**Supplementary materials**



**Figure S1.** The monogenous frequency of gall midges from swollen galls on *N. sibirica* at S1(A) or S2(B) from 2018 to 2021, at two site(C) or among four years(D).



**Figure S2.** The parasitical characteristic of parasitoids of gall midges for swollen galls on *N. sibirica*. Parasitized gall midges and corresponding parasitoids were represented by red arrows and blue arrows, respectively.