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Studies on geographic distribution of wild *Poa pratensis* population and its community type in Yangtze ,Yellow and Lancang river source region

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Introduction *Poa pratensis* belonged to herbage plant ,which originated from Europe and northern Asia .*P.pratensis* distributed widely temperature zone of northern hemisphere .*P.prantensis* whose rhizomes are very strong is a kind of rhizome plant ,the ability to usurp on others space is much better (Ma ,2003) .Nowadays ,*P.pratensis* plant was used to pioneer plant seed to grazing lands ,being artificial rangeland and rebuild deteriorated grassland .But the study report on geographic distribution and plant community in Yangtze ,Yellow and Lancang river (short for YYLR) source region is much less .The objective of this study was to provide scientific reference value for further study .

Materials and methods Our study site was in YYLR source region (31°39'~36°16' N ,89°24'~102°23' E) of the east and southeast of Qinghai province . The administrative area include Yushu Tibetan Autonomous Prefecture ,Guoluo Tibetan Autonomous Prefecture ,Zeku County and Henan County of Huangnan Tibetan Autonomous Prefecture ,Tongde County and Xinghai County of Hainan Tibetan Autonomous Prefecture and Tanggula Township which are 16 county and 1 township ,and total land area in this region is 366400km² .The climate in this region is dominated by Southeast monsoon and high pressure of Siberia and soil is alpine meadow coarse-loam . The mean annual air temperature is -4°C ~ 3°C ,and annual precipitation is 260 ~ 770mm . We choosed primarily six principal samples and six associated samples of typical distribution of wild *P.pratensis* population with three replications in every sample .The height ,coverage ,density and underground biomass were measured by 50×50cm² square frame in principal sample within 50×50m² area ,and height and coverage measured in associated sample within 50×50cm² area . Meanwhile ,the altitude ,longitude and altitude were recorded with Global Positioning System ,and slope direction and degree were measured by compass instrument .

Results The wild *P.pratensis* distributed from 96°30'24.96" E to 100°57'31.2"E of longitude ,between 33°07'29.34" N and 34°46'12.9" N whose span were 4°24'6.24" of longitude ,1°38'43.56" of latitude ,respectively .The range of altitude is 3365m ~ 4500m .There are twelve plant community types that were *P.pratensis* + *Geranium* spp . ,*P.pratensis* + *Elymus nutans* , *Potentilla* , *anserina* + *P.pratensis* , *Ligularia* , *virgaurea* + *P.pratensis* , *P.anserina* + *Aconitum* , *tanguticum* + *P.pratensis* , *Deyeuxia* spp + *P.pratensis* , *E.nutans* + *P.pratensis* , *Carex moocroftii* + *P.pratensis* , *P.pratensis* + *Capsellabursa-pastoris* , *P.anserina* + *L.virgurea* , *P.pratensis* + *Polygonum sibiricum* , *P.fruticosa* + *Scirpus distigmaticus* (Table 1) . The important value of *P.pratensis* is 34.63 ,24.25 ,26.12 ,13.46 ,8.97 ,18.27 ,6.08 ,11.40 ,47.40 ,3.74 ,29.56 ,3.69 respectively in every community .

Table1 Grassland type of each site .

site	grassland type
Jimai Township ,Dari County	<i>P.pratensis</i> + <i>Geranium</i> spp .
Jianshe Township ,Dari County	<i>P.pratensis</i> + <i>Elymus nutans</i> , <i>Potentilla</i>
Manzhang Township ,Dari County	<i>Potentilla anserina</i> + <i>P.pratensis</i>
Mulong Gama ,Kequ Township ,Gande County	<i>Ligularia virgaurea</i> + <i>P.pratensis</i>
Mulong Wanma ,Kequ Township ,Gande County	<i>P.anserina</i> + <i>Aconitum tanguticum</i> + <i>P.pratensis</i>
Longge mountain ,Suohu Rima Township ,Jiuzhi County	<i>Deyeuxia</i> spp . + <i>P.pratensis</i>
Zhang'e vally ,Suohu Rima Township ,Jizhi County	<i>E.nutans</i> + <i>P.pratensis</i>
Dawu Township ,Maqin County	<i>Carex moocroftii</i> + <i>P.pratensis</i>
Hebei Township ,Tongde County	<i>P.pratensis</i> + <i>Capsellabursa-pastori</i>
sJielong Township ,Yushu County	<i>P.anserina</i> + <i>L.virgurea</i>
Jielong Township ,Yushu County	<i>P.pratensis</i> + <i>Polygonum sibiricum</i>
Jielong Township ,Yushu County	<i>P.fruticosa</i> + <i>Scirpus distigmaticus</i>

Conclusions Based on preliminary investigation on the field ,the wild *P.pratensis* is a kind of wide ecological spectrum species . It could be suitable for growing in the shrub meadow ,river bank ,mountain slope and under forest .*P.pratensis* population were basically dominated species and secondary species in each plant community .So we can rehabilitate degraded alpine meadow by scattering seeds of *P.pratensis* in order to change community succession stage that reached sub-extreme community or extreme community .

Reference

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