 309. Shom | First ploughing after harvest. |
| 310. Shomgarae | Land ploughed after harvest. |
| 311. Shoráwaki Ghanam. | Late wheat. See <i>sra</i> , <i>tauđu</i> , Nos. 326, 345 below and <i>déma ghanam</i> , No. 68 <i>supra</i> . |
| 312. Showán | To take flocks to graze in the night. |
| 313. Shpalghalae (Quetta) | Sheep or goat pen. |
| 314. Shpána | Shepherd. |
| 315. Shpol | Sheep pen. |
| 316. Shudiára (Pishín and Chaman). | First ploughing after harvest. See <i>shom</i> , No. 309 <i>supra</i> . |
| 317. Skhundar | A calf. |
| 318. Skwal | Shearing sheep and goat. |
| 319. Skwalae | A shearer. |
| 320. Sozwán (Pishín) ... | A crop watcher, same as <i>walári tohae</i> , No. 379 below and <i>gáshwán</i> , No. 82 <i>supra</i> . |
| 321. Spandakh | A bundle of spun wool thread. See also <i>tgásha</i> , No. 362 below. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|---------------------------------|---|
| 322. Sparkhae (Pishín)... | Second threshing as distinguished from <i>ghobal</i> or first threshing. See also <i>parghat</i> No. 242 <i>supra</i> and <i>surkh-koi</i> , No. 331 below. |
| 323. Spéd Bar (Pishín)... | <i>Rabi</i> or spring crop. |
| 324. Spína Mzakka (Quetta). | Soft (white) soil. |
| 325. Spín Sarri Mzakka | Land with moisture fit for sowing. |
| 326. Sra Ghanam ... | Late wheat. See <i>shoráwaki</i> , <i>déma</i> , Nos. 311 and 68 <i>supra</i> and <i>tanda ghanam</i> , No. 345 below. |
| 327. Srae (Quetta) ... | A lucerne field. |
| 328. Súba ... | A <i>kíréz</i> well. |
| 329. Súp (Chaman) ... | Open channel of a <i>kíréz</i> , which has a few wells at the head. See also <i>róina</i> , No. 268 <i>supra</i> . |
| 330. Surkhae ... | Rust. |
| 331. Surkh-koi (Chaman) | Second threshing as distinguished from <i>ghobal</i> or first threshing. See also <i>parghat</i> and <i>spar khae</i> , Nos. 242 and 322 <i>supra</i> . |
| 332. Súrsát ... | Supplies collected for Government officials. |
| 333. Tagír ... | A water-divide or sluice. See also <i>shal</i> , No. 302 <i>supra</i> . |
| 334. Ták ... | Vines. Any creeping crop. |
| 335. Tak ... | A mark made on sheep by cutting a part of wool or applying coloured matter. |
| 336. Tákburí ... | Pruning the vines. |
| 337. Takhta ... | A division of a field, a plot. |
| 338. Táki ... | Sowing melons by hand in a line made with the plough. See <i>kara</i> , No. 138 <i>supra</i> . |
| 339. Tandae (Chaman)... | Crop sown late. See also <i>bébozh</i> , No. 35 <i>supra</i> . |
| 340. Tanrae (Barshor and Toba). | A holding. See also <i>hatsk</i> , No. 112 <i>supra</i> . |
| 341. Tánte (Chaman) ... | Maize stalks. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtú. | Explanation. |
|----------------------------|--|
| 342. Tarnak (Quetta) ... | Unripe fruit especially apricots. See also <i>aqúq</i> and <i>pukai</i> , Nos. 14 and 257 <i>supra</i> . |
| 343. Tarnáwa | Wooden aqueduct. |
| 344. Tashkhis | Appraisalment of standing crops, for fixing Government demand. See <i>dána bandi</i> , No. 64 <i>supra</i> . |
| 345. Tauda Ghanam ... | Hot, i.e., late wheat. See also <i>sra</i> and <i>shord-waki ghanam</i> , Nos. 326 and 311 <i>supra</i> . |
| 346. Tawae | A flock of goats. |
| 347. Télo | Weaning time. |
| 348. Tikai | Young green wheat or barley crop clinging to the ground. See <i>patrae</i> , No. 248 <i>supra</i> . |
| 349. Tilérae | A small plot of level ground among hills with a spring of water. |
| 350. Tirai (Barshor) ... | A winding water channel for irrigating sloping fields. |
| 351. Tobra | A horse's nose bag. A share of grain taken by horsemen from the <i>zamindars</i> at the time of <i>bardi</i> . |
| 352. Tohae | A crop-watcher. |
| 353. Tora Mzakka (Quetta). | Black soil—the best kind of land in Quetta. |
| 354. Toré Oba | Perennial water. See also <i>pakhé oba</i> , No. 237 <i>supra</i> . |
| 355. Tsáh | Well. |
| 356. Tsakawal (Chaman) | To give fodder to sheep while at home. |
| 357. Tsakhobae | Small plot of cultivated land on hill side with a small quantity of permanent water. |
| 358. Tsandal | To shake the fruit off a tree such as mulberry, apricot, apple, etc. |
| 359. Tsapar | Weighted thorny hurdle used for threshing grain. |
| 360. Tsarkhae | Spindle for wool spinning. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtá. | Explanation. |
|---------------------------------------|---|
| 361. Tsárú | Lit: a spy. The first few plants, which appear in a field. |
| 362. Tsásha (Chaman) ... | A bundle of wool. See also <i>spandakh</i> , No. 321 <i>supra</i> . |
| 363. Tstae | A bundle of crop or a man's load given to an artisan or a <i>mullá</i> . |
| 364. Tukhm | Seed. |
| 365. Tukhm Lawastal, Tukhm Páshal. | Sowing seed broadcast. |
| 366. Tumani Mzakka ... | Village or common land. See also <i>ulusi mzakka</i> , No. 367 below and <i>shariki mzakka</i> , No. 304 <i>supra</i> . |
| 367. Ulsi Mzakka (Pishin.) | Village or common land. See also <i>tumani</i> and <i>shariki mzakka</i> , Nos. 367 and 304 <i>supra</i> . |
| 368. Ush | Camel. |
| 369. Usha | She-camel. |
| 370. Ushba | Camel-herd. |
| 371. Ush Kawal ... | To pluck melons. |
| 372. Ustákár (Chaman) | Blacksmith. See also <i>push</i> , No. 261 <i>supra</i> . |
| 373. Viála or Vála ... | Water channel. |
| 374. Wachobi | Dry or rain cultivation. See also <i>khushkáwa</i> , No. 164 <i>supra</i> . |
| 375. Wad | The commencement of harvest. |
| 376. Wáh | Main water channel. |
| 377. Wahri Oba ... | Springs and <i>kárezés</i> , in which water appears after rains only. |
| 378. Walár Fasal ... | Standing crop. |
| 379. Walári tohae ... | A crop watcher. See also <i>gáshwán</i> and <i>szwán</i> , Nos. 82 and 320 <i>supra</i> . |
| 380. Wand (Pishin) ... | An earthwork dam in a stream. See <i>béla</i> , No. 39 <i>supra</i> . |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(contd.).

| Term in Pashtu. | Explanation. |
|---|---|
| 381. Wandar | A rope provided with nooses, to which sheep and goats are tethered. |
| 382. Wánra | Heap of chaff on threshing floor. |
| 383. Warai | Sheep or camel wool. |
| 384. Warg | A full-grown sheep, male or female. A bundle of wool cut from a single sheep. |
| 385. Warkh | A small embankment in the mouth of a water channel. |
| 386. Wáshkae | A bunch of grapes. Also a rope. |
| 387. Wazhae- | Ear of corn, especially applied to wheat and barley. |
| 388. Wazhae-chin (Quetta) or Wazhae-chae (Pishin and Chaman). | A gleaner. |
| 389. Wazhae Pagéda (Chaman and Pishin). | Wheat or barley, the ears of which have formed, but are not yet visible. See <i>sarpulli</i> , No. 286 <i>supra</i> . |
| 390. Wor Pasal (Toba) ... | Autumn or <i>kharif</i> crop. |
| 391. Wurta | Spun wool. |
| 392. Wuz | Full-grown he-goat. |
| 393. Wuza | Full-grown she-goat. |
| 394. Wuzburrae (Chaman) | Goat-hair cut from a single animal and made into a bundle. |
| 395. Wuzghúni | Goat-hair. |
| 396. Yivi Wahal | Ploughing. |
| 397. Zágħ | Wheat when quite clean. |
| 398. Zakhra | Nursery garden. See also <i>nihál khána</i> , No. 232 <i>supra</i> . |
| 399. Zanri | Melon seed. |
| 400. Zárae | Crop sown seasonably. |

ALPHABETICAL LIST OF THE PRINCIPAL AGRICULTURAL, REVENUE
AND SHEPHERDS' TERMS—(concl.).

| Term in Pashtú. | Explanation. |
|----------------------------|---|
| 401. Zarai Kalang ... | A lump assessment in cash or kind, or both, formerly in vogue in parts of the Quetta tahsíl. |
| 402. Zari Mzakka (Pishin) | Land acquired by purchase. |
| 403. Zar Kharid ... | Self acquired land, also divided land. |
| 404. Zarzi ... | The yellowish ears of a crop, when ripe. |
| 405. Zhaghzai (Pishin) ... | Wheat chaff. |
| 406. Zhar Ghwazhae ... | Withered crop. |
| 407. Ziam ... | Swampy ground. |
| 408. Zolai ... | A lap full of grain, given at the time of <i>batái</i> , to the Khán's officials in pre-British days. |
| 409. Zranda ... | Water mill. |
| 410. Zúka ... | Any newly sprouting crop. |
| 411. Zumbak (Chaman)... | The soft hairs on the ear of maize. |

APPENDIX V.

ALPHABETICAL LIST OF AGRICULTURAL IMPLEMENTS.

| Term in Pashtú. | Explanation. |
|---------------------------|--|
| 1. Ara | A small sickle. |
| 2. Chaj (Quetta) ... | Winnowing fan. ... |
| 3. Chár-shákha ... | Four pronged fork for winnowing. . . |
| 4. Chilomba | A sling generally used for driving birds away from crops. |
| 5. Chughul | A sieve with larger holes than the ordinary sieve, called <i>ragh bál</i> , No 24 below. |
| 6. Dal | Wooden spade worked by two men with a rope for making small embankments. |
| 7. Doshákha or Doa-khuli. | Two pronged fork. |
| 8. Gháshae (Chaman)... | The shaft of the plough. |
| 9. Hall | Plough. ... |
| 10. Kahai | A hoe. |
| 11. Káhkasha | A net for carrying <i>bhúsa</i> etc. See also <i>korae</i> , No. 14 below. |
| 12. Kén (Quetta) ... | A plank harrow. See also <i>khál</i> , No. 13 below. |
| 13. Khál (Pishin) ... | A plank harrow. See also <i>kén</i> , No. 12 <i>supra</i> . |
| 14. Korae | A net for carrying <i>bhúsa</i> etc. See also <i>káhkasha</i> , No. 11 <i>supra</i> . |
| 15. Kundah' | Shoe of the plough. |
| 16. Laké (Toba) ... | Plough handle. See <i>mutanak</i> and <i>niwakka</i> , Nos. 19 and 20 below. |
| 17. Lor | Sickle. |
| 18. Mála | A wooden log used as a clod crusher. |
| 19. Mutanak | Handle of the plough. See <i>laké</i> , No. 16 <i>supra</i> and <i>niwakka</i> , No. 20 below. |

ALPHABETICAL LIST OF AGRICULTURAL IMPLEMENTS.

| Term in Pashtú. | Explanation. |
|---------------------------|--|
| 20. Niwakka | Plough handle. See also <i>mutanak</i> and <i>laké</i> , Nos. 19 and 16 <i>supra</i> . |
| 21. Palai (Chaman) | The iron shoe of the plough. |
| 22. Pára... .. | A rake. |
| 23. Pulak (Toba) | Iron nail, with which ploughshare is fastened. |
| 24. Raghbel | Sieve. See <i>chughul</i> , No. 5 <i>supra</i> . |
| 25. Rambae | A short spud. |
| 26. Skanna | Grafting chisel. |
| 27. Spára | Ploughshare. |
| 28. Tabar | Axe. |
| 29. Trapae | A wooden spade for winnowing grain. |
| 30. Tsapanrai | A wedge in the plough. |
| 31. Yúm | A spade. |
| 32. Zagh | A yoke. |
| 33. Zghwandae | Wedges in the yoke. |

APPENDIX VI.

Notification by the Hon'ble the Agent to the Governor-General in Baluchistan.

No. 5019, dated Quetta, the 29th October 1906.—In exercise of the powers conferred by section 4 (2) of the Cantonments Act, 1889 (XIII of 1889), and with the previous sanction of the Governor-General in Council the Hon'ble the Agent to the Governor-General in Baluchistan is pleased, in supersession of his notification No. 1103, dated the 8th March 1904, and all previous notifications on the subject, to define the limits of the Quetta Cantonment as follows:—

Description of the Boundary of the Quetta Cantonment.

Boundary pillar No. 1 is situated near the West side of the Bridge leading to the Military Works Brickfield on the Right Bank of the Nullah which runs in a westerly direction at the South end of Little Road.

| | |
|---|--------------|
| Bearing to Right hand point of Murdar ... | 136° |
| Bearing to Left hand point of Takatu ... | 33° 40' |
| Bearing to Dome in Hindu Burning ground | 138° 50' |
| Bearing to centre of pier of Bridge leading to Military Works Brickfield ... | 100° 10' |
| Distance | 118 feet. |
| Bearing to South-East Corner of compound to the East of Officer's Quarters No. 8... | 353° 30' |
| Distance | 84 feet. |
| Magnetic variation | 3° 25' East. |

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|--|-------------------|-------------------------------------|
| From | To | | | |
| 1 | 2 | From pillar No. 1 the boundary runs in a South-Westerly direction along the right bank of the Nullah to pillar No. 2. | 255° 10' 0' | 944' |
| 2 | 3 | From pillar No. 2 the boundary follows the right bank of the Quetta (or Habib) river in a West and North-Westerly direction to pillar No. 3 situated just North of the centre of the Gymkhana. | 293° 0' 0' | 6,175' |

NOTE.—Published in Gazette of India, Part II, dated 3rd November 1906, pages 1426-1428.

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|--|-------------------|-------------------------------------|
| From | To | | | |
| 3 | 4 | From pillar No. 3 the boundary runs almost due North and passes just East of the Village Kazi Atta Muhammad, then crosses the Samunli Road to pillar No. 4 situated North of the Quarantine Camp and 200 yards West of the Railway. | 2° 15' 0" | 3,268' |
| 4 | 5 | From pillar No. 4 the boundary runs in the North-Easterly direction crossing the Railway to pillar No. 5 situated at the bend of the Baleli Road. | 34° 15' 0" | 1,842' |
| 5 | 6 | From pillar No. 5 the boundary runs in a North-North-Westerly direction first parallel to the Baleli Road which bends and crosses it at 900 feet and then in the direction of the old Pishin road to pillar No. 6 situated just West of the Litter Yard. | 343° 0' 0" | 2,718' |
| 6 | 7 | From pillar No. 6 the boundary runs in a North-North-Easterly direction skirting the old night soil depôt to pillar No. 7 situated at the North-West corner of the Cantonment. | 15° 36' 0" | 2,755' |
| 7 | 8 | From pillar No. 7 the boundary runs in an East-South-Easterly direction to pillar No. 8 situated 260 yards South of the Village Nao Gaun. | 101° 6' 0" | 2,555' |
| 8 | 9 | From pillar No. 8 the boundary continues in nearly the same direction to pillar No. 9 situated on the Quetta-Kach (Lytton) Road. | 99° 47' 0" | 4,429' |
| 9 | 10 | From pillar No. 9 the boundary follows the West side of the Quetta-Kach (Lytton) Road in a North-North-Easterly direction to pillar No. 10. | 25° 20' 0" | 6,512' |
| 10 | 11 | From pillar No. 10 the boundary continues in the same direction to pillar No. 11. | 25° 20' 0" | 2,000' |

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|---|-------------------|--|
| From | To | | | |
| 11 | 12 | From pillar No. 11 the boundary runs in an East-South-Easterly direction crossing the Quetta-Kach (Lytton) Road to pillar No. 12 situated on the East side of the road. | 108° 50' 0" | 500' |
| 12 | 13 | From pillar No. 12 the boundary continues in the same direction to pillar No. 13. | 108 50' 0" | 5,000' |
| 13 | 14 | From pillar No. 13 the boundary continues in the same direction to pillar No. 14. | 108° 50' 0" | 3,600' |
| 14 | 15 | From pillar No. 14 the boundary continues in the same direction to pillar No. 15. | 108° 50' 0" | 3,000' |
| 15 | 16 | From pillar No. 15 the boundary continues in the same direction to pillar No. 16. | 108° 50' 0" | 2,400' |
| 16 | 17 | From pillar No. 16 the boundary continues in the same direction crossing the Quetta-Hanna Road to pillar No. 17. | 108° 50' 0" | 1,425' |
| 17. | 18 | From pillar No. 17 the boundary runs in a North-Easterly direction to pillar No. 18. | 58° 51' 0" | 2,617' (Estimated by theodolite triangulation.) |
| 18 | 19 | From pillar No. 18, which is situated on a small hill to the North of Murdar Mountain, the boundary runs in a South-Easterly direction up the ridge of the spur to pillar No. 19. | 160° 59' 30" | 5,717' (Do.) |
| 19 | 20 | From pillar No. 19, which is situated on a mound on the top of the spur, the boundary runs in a Southerly direction to pillar No. 20. | 169° 40' 30" | 800' (Do.) |
| 20 | 21 | From pillar No. 20, which is situated on another mound, the boundary runs in a South-Easterly direction along the crest of the hill to pillar No. 21. | 146° 18' 0" | 1,671' (Do.) |

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|--|-------------------|--|
| From | To | | | |
| 21 | 22 | From pillar No. 21 the boundary runs in a South-Easterly direction to pillar No. 22 as before following the crest of the hill. | 149° 21' 40" | 4,272' (Estimated by theodolite triangulation.) |
| 22 | 23 | From pillar No. 22 the boundary following the crest of the hill crosses the Col at the head of the valley, and runs in a South-Westerly direction to pillar No. 23. | 202° 18' 50" | 3,892' (Do.) |
| 23 | 24 | From pillar No. 23, which is situated on a spur running out from the hill a little West of North of Murdar, the boundary runs following the ridge in a South-Westerly direction to pillar No. 24. | 241° 35' 0" | 2,524' (Do.) |
| 24 | 25 | From pillar No. 24, which is situated on the summit on the hill, the boundary runs in a South-Westerly direction to pillar No. 25. | 225° 17' 50" | 235' (Do.) |
| 25 | 26 | From pillar No. 25, which is situated on a mound near the summit, the boundary runs in a Westerly direction down the spur to a dry Nullah ascending the spur of the ridge the other side of the Nullah to pillar No. 26. | 275° 52' 0" | 8,103' (Do.) |
| 26 | 27 | From pillar No. 26, which is situated half way up the spur, the boundary runs in a Westerly direction to pillar No. 27. | 267° 11' 40" | 1,047' (Do.) |
| 27 | 28 | From pillar No. 27, which is situated on the ridge, the boundary runs along the ridge in a South-Westerly direction to pillar No. 28. | 213° 3' 30" | 1,579' (Do.) |
| 28 | 29 | From pillar No. 28 the boundary runs along the ridge in a Southerly direction to pillar No. 29. | 192° 19' 20" | 2,735' (Do.) |
| 29 | 30 | From pillar No. 29 the boundary runs in a South-Westerly direction along the ridge to pillar No. 30. | 238° 32' 20" | 903' (Do.) |

APPENDIX VI.

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|--|-------------------|--|
| From | To | | | |
| 30 | 31 | From pillar No. 30 the boundary runs in a straight line up a steep slope to pillar No. 31. | 223° 17' 40" | 3,552' (Estimated by theodolite triangulation.) |
| 31 | 32 | From pillar No. 31, which is situated on the summit of the hill West of Murdar, the boundary runs down a steep spur in a North-Westerly direction to pillar No. 32. | 333° 56' 20" | 4,787' (Do.) |
| 32 | 33 | From pillar No. 32, which is situated near the bottom of the spur, the boundary runs in a Westerly direction South of the unmetalled road to pillar No. 33. | 270° 30' 0" | 3,427' (Do.) |
| 33 | 34 | From pillar No. 33, which is situated at the branch of the unmetalled road running South from the Ordnance Lascar Lines, the boundary runs in a North-Westerly direction to pillar No. 34. | 333° 34' 0" | 875' (Do.) |
| 34 | 35 | From pillar No. 34 the boundary runs in a straight line in a Northerly direction to pillar No. 35. | 345° 10' 0" | 514' |
| 35 | 36 | From pillar No. 35 the boundary runs in a straight line in an Easterly direction to pillar No. 36. | 73° 50' 0" | 119' |
| 36 | 37 | From pillar No. 36 the boundary runs in a straight line along the drain on the West side of the unmetalled road in a Northerly direction to pillar No. 37. | 353° 20' 0" | 1,548' |
| 37 | 38 | From pillar No. 37 the boundary runs in a North-Westerly direction in a straight line to pillar No. 38. | 342° 20' 0" | 879' |
| 38 | 39 | From pillar No. 38 the boundary following the West side of the unmetalled road, runs in a North-Westerly direction to pillar No. 39. | 324° 30' 0" | 1,684' |

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|---|-------------------|-------------------------------------|
| From | To | | | |
| 39 | 1 | From pillar No. 39 the boundary following the right hand bank of the Nullah North of the Military Works Brickfield runs in a West-erly direction to pillar No. 1. | 275° 30' 0" | 1,634' |

Description of Boundary of the Hindu Burning ground situated within Cantonment Boundary, Quetta.

Burning ground Boundary pillar No. 1 is situated at the South-West Corner of the enclosure :—

| | | | | |
|----------------------------|-----|-----|-----|-----------|
| Bearing to C. B. P. No. 36 | ... | ... | ... | 117° 10' |
| Distance | ... | ... | ... | 93 feet. |
| Bearing to C. B. P. No. 35 | ... | ... | ... | 273° 30' |
| Distance | ... | ... | ... | 195 feet. |
| Bearing to C. B. P. No. 31 | ... | ... | ... | 134° 30' |

| PILLAR. | | DESCRIPTION. | Magnetic Bearing. | Direct Horizontal distance in feet. |
|---------|----|---|-------------------|-------------------------------------|
| From | To | | | |
| 1 | 2 | From pillar No. 1 the boundary runs in an Easterly direction in a straight line to pillar No. 2. | 78° 50' 0" | 260' |
| 2 | 3 | From pillar No. 2, which is situated at the South-East corner of the enclosure, the boundary runs in a Northerly direction to pillar No. 3. | 4° 0' 0" | 559' |
| 3 | 4 | From pillar No. 3, which is situated near the North-East corner of the enclosure, the boundary runs in a Westerly direction in a straight line to pillar No. 4. | 271° 0' 0" | 389' |
| 4 | 1 | From pillar No. 4 the boundary runs in a Southerly direction in a straight line to pillar No. 1. | 171° 40' 0" | 632' |