## Appendix D Zooarchaeological and archaobotanical information of the STP sites reviewed in this study

Table D.1 Dates, altitude, location, and faunal and floral remains identified at STP sites reviewed in this study

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Site** | **Site type** | **Faunal taxa** | **Flora taxa (food)\*** | **Major period (BP)** | **Area** | **Latitude (masl)** | **Reference** | **Note** |
| Mabucuo | settlement | Represented mainly by wild animals | - | Earlier than 4000 | STP | 4400 | Wang, unpublished data |  |
| Karuo | Settlement | *Macaca* sp.; *Lepus* sp.; *Ochotona* sp.; *Marmoto himalayan*; *Vulpes* sp.; *Sus* sp.; *Hydropotes inermes*; *Cervus elaphus; Capreolus capreolus;* Bovidae; *Procapra picticaudata; Naemorhedus goral; Capricornis* sp.*; Falco* sp*.; Anser* sp.; Cowry shell; *Moschus sifanicus; Pantholops hodgson; Cervus albirosfris; Muntiacus muntjak; Capricornis sumatraensis; Crossoptilon crossoptilon; Cervus nacneilli; Pseudois nayaur; Cervus unicolor; Ursus pruinosus; Canis lupus* | *Setaria italica; Panicum miliaceum; Chenopodium; Rubus; Artemisia; Potentilla/Fragaria/Duchesnea;* Poaceae | 4800-4100 | SETP | 3100 | Huang, W. and Leng, J., 1985. the Identification of the Fauna Remains and the Study of the Climate of the Plateau(卡若遗址兽骨鉴定与高原气候的研究), in Chang Du Ka Ruo, eds. CRACTAR (Cultural Relics Committee of Tibet Autonomous Region) and DHSU (Department of History of Sichuan University). Beijing: Cultural Relics Publishing House, pp. 160-169. Song, J., Gao, Y., Tang, L., Zhang, Z., Tang, M.H., Xu, H., Wangyal, T., Yuan, H., Li, L., Li, Y. and Wangdue, S., 2021. Farming and multi-resource subsistence in the third and second millennium BC: archaeobotanical evidence from Karuo. Archaeological and Anthropological Sciences, 13(3), pp.1-16. | \*We only calculated the botanical remains derived from the main period(4800-4200 BP) as reported by Song et al. (2021) |
| Xiaoenda | Settlement | *Cercopithecidae; Vulpes sp.;* Other Canidae; Other Carnivora; *Sus* sp.; *Moschidae;* Large Cervidae; Medium Cervidae; *Capreolus capreolus;* Other Cervidae; Large Bovidae; *Pseudois nayaur; Naemorhedus goral; Hemitragus jemlahicus; Ovis* sp.; Artiodactyla; *Marmota himalayana;* Sciuridae; Rodentia; Ochotonidae; *Lepus oiostolus* | - | 4900-4200 | SETP | 3140 | Zhang, Z., Chen, Z., Marshall, F., Lü, H., Lemoine, X., Wangyal, T., Dorje, T. and Liu, X., 2019. The importance of localized hunting of diverse animals to early inhabitants of the Eastern Tibetan Plateau at the Neolithic site of Xiaoenda. Quaternary International, 529, pp.38-46.  Li, Y., 2007.Animal bones and subsistence economy at Karuo site: an opinion on prehistoric agriculture in the hengduan mountain chain. Sichuan Relics, pp. 50-56. (in Chinese) |  |
| Yingpanshan | Settlement | *Alectoris chukar, Phasianus colchicus, Buteo hemilasius, Macaca thibetana, Canis familiaris, Selenarctos thibetanus, Arctonyx collaris, Sus domestica, Muntiacus reevesi, Cervus unicolor, Cervus nippon, Bos taurus\*, Naemorhedus caudatus,* *Lepus* sp, *Rhizomys* sp. Pisces, Reptilia, Lamellibranchiata, Gastropoda | *Prunes persica, Prunus mume, Prunus armeniaca, Setaria italica, Panicum miliaceum, Chenopodium, Setaria, Panicum, Digitaria, Commelina communis, Glycine soja, Perilla frutescens, Hippophae rhamnoides, Taxus chinensis, Rhus chinensis, Vitis* sp*., Celtis* sp*., Polygonaceae, Caprifoliaceae, Convolvulaceae* | 5300-4600 | ETP | 1650 | He, K., Jiang, C., Chen, J. 2009. A brief discussion on two methods of estimating meat amount from in zooarchaeology – taken an example from Yingpanshan site fauna. Archaeology and Relics. 2009(5); 95-99. (in Chinese)    Zhao, Z., and Chen, J., 2011 The result and analysis of flocation at Yingpanshan site, Mao County, Sichuan. Southern Archaeology. 2011(3); 60-67. (in Chinese) | \* The identification of *Bos taurus* still needs to be verified by up-to-date techniques. |
| Haxiu | Settlement | Aves; Phasianiae; *Macaca thibetana; Canis familiaris; Selenarctos thibetanus; Arctonyx collaris; Panthera sp.; Sus scrofa; Muntiacus reevesi; Cervus unicolor; Cervus nippon; Capreolus sp.; Bos* cf. *taurus; Naemorhedus caudatus; Hystrix* sp. | - | 5350-4850 | SETP | 2840 | He, K., Chen, J. 2006. The faunal remain identification report of Haxiu site, Maerkang. Chengdu archaeological discovery:22. (in Chinese)  d’Alpoim Guedes J, Hein A. Landscapes of prehistoric northwestern Sichuan: From early agriculture to pastoralist lifestyles. Journal of Field Archaeology. 2018 Feb 17;43(2):121-35. |  |
| Qugong | Cemetery,  Ritual? | *Bos gruniens\*; Ovis aries\*; Moschus moschiferus; Equus hemionus kiang; Canis familiaris; Aegypius monachus; Cervus* sp.*;* Wading bird; *Sus* sp. | *Hordeum vulgare var. nudum; Hordeum vulgare; Triticum aestivum; Setaria italica; Panicum miliaceum; Fagopyrum tataricum; Chenopodium;* Poaceae; *Artemisia sp.* | 3700-3000 | SCTP | 3680 | Zhou, B., 1999. Faunal Remains of Qugong Site, in Lasa Qugong, eds. IACASS (Institute of Archaeology Chinese Academy of Social Science) and CRCTAR (Cultural Relics Committee of Tibetan Autonomous Region). Beijing: The Encyclopedia of China Publishing House, 237-43. (in Chinese) Gao, Y., Yang, J., Ma, Z., Tong, Y. and Yang, X., 2021. New evidence from the Qugong site in the central Tibetan Plateau for the prehistoric Highland Silk Road. The Holocene, 31(2), pp.230-239. | \* The identification of *Bos gruniens* and *Ovis aries* still needs to be verified by up-to-date techniques. |
| Bangga | Settlement | - | *Hordeum vulgare; Triticum aestivum; Fagopyrum esculentum;* Chenopodioideae; Asteraceae; Cyperaceae; Fabaceae; *Malva sp.;* Poaceae; Polygonaceae; *Potentilla/Fragaria* | 3005-1800 | CSTP | 3673 | Tang, L., Lu, H., Spengler III, R.N., Boivin, N., Song, J., Wangdue, S., Chen, X., Liu, X. and Zhang, Z., 2021. The transition to a barley-dominant cultivation system in Tibet: First millennium BC archaeobotanical evidence from Bangga. Journal of Anthropological Archaeology, 61, pp.101-242. |  |
| Changguogou | Settlement? | - | *Triticum* aestivum L*.; Hordeum vulgare; Hordeum velgare* L. *var nudum; Secale* L.*; Avena nuda* L.*; Setaria italica* L.; *Pisum sativum* L.; *Potentilla anserina* L. | ~3500 | CSTP | 3570 | Fu, D., Ruan, R., Dai, X., Liu, Y. 2000. Analysis on the ancient barley, millet, and wheat from Changguogou, Tibet. The Crop Journal 26(4), pp.392-398. (in Chinese) Fu, D., Zhang, J., Tian, Y., Baguo, Ciren 1994. The charred ancient naked barley (Hordeum vulgare L. var. nudum) discovered in the mid range of Yalung Zangbo River. Journal of Southwest Agriculture University, 6. (in Chinese) Fu, D. 2001. The discovery, identification, and analysis of crop remains from Changguogou site, Tibet. Archaeology (3), pp.66-74. (in Chinese) |  |
| Gepa Serual Cemetary (Early Phase; Stone chamber tombs) | Cemetery | Pisces; *Ovis aries; Capra hircus; Ovis ammon; Bos taurus; Cervus nippon;* Rodentia | - | 3560-3000 | SWTP | 3780 | Hu, S., 2021. The faunal remains from Gepa Serual cemetary during 2017 excavation. Oral Presentation, 2021 Chinese National Zooarchaeological Conference, Qingdao, Shandong. |  |
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| Gepa Serual Cemetary (Late Phase; bury pit tombs) | Cemetery | *Pisces; Ovis aries; Capra hircus; Bos taurus; Bos gruniens; Cervus nippon; Equus caballus; Lepus tibetanus* | - | 2310-2127 | SWTP | 3780 |
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| Piyangdongga | Cemetery | *Equus caballus; Ovis aries* | - | 2725-2170 | SWTP | 4050 | Yao, J., Huo, W. 2001. The brief report of ancient cemetery of Piyang.Dongga. Archaeology. (06):14-31. (in Chinese) |  |
|
| Dingdong | Settlement | *Bos gruniens;* Ovicaprid | - | 2725-2170 | SWTP | 4100 | Lv，H. 2007. The brief report of Dingdong settlement site, Ali area, Tibet. Archaeology (11): 36-46 (in Chinese) |  |
|
| Gelintang | Cemetery | *Equus caballus; Ovis aries* | - | 2450-1950 | SWTP | 4090 | Chinese Tibetan Research Institute Sichuan University. 2008. Piyang Dongga Archaeological Report. Chengdu: Sichuan People Press:189-231; 255-266. (in Chinese) |  |
|
| Butaxiongqu | Cemetery | *Canis familiaris; Equus caballus; Ovis aries* | - | 2710-2360 | Nourthern Tibetan Autonomous | 4650 | Zhang, Z., Shargan, W., Lv, H., Suolang, Q. 2015. Identification and Analysis of the faunal remains from Butaxiongqu site in Anduo, North Tibet, Bulletin of Tibetology. 12 (in Chinese) |  |
| Quta Cemetary | Cemetery | *Equus caballus; Ovis aries;* Bos sp. | - | 2275-1800 | SWTP | 3710 | Tong, T., Li, L., Chilie, C., Yao, Y. 2015. Gurujia and Quta Cemetary in Ali, Tibet. Archaeology (07):29-50. (in Chinese) |  |
|
| Gurujia Cemetary | Cemetery | *Equus caballus; Ovis aries; Bos sp.; Canis familiaris* | - | 1855-1715 | SWTP | 4300 | Tong, T., Li, L., Huang, S., 2014. Report of 2012 excavation of Gurujia Cemetary in Gaer County, Ali, Tibet. Acta Archaeologica Sinica(04):563-587. (in Chinese) |  |
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| Kaerdong | Settlement | *Cervidae; Bos gruniens;* Ovicaprid | *Hordeum vulgare; Triticum aestivum; Fagopyrum tataricum; Oryza sativa;* Poaceae; *Bothriochloa ischaemum; Avena sp.;* Asteraceae; *Xanthium strumarium;* Chenopodioideae; *Chenopodium; Kochia; Salsola; Corispermum;* Cyperaceae; *Lipocarpha chinensis; Elsholtzia ciliata; Lepidium;* Polygonaceae; *Fragaria;* Leguminosae; Euphorbiaceae; *Viola prionantha* | 1555-1400 | SWTP | 4300 | Zhang, Z., Lv, H. 2017. Faunal remain analysis of Kaerdong site, Ali, western Tibet from 2013 excavation. Bulletin of Tibetology (01):252-272. (in Chinese) |  |
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Table D.2 Summery of the faunal reports of the site with quantitative and qualitative data

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|  | Faunal report of the sites with quantitative data | | | | |
| Site | Reference | Taxa | NISP | % | Recovery method |
| Karuo | Huang, W. and Leng, J., 1985. the Identification of the Fauna Remains and the Study of the Climate of the Plateau, in Chang Du Ka Ruo, eds. Cultural Relics Committee of Tibet Autonomous Region and Department of History of Sichuan University. Beijing: Cultural Relics Publishing House, pp. 160-169. (in Chinese) | *Anser* sp. | 4 | 0.9% | Hand picking without sieving |
| *Falco* sp. | 21 | 4.6% |
| *Sus* sp. | 32 | 6.9% |
| Bovidae indet. | 167 | 36.2% |
| *Hydropotes inermis* | 175 | 38.0% |
| *Capricornis* sp. | 1 | 0.2% |
| *Naemorhedus goral* | 38 | 8.2% |
| *Capreolus capreolus* | 15 | 3.3% |
| *Vulpes* sp. | 1 | 0.2% |
| *Macaca* sp. | 3 | 0.7% |
| *Lepus* sp. | 1 | 0.2% |
| *Rattus* sp. | 1 | 0.2% |
| *Marmota himalayana* | 2 | 0.4% |
| Total | 461 | 100.0% |
| Xiaoenda | Zhang, Z., Chen, Z., Marshall, F., Lü, H., Lemoine, X., Wangyal, T., Dorje, T. and Liu, X., 2019. The importance of localized hunting of diverse animals to early inhabitants of the Eastern Tibetan Plateau at the Neolithic site of Xiaoenda. Quaternary International, 529, pp.38-46. | Cercopithecidae | 1 | 0.1% | Hand picking with sieving |
| *Vulpes* sp. | 8 | 1.1% |
| Other Canidae | 8 | 1.1% |
| Other Carnivora | 13 | 1.8% |
| Suidae | 5 | 0.7% |
| Moschidae | 185 | 25.3% |
| Large Cervidae | 68 | 9.3% |
| Medium Cervidae | 45 | 6.2% |
| *Capreolus capreolus* | 82 | 11.2% |
| Other Cervidae | 11 | 1.5% |
| Large Bovidae | 5 | 0.7% |
| Small Bovidae | 43 | 5.9% |
| Other large Artiodactyla | 66 | 9.0% |
| Other medium Artiodactyla | 30 | 4.1% |
| Other small Artiodactyla | 135 | 18.5% |
| *Marmota himalayana* | 7 | 1.0% |
| Other Sciuridae | 1 | 0.1% |
| Other Rodentia | 7 | 1.0% |
| Ochotonidae | 6 | 0.8% |
| *Lepus oiostolus* | 4 | 0.5% |
| Total | 730 | 100.0% |
| Yingpanshan | He, K., Jiang, C., Chen, J. 2009. A brief discussion on two methods of estimating meat amount from in zooarchaeology – taken an example from Yingpanshan site fauna. Archaeology and Relics. 2009(5); 95-99. (in Chinese) | *Alectoris chukar* | 1 | 0.9% | Hand picking without sieving |
| *Phasianus colchicus* | 1 | 0.9% |
| *Buteo hemilasius* | 1 | 0.9% |
| *Macaca thibetana* | 3 | 2.8% |
| *Canis familiaris* | 3 | 2.8% |
| *Selenarctos thibetanus* | 2 | 1.9% |
| *Sus domestica* | 63 | 58.3% |
| *Muntiacus reevesi* | 10 | 9.3% |
| *Cervus unicolor* | 6 | 5.6% |
| *Cervus nippon* | 7 | 6.5% |
| *Bos taurus* | 3 | 2.8% |
| *Naemorhedus caudatus* | 3 | 2.8% |
| *Lepus* sp. | 1 | 0.9% |
| *Rhizomys* sp. | 4 | 3.7% |
| Total | 108 | 100.0% |
| Haxiu | He, K., Chen, J. 2006. The faunal remain identification report of Haxiu site, Maerkang. Chengdu archaeological discovery:22. (in Chinese) | Phasianidae | 13 | 3.1% | Hand picking without sieving |
| *Alectoris* sp. | 1 | 0.2% |
| *Macaca thibetana* | 1 | 0.2% |
| *Canis familiaris* | 7 | 1.7% |
| *Selenarctos thibetanus* | 5 | 1.2% |
| *Arctonyx collaris* | 3 | 0.7% |
| *Panthera* sp. | 4 | 1.0% |
| *Sus scrofa* | 4 | 1.0% |
| *Muntiainae reevesi* | 195 | 46.3% |
| *Cervus unicolor* | 108 | 25.7% |
| *Cervus nippon* | 39 | 9.3% |
| *Capreolus* sp. | 26 | 6.2% |
| *Bos taurus?* | 2 | 0.5% |
| *Naemorhedus caudatus* | 11 | 2.6% |
| *Hystrix* sp. | 2 | 0.5% |
| Total | 421 | 100.0% |
| Butaxiongqu | Zhang, Z., Shargan, W., Lv, H., Suolang, Q. 2015. Identification and Analysis of the faunal remains from Butaxiongqu site in Anduo, North Tibet, Bulletin of Tibetology. 12 (in Chinese) | *Canis familiaris* | 57 | 68.7% |  |
| *Equus caballus* | 12 | 14.5% | Hand picking without sieving |
| Ovicaprid | 14 | 16.9% |  |
| Total | 83 | 100.0% |  |
| Kaerdong | Zhang, Z., Shargan, W., Lv, H., Suolang, Q. 2015. Identification and Analysis of the faunal remains from Butaxiongqu site in Anduo, North Tibet, Bulletin of Tibetology. 12 (in Chinese) | Cervidae | 1 | 0.9% |  |
| *Bos gruniens* | 15 | 13.5% |  |
| Ovicaprid | 95 | 85.6% | Hand picking without sieving |
|  |  | Total | 111 | 100.0% |  |
| Faunal report of the sites with qualitative data | | | | | |
| Site | Reference | Taxa | Information | | |
| Qugong | Zhou, B., 1999. Faunal Remains of Qugong Site, in Lasa Qugong, eds. IACASS (Institute of Archaeology Chinese Academy of Social Science) and CRCTAR (Cultural Relics Committee of Tibetan Autonomous Region). Beijing: The Encyclopedia of China Publishing House, 237-43. (in Chinese) | *Bos grunniens* | a large quantity of bones, appeared in most of the contexts | | |
| *Ovis aries* | quite a large amount pf bones, appeared in many ash pits and trenches | | |
| Cervus sp. | quite a large amount of bones, appeared almost in every ash pit | | |
| *Sus* | a very small number, only appeared in 6 context | | |
| *Equus hemionus kiang* | - |  |  |
| *Canis familiaris* | there is a complete mandible | | |
| *Aegypius monachus* | a tibia and a femur identified in one ash pit | | |
| Bangga | Pers. comm. Zhang, 2021 | *Ovis aries* | large quantity of bones | | |
| *Capra hircus* | large quantity of bones | | |
| *Bos* sp. | should be domestic | |  |

Table D.3 The proportion of wild game at the STP sites reviewed in this study

|  |  |  |
| --- | --- | --- |
| Site | Median of Age (BP) | Portion of wild game |
| Xiaoenda | 4550 | 99.3% |
| Haxiu | 5100 | 98.3% |
| Klu lding | 3500 | 85.5% |
| Khok shung | 3150 | 76.6% |
| Kha lding | 2333 | 55.6% |
| Butaxiongqu | 2535 | 0.0% |
| Kaerdong | 1477 | 0.9% |
| Iha dong thang | 1287 | 0.0% |