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Biodiversity Committee, Chinese Academy of Sciences
cob-cox2) were designed to perform molecular typing of *S. horneri* samples. The 196 samples could be further distinguished into two forms, which varied in proportions at various locations, but coexisted in each of the spatio-temporal sampling. These results indicated that the floating *Sargassum* biomass in the Yellow Sea came from only two dominating haplotypes. The novel findings uncovered by this work will provide further insight into the underlying mechanisms of reoccurring golden tides in the Yellow Sea.

**Keywords:** Golden tide; *Sargassum horneri*; Genetic diversity; Organelle genome; Yellow Sea

**Progress of plant diversity research in North Asia**

**Progress on Mapping Asia Plants in North Asia**

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North Asia, referring to the Asian part of Russia, covered almost all the Ural Federal District, the Siberian Federal District and the Far East Federal District, which accounts for about 75% of Russia area and 1/3 of Asia. It contains 27 first-level administrative regions, including 5 republic countries, 12 states, 1 autonomous prefecture, 3 autonomous regions and 6 border regions. The earliest plant research from this area began in 1724 after the establishment of the Petersburg Academy of Sciences (the predecessor of the Russian Academy of Sciences) during the Russian Empire era, and so far it has 300 years of history.

Initial botanical studies were undertaken by natural expeditions, the first accounts of representative flora were published, *The Distribution of Flora of Northern Ural* (Флора Веверного Урала о Распространении Растений) (1854), *The First Record of the Amur Flora* (Первенцы амурской флоры)
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(1859), etc. At the end of the 19th century, with the construction and development of the Siberian railway, a group of botanists represented by Komarov (ВЛ Комаров) carried out extensive botany examinations and systematic studies in the Siberia and the Far East area. In the following decades, many major regional floristic works have been published, examples include: *Flora of Manchuria* (Флора Маньчжурии) (Комаров, 1901-1950, 5 volumes); *The Flora of Russia Asian part* (Флора Азиатской России) (Фелченко, 1912-1924, 15 volumes); *The Flora of Siberia and Far East Area* (Флора Сибири и Дальнего Востока) (Буш, 1913-1931,6 volumes); *Flora of Ural* (Флора Урала) (Говорухин ВС, 1937); etc. Those literatures have laid a considerable foundation for taxonomists and botanists in North Asia and Northeast Asia. Further, over hundred years of development, the plant systematics research in North Asia has been constantly advanced. So far, there has been more than 400 flora publications at different geographical scales. However, since more than 95% of the literatures’ language are in Russian, these documents are still very limited used by the world.

In recent years, biodiversity informatics research has rapidly advanced into the era of big data. To have a better understanding the natural resources and strengthen the conservation strategies and managements, it is urgent to know exactly the plant diversity and its distribution patterns. In addition, integrating “the Belt and Road” countries to the whole Asia, even the Eurasian continent, is critical to explore the origin and evolution of vascular plants and the conversation.

Aiming to give a more comprehensive understanding of the history and current process of plant diversity researches in North Asia. We collected 362 flora literatures in North Asia (at provincial-level and above), classified these books, and summarized each’s progress of the compilation of plant records. Meanwhile, we also recommended ten classic books with landmark significance, and introduced nine botanists who have made important contributions to the development of plant systems in North Asia.

**Key words:** North Asia, flora, Ural, Siberia, Far East