**Table S1.** Shared mtCOI haplotypes among all 790 individuals of *B. calyciflorus* complex.

| Sampling location | Shared hapltype | Individuals |
| --- | --- | --- |
| Lake | YCSH1 | YL01\_14, YL01\_34, YL02\_80, YL03\_5 |
| Yunlong | YCSH2 | YL01\_17, YL01\_23, YL02\_81, YL04\_8 |
|  | YCSH3 | YL02\_5, YL03\_21 |
|  | YCSH4 | YL04\_16, YL04\_19 |
|  | YCSH5 | YL06\_1, YL06\_15, YL06\_16, YL06\_21, YL06\_23, YL06\_25, YL06\_27, YL06\_28, |
|  |  | YL06\_3, YL06\_30, YL06\_32, YL06\_33, YL06\_35, YL06\_36, YL06\_38, YL06\_4, |
|  |  | YL06\_41, YL06\_42, YL06\_44, YL06\_7, YL06\_8, YL07\_10, YL07\_14, YL07\_19, |
|  |  | YL07\_2, YL07\_26, YL07\_27, YL07\_28, YL07\_29, YL07\_30, YL07\_35, YL07\_44, |
|  |  | YL07\_45, YL07\_47, YL07\_7, YL07\_8, YL08\_10, YL08\_19, YL08\_22, YL08\_26, |
|  |  | YL08\_28, YL08\_30, YL08\_31, YL08\_34, YL08\_37, YL08\_39, YL08\_8, YL08\_9, |
|  |  | YL09\_1, YL09\_10, YL09\_11, YL09\_12, YL09\_13, YL09\_16, YL09\_17, YL09\_18, |
|  |  | YL09\_19, YL09\_2, YL09\_20, YL09\_3, YL09\_4, YL09\_5, YL09\_6 |
|  | YCSH6 | YL06\_18, YL06\_2, YL07\_23, YL07\_3, YL07\_34, YL07\_6, YL08\_12, YL09\_8, YL09\_9 |
|  | YCSH7 | YL06\_24, YL06\_39, YL06\_40, YL07\_39, YL09\_15 |
|  | YCSH8 | YL06\_34, YL08\_23, YL08\_33 |
|  | YCSH9 | YL11\_6, YL12\_15, YL12\_16, YL02\_55 |
|  | YCSH10 | YL12\_1, YL12\_13, YL01\_27 |
|  | YCSH11 | YL12\_10, YL01\_10, YL01\_13 |
|  | YCSH12 | YL12\_21, YL01\_15, YL04\_2 |
|  | YCSH13 | YL12\_22, YL12\_23 |
|  | YCSH14 | YL12\_44, YL03\_19 |
|  | YCSH15 | YL12\_9, YL01\_11, YL01\_25, YL02\_65 |
| Lake | JCSH1 | JH01\_11, JH01\_19, JH01\_7, JH02\_12, JH03\_3, JH03\_36 |
| Jinghu | JCSH2 | JH01\_5, JH02\_37 |
|  | JCSH3 | JH04\_17, JH04\_24, JH05\_7, JH07\_5 |
|  | JCSH4 | JH04\_20, JH05\_11, JH09\_1, JH09\_34 |
|  | JCSH5 | JH04\_34, JH04\_7, JH05\_3 |
|  | JCSH6 | JH04\_46, JH05\_12, JH05\_20, JH07\_20, JH07\_46 |
|  | JCSH7 | JH04\_9, JH06\_10, JH06\_15, JH06\_22, JH06\_35, JH08\_1, JH08\_10, JH08\_14, |
|  |  | JH08\_15, JH08\_18, JH08\_19, JH08\_22, JH08\_3, JH08\_4, JH08\_5, JH08\_7 |
|  | JCSH8 | JH06\_12, JH06\_38, JH06\_8 |
|  | JCSH9 | JH06\_13, JH06\_14, JH06\_18, JH06\_2, JH06\_20, JH06\_24, JH06\_26, JH06\_27, |
|  |  | JH06\_28, JH06\_29, JH06\_3, JH06\_34, JH06\_37, JH06\_40, JH06\_41, JH06\_42, |
|  |  | JH06\_45, JH06\_6, JH07\_11, JH08\_12, JH08\_17, JH08\_21, JH08\_23, JH09\_11, |
|  |  | JH09\_16, JH09\_3, JH09\_7 |
|  | JCSH10 | JH10\_11, JH10\_36, JH04\_10, JH04\_15, JH04\_21, JH04\_22, JH04\_28, JH04\_29, |
|  |  | JH04\_43, JH04\_47, JH05\_16, JH05\_21 |
|  | JCSH11 | JH10\_22, JH04\_30, JH04\_45, JH06\_1, JH07\_36, JH09\_29 |
|  | JCSH12 | JH11\_22, JH06\_11, JH06\_17, JH06\_23, JH06\_25, JH06\_30, JH06\_44, JH06\_47, |
|  |  | JH06\_48, JH08\_6, JH09\_23 |
| Lake | HCSH1 | JN03\_14, JN03\_21, JN03\_27, JN03\_36, JN03\_41, JN03\_47, JN03\_48 |
| Jinniu | HCSH2 | JN05\_27, JN05\_44, JN05\_7, JN07\_17, JN07\_30, JN07\_43, JN08\_11, JN08\_15, |
|  |  | JN08\_17, JN08\_20, JN08\_29, JN09\_12, JN09\_13, JN09\_16, JN09\_20, JN09\_21, |
|  |  | JN09\_22, JN09\_25, JN09\_34, JN09\_45, JN11\_17, JN11\_9, JN01\_10, JN01\_15, |
|  |  | JN01\_17, JN01\_18, JN01\_9 |
|  | HCSH3 | JN05\_32, JN05\_48, JN11\_45, JN12\_13, JN12\_4, JN12\_9, JN01\_13, JN01\_16, JN01\_2, |
|  |  | JN01\_4, JN01\_5, JN01\_7, JN02\_42 |
|  | HCSH4 | JN12\_11, JN12\_12, JN12\_14, JN12\_15, JN12\_17, JN12\_18, JN12\_19, JN12\_22, |
|  |  | JN12\_3, JN12\_5, JN12\_7, JN12\_8, JN01\_14, JN01\_3, JN01\_6 |
| Lake | JHCSH1 | JH06\_16, JH06\_19, JH06\_4, JH06\_7, JH07\_10, JH07\_32, JH07\_9, JH08\_25, JH09\_13, |
| Jinghu |  | JH09\_18, JN12\_20, JN05\_1, JN05\_28, JN05\_40, JN05\_45 |
| & Lake | JHCSH2 | JH10\_16, JH10\_17, JN10\_31, JN10\_38, JN10\_42, JN10\_44, JN11\_14, JN11\_7, |
| Jinniu |  | JN02\_1, JN02\_12, JN02\_17, JN02\_18, JN02\_22, JN02\_23, JN02\_25, JN02\_26, |
|  |  | JN02\_30, JN02\_32, JN02\_33, JN02\_35, JN02\_41, JN02\_43, JN02\_46, JN02\_47, |
|  |  | JN02\_48, JN02\_6, JN03\_31, JN09\_18, JN09\_24, JN09\_30, JN09\_32, JN09\_33, |
|  |  | JN09\_35, JN09\_41, JN09\_44 |
|  | JHCSH3 | JH10\_18, JN10\_28, JN10\_32, JN10\_37, JN11\_33, JN11\_31, JN11\_25, JN11\_24, |
|  |  | JN12\_16, JN12\_6, JN02\_40, JN03\_10, JN03\_11, JN03\_12, JN03\_13, JN03\_16, |
|  |  | JN03\_18, JN03\_19, JN03\_22, JN03\_23, JN03\_24, JN03\_25, JN03\_29, JN03\_3, |
|  |  | JN03\_32, JN03\_33, JN03\_34, JN03\_35, JN03\_37, JN03\_38, JN03\_39, JN03\_4, |
|  |  | JN03\_40, JN03\_43, JN03\_44, JN03\_6, JN03\_7, JN03\_8, JN03\_9, JN04\_1, JN04\_11, |
|  |  | JN04\_12, JN04\_13, JN04\_19, JN04\_2, JN04\_20, JN04\_22, JN04\_25, JN04\_26, |
|  |  | JN04\_3, JN04\_48, JN04\_6, JN04\_9, JN05\_15, JN05\_26, JN06\_10, JN06\_11, JN06\_13, |
|  |  | JN06\_14, JN06\_16, JN06\_17, JN06\_19, JN06\_20, JN06\_21, JN06\_3, JN06\_6, JN06\_8, |
|  |  | JN07\_27 |
| Lake | JYCSH1 | JH10\_1, JH10\_10, JH10\_12, JH10\_13, JH10\_14, JH10\_28, JH10\_3, JH10\_4, JH10\_5, |
| Jinghu |  | JH10\_6, JH10\_9, JH11\_13, JH11\_14, JH11\_15, JH11\_16, JH11\_18, JH11\_20, |
| & Lake |  | JH11\_21, JH04\_1, JH04\_11, JH04\_12, JH04\_14, JH04\_16, JH04\_18, JH04\_2, |
| Yunlong |  | JH04\_23, JH04\_26, JH04\_27, JH04\_33, JH04\_35, JH04\_36, JH04\_37, JH04\_38, |
|  |  | JH04\_39, JH04\_4, JH04\_40, JH04\_41, JH04\_42, JH04\_5, JH04\_6,JH05\_13, JH05\_15, |
|  |  | JH05\_17, JH05\_18, JH05\_2, JH05\_5, JH05\_6, JH05\_8, JH06\_32, JH06\_36, JH06\_9, |
|  |  | JH07\_12, JH07\_13, JH07\_19, JH07\_2, JH07\_21, JH07\_24, JH07\_27, JH07\_29, |
|  |  | JH07\_3, JH07\_30, JH07\_31, JH07\_35, JH07\_38, JH07\_4,JH07\_43, JH07\_44, JH07\_45, |
|  |  | JH07\_6, JH07\_8, JH09\_10, JH09\_14, JH09\_21, JH09\_25, JH09\_31, JH09\_4, JH09\_8, |
|  |  | YL06\_43, YL09\_14, YL09\_21 |
|  | JYCSH2 | JH11\_19, JH11\_17, JH11\_25, JH11\_26, JH11\_30, JH11\_31, JH11\_32, YL12\_34 |
|  | JYCSH3 | JH11\_23, JH02\_39, YL12\_33 |
|  | JYCSH4 | JH12\_12, YL12\_20, YL12\_26, YL12\_3, YL12\_36, YL12\_8, YL01\_33, YL02\_50, |
|  |  | YL02\_85, YL03\_13, YL03\_22, YL03\_7, YL04\_14, YL04\_22, YL04\_27 |
|  | JYCSH5 | JH12\_15, JH12\_17, JH12\_23, JH12\_24, JH12\_29, JH12\_36, JH12\_6, JH01\_13, |
|  |  | JH01\_16, JH01\_18, JH01\_20, JH01\_25, JH01\_4, JH01\_8, JH02\_11, JH02\_22, |
|  |  | JH02\_26, JH02\_36, JH02\_9, JH03\_13, JH03\_15, JH03\_17, JH03\_18, JH03\_19, |
|  |  | JH03\_22, JH03\_39, YL11\_4, YL11\_5, YL12\_11, YL12\_2, YL12\_24, YL12\_31, |
|  |  | YL12\_38, YL12\_48, YL01\_31, YL02\_12, YL02\_60, YL03\_18, YL04\_28 |
|  | JYCSH6 | JH12\_18, JH12\_19, JH12\_21, JH12\_26, JH12\_30, JH12\_34, JH12\_35, JH01\_1, |
|  |  | JH01\_10, JH01\_12, JH01\_17, JH01\_21, JH01\_22, JH01\_23, JH02\_20, JH02\_23, |
|  |  | JH02\_3, JH02\_30, JH03\_11, JH03\_20, JH03\_28, JH03\_29, JH03\_30, JH03\_31, |
|  |  | JH03\_32, JH03\_8, YL12\_18, YL12\_19, YL12\_25, YL12\_32, YL12\_40, YL12\_41, |
|  |  | YL12\_42, YL12\_43, YL01\_16, YL01\_26, YL01\_35, YL01\_5, YL01\_8, YL01\_9, |
|  |  | YL02\_51, YL02\_54, YL02\_59, YL02\_68, YL02\_72, YL02\_74, YL02\_84, YL03\_1, |
|  |  | YL03\_11, YL03\_2, YL03\_23, YL03\_28, YL03\_29, YL03\_4, YL03\_8, YL04\_11, |
|  |  | YL04\_12, YL04\_15, YL04\_20, YL04\_34, YL04\_4, YL04\_5, YL04\_9 |
| Lake | HYCSH1 | JN01\_1, YL10\_49, YL10\_50 |
| Yunlong | HYCSH2 | JN05\_14, JN05\_17, JN05\_21, JN05\_24, JN05\_33, JN05\_47, JN05\_9, JN07\_16, |
| & Lake |  | JN07\_25, JN07\_42, JN07\_44, JN08\_1, JN08\_13, JN08\_19, JN08\_31, JN08\_6, |
| Jinniu |  | JN09\_14, JN09\_29, JN09\_37, JN09\_43, JN09\_9, YL05\_12, YL05\_14, YL05\_25, |
|  |  | YL05\_28, YL05\_30, YL05\_33, YL05\_38, YL05\_46 |
|  | HYCSH3 | JN08\_10, JN08\_9, JN09\_11, JN09\_15, JN09\_23, JN09\_38, JN09\_39, YL10\_40, |
|  |  | YL10\_9, YL05\_1, YL05\_13, YL05\_15, YL05\_18, YL05\_19, YL05\_20, YL05\_21, |
|  |  | YL05\_24, YL05\_29, YL05\_32, YL05\_4, YL05\_42, YL05\_43, YL05\_5, YL05\_6, |
|  |  | YL05\_8, YL06\_49, YL06\_6, YL07\_22 |
| Lake | ACSH | JN05\_11, JN05\_12, JN05\_13, JN05\_16, JN05\_19, JN05\_2, JN05\_20, JN05\_22, |
| Yunlong, |  | JN05\_23, JN05\_25, JN05\_29, JN05\_30, JN05\_34, JN05\_35, JN05\_36, JN05\_39, |
| Lake |  | JN05\_42, JN05\_46, JN05\_6, JN05\_8, JN07\_10, JN08\_21, JN08\_8, JN09\_31, |
| Jinghu |  | YL10\_11, YL10\_12, YL10\_15, YL10\_17, YL10\_18, YL10\_22, YL10\_25, YL10\_29, |
| & Lake |  | YL10\_31, YL10\_35, YL10\_51, YL10\_52, YL10\_53, YL10\_54, YL10\_55, YL10\_56, |
| Jinniu |  | YL10\_57, YL10\_6, YL10\_8, YL11\_1, YL11\_10, YL11\_12, YL05\_10, YL05\_23, |
|  |  | YL05\_26, YL05\_34, YL06\_29, YL07\_40, YL08\_1, YL08\_11, YL08\_13, YL08\_14, |
|  |  | YL08\_2, YL08\_20, YL08\_21, YL08\_25, YL08\_27, YL08\_29, YL08\_3, YL08\_32, |
|  |  | YL08\_35, YL08\_36, YL08\_38, YL08\_4, YL08\_41, YL08\_42, YL08\_43, YL08\_44, |
|  |  | YL08\_45, YL08\_47, YL08\_48, YL08\_5, YL08\_6, JH04\_13, JH04\_3 |

CSH represents shared haplotype, and the other codes are abbreviations for geographic locations corresponding to Supplementary Table 1