Resource of *Dactylis glomerata* in the Transverse Mountainous Area in the Southwest China

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There is an abundant resource of *Dactylis glomerata* L . in the transverse mountainous area in the southwest of China , including two subspecies *D* . *glomerata* L subsp . *Glomerata* and *D* . *glomerata* subsp . *Himalayensis* , the former as tetraploid and the latter as diploid . *D* . *glomerata* subsp . *Himalayensis* distributes mainly in Qinghai-Tibetan plateau and transverse mountainous area in the southwest China in Himalayas over N25° latitude with elevation between 1000m and 4500m , covering Tibetan autonomous region , Sichuan , Yunnan and Guizhou provinces . It is usually seen in the edge of forest and grassland in cold temperate and mid temperate zone with elevation between 1800m and 3500m . It can be found in all kinds of vegetations as associated species rather than a main or dominant species in the natural grassland . Considering the broad geographical distribution , natural distribution of *D* . *glomerata* subsp . *Himalayensis* is characterized by a continuum . However , discontinuous distribution of the species can be found , due to isolated evolution in part of the area because of the intricacy of landform and diversity of climate in the transverse mountains , in addition , the interruption of human activities that caused vegetation damage . *D* . *glomerata* L . , generally speaking , is more widely distributed in southwest China with lower elevation from 800m to 3500m , compared with *D* . *glomerata* subsp . *Himalayensis* . *D* . *glomerata* L . is scattered in a small area with less regional dominance than *D* . *glomerata* subsp . *Himalayensis* , usually seen on the places with frequent human activities such as the side of road , grassland and cropping field , even performing as a dominant species in some areas . Sometimes the subspecies of *D* . are mixed together in the same area in the mid temperate and cold temperate zone with elevation from 1500m to 3500m . Yet , the concrete evidence has not been observed that the two subspecies are formed a transition by natural crossbreeding .

According to the Flora of China , *D* . *glomerata* L . in China includes a species and two subspecies , distributed in many provinces in the southwest and the northwest in China with wild plants seen in Hebei , Hennan and Jiangshu provinces where *D* . *glomerata* L . is planted , while *D* . *glomerata* subsp . *Himalayensis* is in Jilong , Tibet . In the 90s last century , the resource of *D* . *glomerata* L . collected by the author in the pasture resource investigation in the northeast and the northwest area in Yunnan province , mainly belongs to subspecies of *D* . *glomerata* subsp . *Himalayensis* . It has been found that where *D* . *glomerata* L . is distributed , there is artificial pasture establishment . Based on the above statement , the author considers that *D* . *glomerata* subsp . *Himalayensis* found in transverse mountainous area is the native species and *D* . *glomerata* L . , is most possibily , the naturalized species or the introduced one . In recent years , *D* . *glomerata* L . has been widely found in transverse mountainous area in China , which has been mainly related to the extensive use of imported *D* . L . in the pasture improvement in the past twenty years in the west China . The performance and competition of *D* . *glomerata* L . is stronger than *D* . *glomerata* subsp . *Himalayensis* no matter where it was grown or collected . Therefore , considering the superposition in ecology adaptability of the two subspecies in large spectrum , it is necessary to protect the subspecies of *D* . *glomerata* subsp . *Himalayensis* in transverse mountainous area in China .

D . *glomerata* subsp . *Himalayensis* and the same sourced tetraploid can be crossbred with *D* . *glomerata* L . , from which the hybrid offspring has varieties of promising variation in chromosome karyotypes , tillers in seedling period , regeneration , dry matter yield , reproduction and disease resistance . In a word , the two subspecies have great potential for breeding and utilizing .