

Natural History and Amateur Scholars in Japan from the Seventeenth to Nineteenth Centuries

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1. Introduction

In the hundred years from the mid-eighteenth century on, natural history had a wide appeal not only in Europe but also in Asia¹. The discovery of the New World revolutionized knowledge about the universe. Museums, collections, and botanical gardens gathered exotic objects, and these fascinated people. In Europe, botanists joined botanical expeditions and went abroad to gather new and rare specimens.

In Japan, natural history developed during the Edo period (1603-1868) and influenced not only scholarship but the larger culture as well. Unlike its European counterparts, however, Natural history in Japan is marked by development without expedition abroad. Under the foreign policy of the Shōgunate (the feudal government) voyaging overseas was forbidden to Japanese. Even imported information was suspect; only Chinese and Dutch merchants were allowed into Japanese ports from 1639 to 1854 and their influence and movement were monitored and curtailed. Although the policy prevented exploration abroad, the Japanese still enjoyed a flourishing culture, which included an interest in natural history, which spread not only among intellectuals and wealthy aristocrats, but also among the general public. Many enjoyed gardening², while others bred animals: goldfish, birds, frogs, and even flies. They also showed their work to each other, taking pleasure in competition. Big cities like Edo (now Tokyo), Osaka, and Kyoto featured exhibitions of rare animals. Many people, from specialists to amateurs, worked to stage these events, and played important roles in the foundation of natural history in modern Japan.

¹ The following draws on Lynn Barber, *The Heyday of Natural History, 1820-1870*, London, Jonathan Cape, 1980, and Lynn L. Merrill, *The romance of Victorian natural history*, Oxford University Press, 1989. On Japan, Saburo Nishimura, *Bunmei no naka no Hakubutsu gaku (Natural History on Civilization)*, Kinokuniya, 1999, gives a useful introduction. Riko Imahashi, *Edo no kacho-ga Hakubutsugaku wo meguru bunka to sono hyosyou (Birds and Flowers: The Representation of Natural History during the Edo Period)*, Skydore, 1995, focuses on natural history in the Edo period from the point of literature and painting.

² A special exhibition, “Flowers in Bloom: The Culture of Gardening in Edo” held at the Tokyo Metropolitan Edo-Tokyo Museum from 30th July to 1st September 2013. This exhibition focused on gardening and gardening culture in the Edo period.

The expansion of natural history brought new research methods to scholars. At first, text was more for study than empirical research, but with the increasing of interest in objects themselves, people began to collect real objects and exchanged knowledge through exhibits and conferences. Such exhibits were open to the public and free of charge, and, in consequence, drew crowds.

This paper will first of all narrate the development of natural history in Japan in the Edo period (1603-1868), focusing in particular on the adoption and refinement of Chinese herbalism, and then will address the role that amateur scholars played in Japanese natural history. The latter part of this essay will introduce several noteworthy collectors, most importantly Kenkadô Kimura, whose remarkable private collection attracted visitors by the thousands, and whose hospitality to these strangers also testifies to his enthusiasm for sharing and improving the knowledge foundations of natural history in Japan.

2. From Traditional Herbalism to Natural History

Chinese herbalism long influenced the Japanese medical tradition, which both absorbed and modified it over centuries. Li Shizhen's *Bencao gangmu* (known as the *Compendium of Materia Medica* in Europe) was published in China in 1596, and imported into Japan by 1604, becoming a canonical text for the study of herbalism in Japan for two hundred years. This work consists of 52 volumes, listing 1,892 species classified according to 17 categories³. Some of the animals, plants, and minerals indigenous to China differed from those of Japan, thus Japanese scholars included species native to Japan in their interpretations and annotations, and compiled an additional volume containing many Japanese animals, plants, and minerals. The most famous Japanese translation of the work was *Yamato Honzo* by Kaibara Ekiken, who added a large number of native animals, plants, and minerals to the original⁴.

Shogun Tokugawa Yoshimune's Kyôhō Reforms urged the development of domestic pharmacopeia, with the aim of promoting financial reconstruction. Until then, a large amount of silver and copper was flowing out of the country because of the importation of foreign raw materials for medicines. Therefore, new species or subspecies were sought all over Japan, and the government promoted the commercialization and development of drugs and the domestic cultivation of Korean ginseng⁵.

³ Water, fire, earth, gold, minerals, herbs, vegetable, fruit, wood, cloth, insect, squamata, shell, bird, animal, and human.

⁴ The bibliography on the history of natural history in Japan is quite vast and we will limit ourselves to some recent great works. Ekizô Ueno, *Nihon Hakubutsugakushi*, Kôdansha, 1989, Naohide Isono, *Nihon Hakubutsushi Sôgô Nempyô*, Heibonsha, 2012, are classic accounts and comprehensively treat natural history in Japan.

⁵ Kazuhiko Kasaya, "Tokugawa Yoshimune no Kyôhō no kaikaku to Honzô," and Kazuo Tashiro, "Kyôhō kaikakuki no Chôsen yakuzai chôsa," in Yamada Keiji ed., *Higashi Asia no Honzô to Hakubutsu gaku no sekai ge*, Shibunkaku, 1995.

In 1721, Yoshimune commissioned expeditions to find and collect previously unknown medicinal materials all over the country. An herbalist, Noro Genjyo (1694-1761), and a feudal government inspector, Uemura Saheiji (1695-1777), were ordered to collect medicinal herbs in the fields and mountains. Tamura Ransui (1718-1776), a doctor, worked on cultivating ginseng. The Shogunal herb garden at Koishikawa in Edo grew to ten times its former size, and new plots opened at Sado, Sunpu, and Nikko.

Yoshimune organized another countrywide project in 1734, ordering investigations into not only pharmacopeia, but also into any natural production that promoted local industry. This was part of Yoshimune's plan to stimulate new industries and increase national wealth. At that time, famines remained a large threat in Japan, and this investigation was one of the measures undertaken to relieve potential famines and to encourage new industries.

These new investigations privileged empirical analysis over traditional reliance solely on textual authorities, and so, scholars began to study the "materials" themselves.

3. Properties of Natural History and Collections

Yoshimune's new policies also lead to a transformation of Japanese natural history. New species or subspecies were sought, to substitute foreign ingredients in medicinal recipes. Scholars often met and discussed identification and nomenclature, and elaborated on their debates in books. Over time, they organized various societies and study groups and held academic conferences on medicine.

The scholars had conferences to discuss materials not found in textbooks. The first conference was held by Hiraga Gen'nai (1728-1780), a scholar of natural history and a polymath. He organized annual exhibitions, called pharmacopoeia assemblies (*yakuhin-e*), in Edo from 1757 on. The fifth and last one of these, held in 1762, was the biggest, and included not only pharmacopoeia but also natural products. In addition to newly discovered things and natural products from distant lands as entries, Hiraga also wanted to gather articles from within his own country's borders. Scholars nationwide attended this showcasing of rare articles, and those who could not come to Edo were able to obtain items through the network of the pharmacies.

From the mid-eighteenth century, many societies and groups devoted to natural history were established, and held exhibitions or pharmacopoeia assemblies nationwide. Contemporary records show that the exhibitions were extremely popular⁶. For example, the Shogunate Medical

⁶ Siken Terakado, *Edo hanjyôki*, Edo, 1832-36.

School in Edo held the first exhibition in 1792 every year since then until 1867, the end of the Shogunate system⁷. Exhibitions were usually open to the general public, and free of charge. The Shogunate Medical School, allied with the lords and direct retainers of the Shogun, established an association of natural history called the “Shabenkai,” and this group met regularly every month to identify specimens and their taxonomy, and also display rare finds⁸.

Several exhibitions occurred outside Edo, in Fukui, Wakayama, and Kumamoto⁹. In Osaka, Buntei Iwnaga, a doctor and herbalist, held annual exhibitions starting in 1835. In Nagoya, Shizan Asai, a doctor to the lord of the feudal domain of Owari, organized annual exhibitions at the domain’s medical school starting in 1831. Toyohumi Mizutani, an herbalist, organized an herbalists group of the feudal domain of Owari. It called “Shôhyakusya.” Keisuke Ito, an herbalist and a member of this group, later studied under Philipp Franz von Siebold, who was in Japan from (1823 to 1828), doing whatever he was supposed to be doing here. Siebold presented Ito with Carl Peter Thunberg’s book *Flora Japonica* (Leipzig 1784), which Ito later translated into Japanese and annotated. Through his studies under Siebold, Ito became the first Japanese to learn Linnaean taxonomy, and introduce it into Japanese botanical studies.

4. Success of Amateur Scholars of Natural History

Amateur scholars also pursued natural history and sometimes played important roles as collectors of objects and rare books. Many of them were wealthy merchants. They lent their collections to pharmacopeia assemblies, intending to increase the scope and depth of their study. One of these was Sekitei Kinouchi in Shiga, an herbalist and an especially devoted collection of stones. His huge stone collection, he started at age eleven and eventually growing to over two thousand items, was so significant at the time that it even appeared in an illustrated tourist guidebook of the road from Edo to Kyoto¹⁰. Kinouchi wrote an encyclopedia of stones in fifteen volumes, the postscript of which was written by Kenkadô Kimura, the most famous amateur scholar in this era. Kinouchi also gathered one thousand arrowheads and stone implements, and analyzed Japan's prehistorical societies as an archaeologist. He founded the stone society “Rousekisha,” which had more than three hundred members, most of them his friends.

⁷ Naohide Isono, “Yakuhinkai/Bussankai nenpyô(zôhoban),” *Keio gijyuku daigaku hiyoshi kiyô* (Shizen kagaku) Vol. 29, 2001.

⁸ *Ibid.*, pp. 472 – 474.

⁹ Isono, “Yakuhinkai/Bussankai nenpyô(zôhoban),” *op.cit.*

¹⁰ Ritou Akisato, *Tokaidô Meisho zue 2, in Tokaidô Meisho zue vol.1*, Shinten sha, 1984, pp. 214-215.

5. Kenkadô Kimura: an amateur collector and merchant-scholar

Osaka boasted many merchant scholars and collectors, thanks in part to its role as the hub of mercantile traffic between eastern and western Japan, and the consequent shops there dealing in foreign products. The most famous of these merchant-scholars was Kimura Kenkadô (1736-1802).

Very little information on Kenkadô's life has come down to us, however, according to his autobiography he studied herbalism and painting from childhood his father's advice¹¹. Evidently, he was a sickly child, and his father thought that it was good for him to admire the plants in the garden of the house. Kenkadô started to study painting at age six. At the age of 12, his father took him to Kyoto to meet Tsunenoshin Tsushima, an herbalist and organized pharmacopoeia assemblies (*yakuhin-e*) several times in Osaka later. He became a disciple of Tshushima at the age sixteen. Subsequently, he also became a disciple of Ranzan Ono, a most well-known scholar of herbalism (1729-1810) at this era, when he was forty-nine years old. Ranzan taught at Kyoto and the Shogunate Medical School in Edo, and had more than a thousand students in his lifetime.

Kenkadô, by profession a saké brewer and merchant, perfectly fit the profile of the rising mercantile "nouveau riche" of his times. As dedicated to his intellectual advancement as he was to capital accumulation, Kenkadô devoted much of his life to collecting books and natural and artificial rarities from Japan and foreign countries. According to his own diary¹², you could find a total of 39,000 people passed through his household from the time he was forty-four years to his death at sixty-three¹³. People who visited Kenkadô's house came from various social milieux, including aristocrats and their retainers, Confucian scholars, doctors, painters, gardeners, publishers, dilettantes, and even diplomats from the Netherlands and Korea¹⁴. Among these visitors were Ōkyo Maruyama (1733-1795) and Jakuchu Ito (1716-1800), the greatest painters in the era, famous for their renderings of plants and animals. Chikuzan Nakai (1730-1804) and Riken Nakai (1732-1817), scholars of Kaitokudô School in Osaka. Kaitokudô was established

¹¹ Kanenari Akatsuki ed., "Kenkadô zatsuroku", in Nihon zuihitsu taisei henshûbu ed., *Nihon zuihitsu taisei, 1-14*, Yoshikawa kôbunkan, 1993, pp. 11-19.

¹² The latest reprinted version of *Diary of Kenkadô* is; Yoshihisa Mizuta, Takashi Noguchi, and Michiko Arisaka (eds.), *Kanpon Kenkadô Nikki*, Geika Shoin, 2009.

¹³ Michiko Arisaka, "Kanpon Kenkadô Nikki Gedai," in Mizuta eds., *Kanpon Kenkadô Nikki, op.cit.*, p. 522.

¹⁴ The visitors came from a variety of occupations and ranks. For example, Confucian scholars, Nativists, classical scholars, doctors, Westernist scholars, herbologists, astronomers, historians, gunnery specialists, translators, painters, calligraphers, poets, writers, playwrights, dilettantes, stone collectors, virtuosos, curiosos, numismatists, wholesale dealers, publishers, pharmacists, botanists, horticulturists, potters, lords, retainers, Shogunate retainers, priests, craftsmen, artisans, peasants, the chief and doctor of the Dutch factory, Chinese painters, ambassadors of Korea, et cetera. Michiko Arisaka analyzed all of visitors in Michiko Arisaka, "Kanpon Kenkadô Nikki Gedai, in Mizuta (eds.), *Kanpon Kenkadô Nikki, op.cit.*

by wealthy merchant in Osaka in 1724, and it was licensed by the Shogunate government in 1726 by Shogun Yoshimune. It existed until 1886. As Kaitokudo closed to Kenkadô's house, the other scholars also visited his house.

Kenkadô's collection was composed of more than two thousand Japanese, Chinese, and western books and manuscripts; specimens of animals, plants, shells, and minerals, calligraphic works and paintings (Chinese and Japanese), scientific instruments (e.g., microscopes) atlases, old coins, and other antiques. In his autobiography, Kenkadô insisted that his collection was meant to facilitate research and study, and was simply a record of his personal love of exotic objects¹⁵. For him, the collection represented his attempt to understand the systematic principles of the cosmos, through organization and categorization. He encouraged the research of others and willingly lent objects in his collection to aid the research of his friends.

On the other hand, Kenkado was eager to his own study and he both produced his own books and supported the publishing of others. He wrote an essay appraising archeology, as well as an original world atlas (a considerable accomplishment considering Japan's closure to the west at the time). Kenkadô also promoted the reprinting of rare ancient books.

Kenkado's collection, unfortunately, was largely lost in a fire in October 1791. As he never made an inventory it is impossible to know the full extent of his collection. However, after his death, the Shogunate asked his nephew to investigate and compile an inventory of his remaining collection. After the government obtained these records, the surviving items in his collection and especially rare books (approximately 2,800) and maps were sent to the government, and eventually saved in large part at the Shoheizaka school, which was under the direct control of the government (Kenkado's collection is currently in the National Archives of Japan)¹⁶. Fortunately, his famous shell and stones collection still exists, and is kept in the Osaka Museum of Natural History.

Kenkadô did not have a designated room for viewing his collection. Instead, he would discuss what the guests wanted to see and then he, his wife, or his and mistress, acting as curators, would retrieve appropriate objects from his storehouse¹⁷. Judging from his extant shell and stone collection, many of his items were kept in special handled boxes for easy retrieval¹⁸. One of Kenkadô's guests gives a full account of a visit to the collection: On 20 May 20, 1798, Kenkadô received a priest named Rizen. He first served his guest tea from Nanjing, sweets from Beijing, and rare foods from China and India. Kenkadô then showed Rizen seventy-one rare

¹⁵ Akatsuki, "Kenkadô zatsuroku", op.cit., p17.

¹⁶ Tomokatsu Inoue, "Kenkadô no zousho ni tsuite", in Osaka rekishi hakubutsukan ed., *Naniwa no Chi no kyojin Kimura Kenkadô*, Shibunkaku shuppan, Kyoto, 2003, pp. 153-167.

¹⁷ Shun sui Ray, "Zaitsu kiji", in Tajihiko Ikuo eds., *Shin nihon koten bungaku taikei Vol.97*, Iwanami shoten, 2000, pp. 235-6.

¹⁸ Jun'ichi Doi, "Kimura Kenkadô no hakubutsukan," in Iso'o Munemasa ed., *Edo jidai Kamigata no chi'iki to bungaku*, Dôhō shuppan, 1992.

shells, a globe from the Netherlands, fossils, arrowheads, jewels, a comb from Russia, calligraphy and paintings from Japan, China and Korea, a sword from France, male and female stuffed grouses, and many other things¹⁹.

Kenkadô's house resembled a salon, where many visitors of all classes gathered to view his collection and talk with him. The guests who visited his house were not only amateurs and hobbyists but also intellectuals who visited to deepen their research and have discussions with him, even though he was just an amateur scholar. Kenkadô's house also functioned as a museum and a library. Guests could read foreign books in his library, explore his collection, and discuss their own studies beyond class and rank probably also occurred in Kenkadô's house.

6. Conclusion

Natural history in Japan differs from that of the West because of the Shogunate's foreign policies. Europeans had greater access to lands beyond Europe to satisfy their search for rare objects, while curious Japanese sought rare natural objects within their own borders, because of the prohibition on travel abroad. Herbalists found and named subspecies or new species of domestic plants and animals.

Botanists and scholars of natural history succeeded in crossing the rigid class and professional boundaries of the time to share information and improve their knowledge. The most remarkable of the amateur scholars of this time was Kenkadô Kimura, whose great collection and dedication to collaborative discussion and study encouraged the development of the sciences in Japan.



17-19世紀、日本における博物学とアマチュア学者について

伊藤 真実子

18世紀後半から19世紀後半にかけての約100年間は、洋の東西をとわず、博物趣味ブームがおこった時代であった。様々な職種および、階層の人々が、家庭で鳥や昆虫を愛で、草花の栽培を楽しみ、珍しい貝殻、化石、石などをコレクションした。人々は互いの自

¹⁹ Ibid.

慢のコレクションを見せ合うことを楽しんだ。ヨーロッパでの博物学の隆盛を後押ししたのは、大航海時代からの異国への探検調査、蒐集にあった。王侯貴族などは、航海や探検のパトロンとなり、異国の動植物、珍しいものを持ち帰らせ、自らのコレクションとし、百科全書の項目が増えていった。一方、日本では、ヨーロッパ諸国とは異なり、外国への調査、探求航海は禁じられており、外国の書籍、文物の流入は限定的であった。しかしながら、8代将軍徳川吉宗の政策により、あまねく諸国での薬品の材料となる動植物などの調査が命じられたことにより、各地の動植物についての細かな違いや亜種などが調査、蒐集された。

互いの知識を高めあい、書物からの知識だけでなく、実際のものから考究するために、動植物、貝、石などの標本を蒐集する人々もあり、それまでの本草学から博物学へとかわっていった。大名や学者などを中心に同好会が作られたほか、本業を別にもつ、アマチュア学者の活躍も顕著であった。

なかでも、稀代の蒐集家として知られる大阪の木村兼葭堂（1736－1802）の多岐にわたる活動は目を見張るものであった。『兼葭堂日記』によると、44歳であった1779年から67歳で没する1802年まで（途中4年分を欠く）、ほぼ19年余りの間に6500人、延べにすると39,000人の名がある。儒学者、蘭学者、医者、本草家、画家、文人、幕臣、植木屋、版元などさまざまな職種、身分の人々が、北は松前から南は薩摩種子島まで、時にはオランダ商館長も江戸参府途中に訪れ、遠隔地の人とは書翰で交流を深めた。兼葭堂は文物の蒐集のほか、その画才と本草学の知識をいかして、山水画や植物・動物図譜、本草学の写本を残した。

木村兼葭堂宅の近くには、懐徳堂があった。懐徳堂を訪れるために全国から来た人のなかには、木村兼葭堂宅の書籍や珍しい文物を見る人もあった。木村兼葭堂宅への訪問は、書籍やものから得る知識だけでなく、木村兼葭堂との会話から得られる知識、さらには、関心の近い人々への紹介なども得られたであろう。木村兼葭堂は、学問を生業としていたわけではない、商人学者であったが、懐徳堂にも近いという地の利と、蒐集した書籍とモノ、そして本人の評判が、多くの人を集め、また、人々が寄ることにより、さらに情報が得られていくことになった。この時代、木村兼葭堂のような、アマチュアのコレクター、学者のような存在が、さまざまな職種、身分を超えて、広く人々を媒介する存在となり、博物学の充実と発展に貢献した。