

A visit to the Chao Tachinidae collection at IZCAS in Beijing: *personal impressions and perspectives*

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Introduction

Over the past 25 years, I have had the opportunity to visit many of the world's major Tachinidae collections housed in some of the most prestigious natural history institutions. Many of these holdings were assembled and curated by outstanding colleagues whose work has had a lasting impact on the literature on tachinid systematics. While they are too numerous to name individually in this short note, they share a striking feature: the fauna of the southeastern Palaearctic Region—especially across the broad Palaearctic–Oriental transition zone—is generally represented by relatively little material, often originating from old collections from scattered localities. This long-standing gap has shaped my perception of global tachinid diversity for many years. For this reason, the opportunity to visit a major collection specifically centred on East and Southeast Asian fauna was particularly compelling. The only other comparable body of Oriental tachinid material I have examined in person is the extensive collection assembled by Hiroshi Shima (Fukuoka, Japan)—an authority who certainly needs no introduction to the readers of this newsletter. Such collections offer a window onto a component of tachinid diversity that remains comparatively unfamiliar to many researchers working in Europe and North America. The diversity of this portion of Asia is simply overwhelming. Well-curated and extensive holdings are uniquely capable of conveying this richness, sometimes within just a few metres of cabinets. It was an opportunity not to be missed.

During two recent visits to China, in September 2024 and December 2025, kindly hosted by Prof. Dong Zhang (Beijing Forestry University, Beijing) and Prof. Chun-tian Zhang (Shenyang Normal University, Shenyang, Liaoning) and funded by the National Foreign Expert Program of the Ministry of Human Resources and Social Security (MOHRSS), I had the opportunity to gain an overall view of the Chien-ming Chao type tachinid collection preserved at the Institute of Zoology of the Chinese Academy of Sciences (Beijing) (IZCAS) (Figs. 1–4). The institute also houses a large and important general collection of Chinese Tachinidae (Figs. 5–8), much of which has been identified to species level, primarily through the efforts of Chien-ming Chao, Chun-tian Zhang and, in part, Hiroshi Shima (Fukuoka, Japan). By the way, the December 2025 visit was carried out together with Thomas Pape (Natural History Museum of Denmark, Copenhagen), allowing us to jointly explore and discuss the remarkable oestroid holdings there.



Figure 1. Dr. Kuiyan Zhang and I in the IZCAS type collection, September 2024.



Figures 2–4. 2. Thomas Pape examining the type collection in IZCAS. 3. Selected drawers of Tachinidae type material in the Chao Collection, IZCAS. 4. The type series of *Crosskeya gigas* Shima & Chao, 1988 (Tachinidae, Goniini) in the Chao type collection.

I felt it worthwhile to share here a brief account based largely on personal impressions, because despite the extraordinary importance of Chao's collection and the broader holdings at IZCAS, many fellow tachinidologists may not yet have a clear sense of the scientific value of this material. According to information kindly provided by Dr. Kuiyan Zhang (Fig. 1), the Chao collection at IZCAS houses the type material of 301 tachinid species, comprising a total of 3,186 primary and secondary type specimens. The general collection currently includes 62,196 specimens, now identified as representing 861 species. From an organisational perspective, the collections are divided into two main sections, housed on different floors of the same building and curated by different staff members. The type material (both primary and secondary types) is located on an upper floor under the responsibility of Dr. Kuiyan Zhang. This material can only be examined on site and cannot be removed from the designated rooms; the section is well equipped with microscopes and suitable workspaces. On a lower floor, the remaining holdings (Fig. 5)—unidentified and identified specimens that have not been recognised as type material—are stored and are similarly accessible through well-equipped work areas and microscopes (Fig. 8), under the responsibility of Dr. Chun-yan Jiang. Overall, the specimens are in excellent condition and curated through regular monitoring for potential pest infestations. Even a preliminary examination of the unidentified material reveals specimens of considerable taxonomic interest that should be taken into account in any work dealing with the Chinese, or more broadly Palearctic and Oriental, fauna. For instance, there are remarkable series of taxa known in the literature from only a handful of specimens. In several cases, this material originates from remote and difficult-to-access mountainous regions, many of which are currently undergoing rapid environmental change driven by climate and land-use dynamics.



Figures 5–8. 5. A view of the general Tachinidae collection at IZCAS. 6. A drawer in the general Tachinidae collection. 7. Wide-angle view of the general insect collections at IZCAS. 8. Thomas Pape working in the IZCAS general collection workspace.

What struck me most was the sheer amount of material belonging to high-altitude elements such as *Hystriomyia*, *Everestiomyia*, and several *Tachina*–*Nowickia*-like flies, as well as other forms that cannot be readily assigned to any currently recognised genus. I recall experiencing a similar feeling during one of my first visits to the Canadian National Collection when—guided by Jim O’Hara and the late Monty Wood—I was confronted for the first time with the astonishing diversity of *Peleteria* and related forms collected along the Andes: perhaps still *Peleteria*, perhaps only “disguised” as such. It is difficult to convey the peculiar yet deeply enjoyable sensation that entomologists experience when faced with this level of taxonomic complexity.

Although I did not have the opportunity to examine every drawer at IZCAS in detail, my general impression is that medium- and large-sized species are considerably better represented than smaller-bodied taxa. This is a common feature of many tachinid collections worldwide, but it also highlights an area where future collecting efforts could—and should—be further strengthened. Overall, the scientific value of these holdings is extremely high. An additional strength of IZCAS is its leadership in large-scale sampling programmes across China employing a wide range of collecting methods, including Malaise trapping. As a result, the collection is steadily and substantially expanding. During our discussions, Dong Zhang, Chun-tian Zhang (Fig. 9) and I shared the view that there is a clear need—and indeed a responsibility—to make a concrete contribution to the international tachinidological community. To this end, we are planning, over the coming years, a careful revision and digitalisation of the primary types of the Chao collection. Our aim is to facilitate taxonomic research on Tachinidae not only within China but also across neighbouring regions, where access to comparative type material remains a major bottleneck.



Figure 9. Chun-tian Zhang (left) and Dong Zhang at dinner after our visit to IZCAS, December 2025.