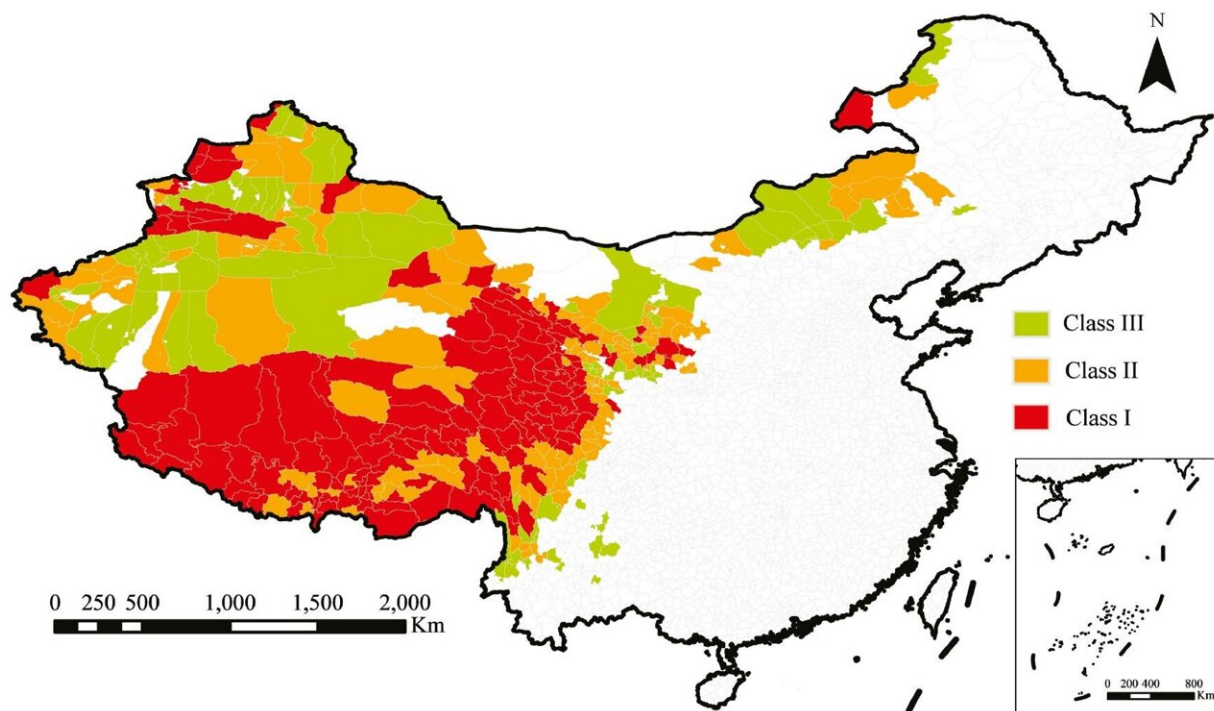


# Molecular epidemiology and the control and prevention of cystic echinococcosis in China

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Epidemiologic map of echinococcosis at the county level in China based on the results of the national epidemiologic survey of echinococcosis from 2012–2016 (Tibet Autonomous Region based on the survey results of 2016), cited from the *Technical Plan for Echinococcosis Control* (2019 version). Notes: Class I represents the prevalence in humans  $\geq 1\%$  or infection rate of dogs  $\geq 5\%$ ; Class II represents  $0.1\% \leq$  prevalence in humans Zoonoses (2023). DOI: 10.15212/ZOONOSSES-2023-0009

As a zoonotic parasitic disease, echinococcosis is a severe global public health issue caused by the larvae of *Echinococcus* spp. Not only does echinococcosis threaten human health, but echinococcosis also causes enormous economic losses.

China ranks first in the range of echinococcosis endemic areas, the number of infected patients, and the number of threatened populations worldwide, hence the most severe echinococcosis epidemic currently exists in China. Cystic echinococcosis (CE) is the most important form of echinococcosis. Accounting for nearly 80% of all echinococcosis cases, CE is the most important cause of the echinococcosis disease burden. *Echinococcus granulosus sensu lato* (s.l.) is the causative agent of CE and is considered a multi-genotype complex.

The different genotypes of *E. granulosus* s.l. exhibit differences in morphology, transmission route, and epidemic characteristics. The corresponding clinical characteristics, clinical treatment, and vaccine responses also differ between the genotypes of *E. granulosus* s.l. During the past two decades, China has implemented echinococcosis control and [prevention programs](#) in endemic areas with impressive results. Specifically, the prevalence of echinococcosis has decreased.

With such extraordinary achievements, precise control and prevention of the genotypes of *E. granulosus* s.l. have never been more important. Nevertheless, insufficient attention has been devoted to molecular epidemiology in the current control programs, and the lack of genotype data from humans and animal hosts exacerbates the situation.

Hence, based on the ongoing control and surveillance programs, collecting additional molecular epidemiologic data and [geographic information](#) from humans and animals, as well as monitoring the [clinical manifestations](#) and drug and vaccine responses of the different genotypes, are invaluable for establishing a molecular epidemiologic

database, which in turn can enhance the [precise control](#) and prevention of echinococcosis.

Related research is published in the journal *Zoonoses*.

**More information:** Ying Wang et al, Molecular Epidemiology and the Control and Prevention of Cystic Echinococcosis in China: What is Known from Current Research, *Zoonoses* (2023). [DOI: 10.15212/ZOONOSES-2023-0009](#)

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