

Naturalizing Li Shizhen's *Bencao gangmu* in Early-modern Japan: The Cases of *Honchō shokkan*, *Yamato honzō*, and *Wakan sansai zue*

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Introduction

It is widely recognized by historians of natural history that Li Shizhen's 李時珍 (1518–1593) *Bencao gangmu* 本草綱目 (Classified *Materia Medica*) played a major role in the development of *honzō* studies (or *honzōgaku*) in early modern Japan. This landmark opus in the history of the Chinese *bencao* tradition was printed for the first time in 1596 in China and was frequently reissued up until the early 20th century.¹ In Japan, Li Shizhen's work was imported shortly after its publication in China, and as early as the 1630s, Japanese reprints of the book appeared with diacritic signs assisting its reading.²

The book aroused the curiosity of a wide range of intellectuals, especially physicians and Confucian scholars. It was first and foremost regarded as a reference book for identifying natural substances and assigning correct names because of the vast erudition on which it was based. Its systematic and orderly character appeared also as a model to be followed. The book was also highly valued for the information it provided on the various uses—especially therapeutic—of the

¹ See for example Georges Métailié, “The *Bencao gangmu* of Li Shizhen: An Innovation in Natural History?” in *Innovation in Chinese Medicine*, ed. Elisabeth Hsu (Cambridge: Cambridge University Press, 2001), pp. 221–261.

² See Mayanagi Makoto 真柳誠, “*Honzō kōmoku* no Nihon hatsu torai kiroku to Kinryō-bon no shozai” 『本草綱目』の日本初渡来記録と金陵本の所在 [Record of the first importation of the *Bencao gangmu* into Japan and the location of the Kinryō edition], *Kanpō no rinsbō* 漢方の臨床 45:11 (1998), pp. 1431–1439 (with additions dated 2010, 2014, and 2018), available at: <http://square.umin.ac.jp/mayanagi/paper01/kinryou.htm>; also the digital exhibition of the National Diet Library titled “Egakareta dōbutsu, shokubutsu: Edo jidai no hakubutsushi” 描かれた動物・植物：江戸時代の博物誌 [Animals and Plants Described: Natural Histories of Edo period], available at: <https://www.ndl.go.jp/nature/cha1/index.html>.

products it covered, or for its drug formulation recipes.³ As a consequence, *honzō* studies blossomed in Japan during the 17th century, producing a wide range of books reflecting one or several aspects of the Chinese model. A series of encyclopedic books were published at the turn of the 18th century such as *Honchō shokkan* 本朝食鑑 (Mirror of Our Country's Foodstuffs, 1697), *Kōeki honzō taisei* 広益本草大成 (Comprehensive *Materia Medica* for a Large Benefit, 1698), *Yamato honzō* 大和本草 (*Materia Medica* of Japan, 1709), and *Wakan sansai zue* 和漢三才図会 (Illustrated Sino-Japanese Encyclopedia of the Three Realms, 1712). They show the strong commitment of Japanese scholars to deepening their knowledge of the natural world and to bringing it closer to the general public.

Among these books, historians generally emphasize the role of the *Yamato honzō* in the emergence of a “native” science of *honzō* in Japan. According to them, the book went further than its Chinese model in exploring natural substances by dissociating them from medical concerns. For example, Yabe Ichirō 矢部一郎 states that the *Yamato honzō* is the first example of a Japanese contribution to the field of “natural history” (*bakubutsugaku*).⁴ Ueno Masuzō 上野益三, for his part, praises Kaibara Ekiken's 貝原益軒 (1630–1714) scientific spirit, which led him to introduce into his work the fruits of his personal observations and investigations, thus taking the first steps on the road to “natural history.”⁵ Both researchers stress the importance of having broken with the medical dimension of the *Bencao gangmu*, and of having paved the way to “natural history,” a field of study they seem to highly value because of its proximity to Western science. This narrative is so widely accepted nowadays that the originality or modernity of the *Yamato honzō*'s approach to natural substances is seldom questioned. However, the same historians often point out that the *Bencao gangmu* was read and used by specialists of *honzō* until the late 18th century, as shown by Ono Ranzan's 小野蘭山 (1729–1810) famous *Honzō kōmoku keimō* 本草綱目啓蒙 (1803–1806), a thorough commentary on Li Shizhen's classic based on the author's lifelong observations of nature and his outstanding scholarship. Ueno states that long after the *Yamato honzō*'s publication, the *Bencao gangmu* remained a must-read book difficult to replace.⁶

It is however somewhat contradictory to assert simultaneously that Kaibara Ekiken opened up a new field of research which made the *Bencao gangmu* obsolete, and that the *Bencao gangmu* itself continued to be read until the end of the

³ Métaillé says: “The compilation of these recipes should not be under-estimated, for it makes the *Bencao gangmu* a precious reservoir of practical medical knowledge accessible to physicians in the late Ming.” Op. cit., p. 252.

⁴ Yabe Ichirō 矢部一郎, *Edo no honzō: yakubutsugaku to bakubutsugaku* 江戸の本草：薬物学と博物学 (Tokyo: Saiensha, 1984), pp. 64–66.

⁵ Ueno Masuzō 上野益三, *Nihon bakubutsugakushi* 日本博物学史, *Kōdansha gakujutsu bunko* 講談社学術文庫 (Tokyo: Kōdansha, first printed in 1973, reprinted in 1989), p. 67.

⁶ Ueno (op. cit.), p. 96.

18th century. To get a clearer picture, we need to take a closer look at the way Japanese scholars read and used the *Bencao gangmu* and the extent to which they departed from mere book-knowledge. It is also important not to focus solely on Kaibara Ekiken, but to also take into account his contemporaries, who were themselves very active and who may have taken different approaches.

The purpose of the present paper will be to shed light on the transformations that took place at the turn of the 18th century in the perception and description of natural things, by examining the content and the structure of entries in a selection of encyclopedic works. Because of the extensive nature of these works, this study will restrict itself to the field of animals, and more particularly to fish. Why fish? As a major component of Japanese diet at the time, it is to be expected that the subject caught scholars' attention. As a matter of fact, while entries dedicated to "fish"⁷ in the *Bencao gangmu* are split into groups of 31 (scaly fish), 28 (scaleless fish) and 9 (addendum) entries, this number increases by groups of 39 (river fish) and 83 (sea fish) entries in the *Yamato honzō*, showing Kaibara's interest in the subject. To put Kaibara's approach in perspective, two other treatises will be considered: the *Honchō shokkan* and the *Wakan sansai zue*, published respectively shortly before and shortly after the *Yamato honzō* itself.

After a brief presentation of the three books, a selection of entries will be examined in order to highlight each author's approach to the topic and general purpose, and also in order to evaluate the respective weight given to Chinese scholarship and to personal observations. My aim is to demonstrate that each work has its own reasoned method, and that Kaibara Ekiken's approach is not as innovative as it has been claimed.

The *Bencao gangmu*

Before examining the aforementioned books, it might be useful to recall the main features of the *Bencao gangmu* which will play an important role in our analysis. As a Confucian scholar, Li Shizhen was eager to propose an organized and systematized vision of the "natural world," in line with the rationalistic approach promoted by Neo-Confucian scholarship.⁸

"Natural world" in this context has a broader meaning than it does today. Entries in the *Bencao gangmu* not only covered living beings, minerals, and plants, but

⁷ Fish has to be understood here in the popular meaning, that is, as "any animal living exclusively in the water; primarily denoting vertebrate animals provided with fins and destitute of limbs; but extended to include various cetaceans, crustaceans, mollusks, etc." (Oxford English Dictionary).

⁸ For an analysis of Li Shizhen's classification, see Joseph Needham, with the collaboration of Lu Gwei-Djen et al., *Science and Civilisation in China*, Vol. 6, *Biology and Biological Technology*, Part 1 (Cambridge: Cambridge University Press, 1986), pp. 308–320. For a general reflection on Neo-Confucian thinking on knowledge, see Joseph Needham, *Science and Civilisation in China*, Vol. 2, *History of Scientific Thought* (Cambridge: Cambridge University Press), 1985, pp. 472–489.

also included, albeit marginally, a range of products that were manufactured, such as rice wine (*shu*⁹ 酒) in the cereals section. To take this diversity into account, we will thus refer to the objects discussed in the entries as “substances.” The term used by Li Shizhen is “kind” (*shu* 種), but the term found in Japanese books is more often “thing” (*mono* 物). According to Georges Métailié, Li Shizhen introduced a new rationale in classifying substances. He distinguished two levels: a more encompassing level called “section” (*bu* 部) and a more restricted level called “category” (*rui* 類). Li Shizhen explains his classification in the prefatory notes to his book as follows:

The old books treat in a undifferentiated manner jades, minerals, waters, and earths; they do not distinguish between “insects,” scaly creatures, and creatures with shells; some “insects” have an entry in the tree section, some trees in the herb section, . . . I have now ordered everything into sections, beginning with waters and fires, followed by earths, [because] Water and Fire precede the myriad things and the Earth is the mother of the myriad things. Then [follow] the metals and minerals, [because] they come from the Earth; then the herbs, grains, vegetables, fruits, and trees, from the smallest to the biggest; then the clothes and utensils, [made] from herbs and trees; then the “insects,” the scaly creatures, the shelled creatures, the birds, and the four-legged animals, ending with man: from the vile to the precious.¹⁰

Although most entries were about plants, 430 entries were devoted to animals. These entries were divided into five sections (*bu* 部): “insects” (*chū* 虫), scaly [creatures] (*rin* 鱗), shelled [creatures] (*kai* 介), birds (*kin* 禽) and four-legged [animals] (*jū* 獸). Scaly [creatures] were further divided into four categories (*rui* 類): dragons (*ryū* 龍), snakes (*ja* 蛇), fish (*gyo* 魚), and scaleless fish (*muringyo* 無鱗魚). Fish were thus divided into scaly ones (31) and scaleless ones (28). The number of substances considered in each category was rather modest, showing Li Shizhen’s limited knowledge of marine animals. The fact that “scaleless fish” were classified among “scaly animals” appears quite strange to modern eyes but no contemporary scholar found it odd. “Scaleless fish” was a very heterogeneous category, including marine mammals such as whales, dolphins, and sharks, as well as cuttlefish, octopus, eels, jellyfish, and lobsters. Under the heading “supplements,” Li Shizhen addressed the different ways of processing and eating fish (raw, vinegared, salted) and fish by-products such as oil.¹¹

Li Shizhen’s work relied on a wide variety of sources, including not only ancient and recent books of the *bencao* tradition, but also a vast collection of medical or historical books, travel diaries, and official documents of many

⁹ Pronunciation of Chinese characters will be given in Japanese, for the sake of simplicity.

¹⁰ Métailié (op. cit.), p. 227.

¹¹ There are many editions of the *Bencao gangmu*. For this study, I will use the Japanese edition published in 1714. See for example the copy housed at the National Diet Library (DOI: 10.11501/2556533). The fascicles dealing with “Scaly [creatures]” are fascicle 43 and fascicle 44.

sorts.¹² On the basis of this immense erudition, and by pointing out the errors of his predecessors, he selected the most relevant and reliable information related to the given substance, such as its correct name, its morphology, and its positive or negative effects on the human body. Entries were organized according to fixed headings, the most important ones being: “Explaining the Names” (*shakumyō* 釈名), “Collected Commentaries” (*shūge* 集解),¹³ “Flavor and Thermo-influence” (*kimi* 気味), “Main Therapeutic Indications” (*shuji* 主治), and “Appended Recipes” (*fubō* 附方),¹⁴ showing the methodical and systematic nature of his approach.

The Japanese *honzō* Treatises

The importation of the *Bencao gangmu* into Japan was immediately followed by the publication of a number of Japanese treatises that were primarily concerned with giving the “correct” vernacular names to the *Bencao gangmu*’s entries. Hayashi Razan’s 林羅山 (1583–1657) *Tashikiben* 多識編 (Collection of Wide Knowledge) printed in 1630 was the first to tackle the task and to draw attention to this encyclopedic work. It contained a list of the Chinese entries of the *Bencao gangmu*, with the corresponding vernacular names, using Chinese characters as phonograms. Such an undertaking was not totally new in Japan. Since the Heian period, it had been a major concern for Japanese physicians to identify medicinal substances that could be found on Japanese soil in order to replace imported products.¹⁵ Edo scientists could rely on Minamoto no Shitagō’s 源順 (911–983) *Wamyō ruijushō* 倭名類聚抄 (Categorized Notes on Yamato Names, 931–938), also known as *Wamyōshō*, which, interestingly enough, went through many re-editions during the 17th century.

Because of the thoroughness of Li Shizhen’s investigation, Japanese scholars were strongly encouraged to give a new impetus to this task of identification and to correct past errors. The task was complicated for two reasons. Many substances known in China had no counterpart in Japan, and conversely, many substances widely known in Japan seemed to be unknown to Chinese scholars. This issue of identification would keep Japanese scholars busy for a very long time as we will see later.

It is also important to note that works on *materia medica* such as the *Bencao gangmu* provided in addition a variety of nutritional information. Food was considered to be part of the *materia medica*. Knowing which plant could be consumed—and how—was part of the knowledge expected from a physician. Specialized

¹² See Métaillé (op. cit.), p. 222.

¹³ “An assembly of important quotations concerned with the habitat and nature of the thing” according to Needham et al., *Science and Civilization in China*, Vol. 6, Part 1 (op. cit.), p. 316.

¹⁴ See Métaillé (op. cit.), p. 250, for other translations. Needham et al., *Science and Civilization in China*, Vol. 6, Part 1 (op. cit.), refer to these sub-headings respectively as “essential properties” (*kimi*), “principal uses” (*shuji*), and “collection of prescriptions” (*fubō*).

¹⁵ For example, a 20-fascicle edition of the book was published as early as 1617.

works in this field did exist in China and they attracted as much attention as the *bencao* works themselves. For example, the *Shinru bencao* 食物本草 (Nutritional Natural History) was, in parallel with the *Bencao gangmu*, widely read in Japan during the 17th century,¹⁶ giving rise to a local literature focused on food. The three books which we propose to discuss were published at a time when the success of this kind of encyclopedia was at its highest.¹⁷

The *Honchō shokkan* (Mirror of Our Country's Foodstuffs)

The *Honchō shokkan* 本朝食鑑 is the work of an Edo physician called Hitomi Hitsudai 人見必大 (d. 1701).¹⁸ His twelve-fascicle encyclopedia, printed in 1697, is fairly representative of the high level of scholarship Japanese scholars had achieved in the field of *materia medica* by the late seventeenth century. The book was written in classical Chinese (*kanbun* 漢文) and its 442 entries were exclusively devoted to edible products.¹⁹ Entries were patterned on the *Bencao gangmu*'s model and adopted similar headings. The book did not, however, blindly follow its model. As suggested by the name, the *Honchō shokkan* focused exclusively on substances that were known in Japan. The author put a special emphasis on substances of animal origin, to which eight out of twelve fascicles were devoted. The classification in the *Honchō shokkan* broadly followed that of the *Bencao gangmu*. Animals were split into “Birds,” “Scaly [creatures],” “Shelled [creatures],” “Four-legged and farm [animals]” (*jūchikubu* 獸畜部), and “Snakes and ‘insects.’” In other words, snakes and dragons were no longer classified as “scaly [creatures],” the latter category being exclusively composed of fish.

Fish was definitely a major topic for the author of the *Honchō shokkan*, as can be seen by the number of entries (91) and the number of fascicles (3) devoted to the subject (**Tables 1 and 2**). The “scaly [creatures]” section was split into four subsections (*ru*) according to the creatures' living environment (rivers and lakes vs. great rivers and the sea) and their scaly or scaleless nature. A number of species unknown to Li Shizhen, but widely consumed in Japan, such as *saba*, *katsuo*, *buri*, *sabara*, *ankō*, or *mebaru* (**Table 2**), were introduced with a wealth of information on their morphology, their fishing areas, and methods for consuming and processing them.

¹⁶ According to Needham, it is difficult not to get lost in the maze of editions of this book, some of which attribute false paternity to reputed scholars of ancient times. See *Science and Civilisation in China*, Vol. 6, Part 1 (op. cit.), pp. 353–354. The most important of these works is the one supposedly based on a compilation of Li Gao 李杲 (1180–1251), completed by Li Shizhen (22 *juan* 卷) and printed in 1638. In Japan, the book was reprinted at Kyoto, in 1651.

¹⁷ Yabe (op. cit.), pp. 54–55; Ueno (op. cit.), pp. 141–142.

¹⁸ Hitsudai's father was a native of Kyoto, but he moved to Edo when he joined the shogun's staff as a physician. See Hitomi Hitsudai, *Honchō shokkan*, trans. & ed. Shimada Isao 島田勇雄, vol. 1, *Tōyō bunko* 東洋文庫 (Tokyo: Heibonsha, 1980), pp. 283–284. For the original edition, see the copy housed in the National Diet Library (DOI: 10.11501/2557332).

¹⁹ Yabe (op. cit.), pp. 55–56.

The *Yamato honzō* (*Materia medica* of Japan)

As regards Kaibara Ekiken's *Yamato honzō* (*Materia Medica* of Japan, 1709), it was a 16-fascicle encyclopedia²⁰ claiming a direct filiation with the tradition of *honzō* (*materia medica*), and more particularly with the *Bencao gangmu*. Like its Chinese model, it covered the three realms of plants, minerals, and animals, with three fascicles devoted to animals, among which one was devoted to fish. Historians generally emphasize Kaibara's focus on Japanese substances, but we have seen that the earlier *Honchō shokkan* was already focused on Japanese products. If the *Yamato honzō* with its 1,366 entries was of greater scope, it is to be noted that Kaibara cites the *Honchō shokkan* as a reference for edible products and makes abundant use of it.²¹

Contrary to what the title suggests, not all the 1,366 entries of the *Yamato honzō* dealt with Japanese substances. 772 of them, that is, more than half, were substances that had been listed and named in the *Bencao gangmu*. As regards the remaining substances, a number were labeled “Japanese items” (*nahin* 倭品) because they were only observed in Japan and had no Chinese names. Some of them were labeled “foreign” (*gai* 外) or “barbarian substances” (*banshu* 蛮種) because they were mainly known from Chinese books or were imported products.

Kaibara also deviated from his model when it came to classification. He did not adopt Li Shizhen's two-level classification. He used the term *rui* 類 for all categories, regardless of the level of classification. Moreover, he did not hesitate to remove ancient categories, such as that of scaly [creatures], which he replaced with “fish.” Following the *Honchō shokkan*, a distinction between “river fish” and “sea fish” was introduced. For each category, the number of entries was significantly higher than in the *Bencao gangmu* (Table 1)²²: 39 river fish (18 “Japanese,” 1 “foreign”) and 83 sea fish (37 “Japanese,” 11 “foreign,” 1 “barbarian”).

Another important feature of Kaibara's encyclopedia was his use of the vernacular. Among the three authors, he was the only one to adopt this mode of writing, even though his terminology consisted mainly of Chinese terms. It nevertheless showed Kaibara's willingness to broaden the audience of *honzō* studies.

In the preliminary notes of the fascicle devoted to fish, Kaibara stressed the diversity of fish in Japan and the impossibility of knowing them all:

In general, there are a large number of fish varieties. Each province has its specific products (*hin* 品) and they cannot be thoroughly investigated. There are differences from one place to another in the provinces. Some products exist in one place and do not exist in others. Morphology, nature, and flavor may be different.

²⁰ To be precise, the printed edition was composed of 16 fascicles, 2 fascicles of supplements, and 3 fascicles of illustrations.

²¹ *Yamato honzō*, in *Ekiken zenshū* 益軒全集 (Ekiken's Complete Works), vol. 6 (Tokyo: Kokusho Kankōkai, 1973), p. 13.

²² It must be noted that entries on processed products deriving from fish such as *kamaboko* 蒲鉾 or *shiokara* 塩辛 are also included among these. This was already the case in the *Honchō shokkan*. In the *Bencao gangmu*, by comparison, they were listed separately in an addendum.

In our country, characters used to name substances (*hinbutsu* 品物) are commonly mistaken. This is particularly true with fish names. Many Chinese characters used in ancient times have been mistakenly transmitted, so that there are many incorrect names. It is fair to say that “one has repeated without clarifying.”²³

He also complained about the fact that as regards fish, the *Bencao gangmu* was not reliable:

Fish in the *Bencao gangmu* are few in number compared to other substances. Notes on sea fish are particularly sketchy. Evidence is often lacking. Moreover, fish are listed in no particular order, without distinguishing between river fish and sea fish.²⁴

Now, when we look at Kaibara Ekiken’s fish entries in the *Yamato honzō*, we note that they are generally short and are not very detailed. He says in his introduction that he did not consider it necessary to elaborate on the issue of food, because the *Honchō shokkan* had already provided so much information.²⁵ His commentaries are far less organized than those of the earlier work, and the content varies greatly from one fish to another with no predefined format. This suggests a rather different approach to the subject.

The *Wakan sansai zue* (Illustrated Sino-Japanese Encyclopedia of the Three Realms)

The *Wakan sansai zue*, which is our last example, is a 105-fascicle encyclopedia in classical Chinese (*kanbun*), published in 1712 by an Osaka physician, Terajima Ryōan 寺島良安 (dates unknown). Terajima is not generally considered to be a specialist in *honzō* studies, though his book demonstrates a high level of scholarship in this field. Animals, plants, and minerals make up a large part of his encyclopedia. Four fascicles (48 to 51) are devoted to fish, for which he uses the same classification as the *Honchō shokkan* (**Table 1**) with the difference that processing methods are kept separate from the fish themselves in a section called “uses of fish” (*uo no yō* 魚之用). The number of fish entries has grown to 145, including processed products (**Table 1**).

Fish entries in the *Wakan sansai zue*, like all other entries in the book, begin with an illustration of the fish, complete with information about its Chinese and Japanese names, alternative names, and readings (**Figure 1**). The text itself is composed of a quotation from the *Bencao gangmu*, when the fish is known in China, and a general description given under the heading “My comment” (*an[zuru ni]* 按). If Japanese classics such as the *Nihon shoki* 日本書紀 (Chronicle of Japan) are explicitly quoted,²⁶ Terajima never mentions his contemporaries or immediate predecessors,

²³ *Yamato honzō* (op. cit.), p. 318.

²⁴ Ibid.

²⁵ *Yamato honzō* (op. cit.), p. 13.

²⁶ Only ancient sources (historical or not) are explicitly mentioned. The *Wamyōshō*, because of its antiquity, is mentioned as a source, suggesting the high status of this book at the time.

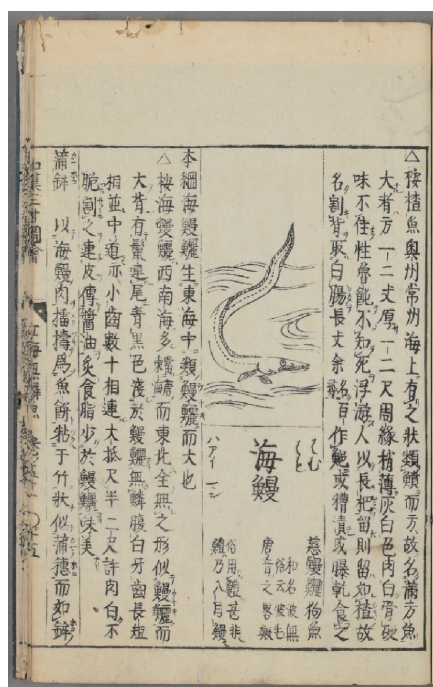


Figure 1. Entry for *hamo* 海鰻 in the *Wakan sansai zue* 和漢三才図会. (Waseda University Library).²⁷

Table 1. Fish Classifications in the *Bencao gangmu* and in the Three Japanese Encyclopedias

<i>Bencao gangmu</i>	<i>Honchō shokkan</i>	<i>Yamato bonzō</i>	<i>Wakan sansai zue</i>
Scaly fish (31)	River and lake scaly fish (11)	River fish (39)	River and lake scaly fish (26)
Scaleless fish (28)	River and lake scaleless fish (8)	Sea fish (83)	Great river and sea scaly fish (48)
Addendum (9)	Great river and sea scaly fish (35)		River and lake scaleless fish (9)
	Great river and sea scaleless fish (37)		Great river and sea scaleless fish (40)
			Uses of fish (22)
Total: 68 (59+9)	Total: 91	Total: 122	Total: 145

²⁷ Year of publication unknown. Call number: 文庫31/e0860. Fascicle 51. Available at: https://archive.wul.waseda.ac.jp/kosho/bunko31/bunko31_e0860/bunko31_e0860_0034/bunko31_e0860_0034_p0025.jpg

such as the *Yamato bonzō* or the *Honchō shokkan*, even though he draws heavily on them.

It is a distinctive feature of the *Wakan sansai zue* that it includes an illustration in each entry. The *Honchō shokkan* has none. The *Yamato bonzō* has been supplemented with two separate volumes specifically dedicated to illustrations, entitled: *Yamato bonzō shobin zu* 大和本草諸品図 (Substances of the *Yamato bonzō*, Illustrated). But these only deal with a selection of substances.

Particular Fish Entries in the Three Encyclopedias

We will now look at a few examples of entries, in order to capture the particularities of each work. Three fish have been selected because of their place within the *bonzō* tradition in China and Japan (Table 2).

[1] 鱧魚 (*reigyō*)

The first example, *reigyō* 鱧魚, is a fish well-known to specialists of *materia medica* since ancient times. In the *Bencao gangmu*, its name appears in the “scaleless” category, within the “scaly [creatures]” section. In addition to the alternative names and a morphological description of the fish, significant space is assigned to therapeutic indications and appended recipes. Quoting ancient authors, Li Shizhen introduces the *reigyō* as a fish that can be caught in all seasons in ponds and marshlands. Let us examine Li Shizhen’s specific note on this fish:

時珍曰、形長体円、頭尾相等、細鱗玄色、有斑点花紋、頗類蝮蛇、有舌有齒有肚、背腹有鬣連尾、尾無歧。形狀可憎、氣息腥惡、食品所卑。南人有珍之者、北人尤絕之。²⁸

Shizhen says: It is a fish with an elongated shape, and a round body. Head and tail are equal [in size]. It has fine scales, a dark color, with spotted floral patterns, quite similar to vipers, with a tongue, teeth, and a belly; it has spines on the back and on the belly, up to the tail; the tail has no fork. It has a repulsive look, a nasty smell. As food, it is disregarded. Some southerners appreciate it. Northerners have definitely rejected it. . . .

Let us keep in mind simply that it is a fish which has a serpentine shape and a repulsive aspect, and which is not consumed as food. As a drug, Li Shizhen stresses its effectiveness against hemorrhoids and tumors.

The *reigyō* is a fish that has long raised a major problem of identification in Japan. In Minamoto no Shitagō’s *Wamyōshō*, which Edo scholars regarded with much respect, the *reigyō* had been identified with the *hamo* (dagger-tooth pike conger), a kind of eel found in Japan and consumed in the Kansai region. But a

²⁸ Li Shizhen, *Kinryōbon Honzō kōmoku*, 金陵本本草綱目, vol. 6, ed. Miyashita Saburō 宮下三郎 (Tokyo: Oriento shuppansha, 1992), p. 477. See *Bencao gangmu*, fascicle 44, section 鱧之四.

Table 2. Three Examples of Fish

	<i>Bencao gangmu</i>	<i>Honchō shokkan</i>	<i>Yamato honzō</i>	<i>Wakan sansai zue</i>
1. 鰻魚 (<i>reigyo</i>)	鰻魚	鰻 はも	鰻魚 うみうなぎ (海鰻 はも)	鰻 やつめうなぎ (海鰻 はむ、はも)
2. 鮪 (<i>shibi</i>)	鰯魚 しんぎょ 別名：鮪	しび	しび	鮪 しび、はつ
3. <i>keisugo</i>	(absent)	幾須子魚 きすこ	きすこ (和品)	幾須吾 きすこ

book published in 1684 by a Nagasaki scholar²⁹ reported that the *reigyo*'s description in the *Bencao gangmu* did not correspond to the *hamo*'s appearance. The same scholar suggested identifying the *reigyo* with another fish, known in Nagasaki as *kitago*.³⁰ The *Honchō shokkan* ignores this remark and goes back to the old identification with the *hamo*. The author merges the *Bencao gangmu*'s description of the fish with what he knows about the fish called *hamo*, appreciated for its taste. After having quoted the morphological description from the Chinese treatise, he comments on its taste, on how it is consumed, and on where it can be fished:

It has an ugly aspect but it has a very good taste. The flesh is white and pure. They are three to four feet long for the larger ones, one to two feet for the smaller ones. Lately, the flesh of the fresh fish is grinded into a paste (*kamaboko* 蒲鉾). It is one of the most delicious *sake* accompaniments. It is also consumed dried (*shiraboshi* 白干し) [...] It is abundantly fished in the seas of Naniwa³¹ in Settsu Province, in Sakai, Sumiyoshi, and Kishiwada in Izumi province,³² and also in the provinces of Kii, Harima, Tango, and Tajima^{33, 34}.

He then mentions the practice which had spread recently in Kii province of bathing newborns in the broth of this fish to protect them from smallpox. He seems not to be fully convinced of the effectiveness of such a practice, but says that it is mentioned in Li Shizhen's book. Other therapeutic indications (for hemorrhoids and tumors) are also mentioned. The author seems not to pay attention to the discrepancies between his own knowledge of the *hamo* and the *Bencao gangmu*'s description. Nor is it a problem for him to quote passages from the *Bencao gangmu* that he regards as dubious.³⁵ In other words, the *Bencao gangmu* is too

²⁹ The book in question is Mukai Genshō's 向井元升 *Hōchū biyō wamyō honzō* 庖厨備用倭名本草 (pub. Jōkyō 貞享 1/1684).

³⁰ Ibid., fasc. 8.

³¹ Naniwa is the ancient name for Osaka and its region.

³² Izumi is a former province located south of modern Osaka Prefecture.

³³ Kii, Harima, Tango, and Tajima are all located around Osaka, Kyoto, and Hyōgo Prefectures in the Kansai region.

³⁴ *Honchō shokkan* (op. cit.), vol. 4, pp. 253–254.

³⁵ Hitomi Hitsudai discusses at length Li Shizhen's recommendation about bathing newborns in the broth of this fish and expresses his doubts as to the effectiveness of such a method. Ibid.

prestigious a reference to be questioned overtly. He makes the choice to allot plenty of space to recent practices observed in Japan.

The *Yamato honzō*, for its part, conceives two separate entries for the *reigyo* and the *hamo*.³⁶ Both entries are relatively short. In the former (*reigyo* 鰻魚), Kaibara explains that the *Wamyōshō*'s reading of the name as *hamu* is improper, and that *hamo* derives from the Chinese pronunciation (*tōon* 唐音) of the word 海鰻 (Ch. *haiman*). Kaibara states that the *reigyo* is the sea fish known as *umi-unagi* 海鰻 (sea eel) in Kyushu.³⁷ Its morphology matches exactly the description given in the *Bencao gangmu*. The fish has an ugly appearance and Japanese people do not eat it. He also rejects his contemporaries' identification of it with the *kitago* or the *tsunoji*.³⁸ Lastly, he points out that there is another species also called *umi-unagi* (literally "sea eel"), very similar to the contemporary eel, which may in fact be consumed.³⁹

The entry for *hamo* in the *Yamato honzō* is equally very short. *Hamo* is written with the Chinese characters 海鰻, which reminds us of the *kaimanrei* 海鰻鱺 mentioned in the *Bencao gangmu*, though Kaibara does not make any explicit connection between the two.⁴⁰ Kaibara reminds us once again of the mistake made in the past of confusing it with the *reigyo*. Concerning the fish itself, he does not provide any description, and only mentions that it is consumed dried, or processed as *kamaboko*.

From this particular example, one grasps that Kaibara's main concern is to name the fish by its correct name and clear up the old confusion between the *reigyo* and the *hamo*. The descriptive elements he gives are meant to support his claim about whether it is or is not the fish mentioned by Li Shizhen, rather than to inform the reader about the ways he might eat or use it.

Let us now consider the *Wakan sansai zue*. Its author, Terajima Ryōan, introduces the Japanese reading of *yatsume unagi* 八つ目鰻 ("eight-eyed eel") for the

³⁶ See *Yamato honzō* (op. cit.), vol. 16, pp. 336–337.

³⁷ The entry begins as follows:

順和名ニハムト訓ス。アヤマレリ。ハモハ海鰻ナリ。唐音ナリ。鰻ハ筑紫ノ方言ウミウナギト云。本草ニイヘルゴトク形長ク体円ク頭ト尾ト同大サニテ相等シク細鱗玄色ニシテ星アリ。形少蝮蛇ニ似タリ。尾マタナク其形ミクルシク可レ悪。[...]

[Minamoto no] Shitagō's *Wamyōshō* gives the reading *hamu*. This is an error. *Hamo* corresponds to 海鰻. It is the Chinese pronunciation. 鰻 is read *umi unagi* in the Tsukushi dialect. As it says in the *Bencao gangmu*, [this fish] has an elongated shape, a round body, and the head and tail are equal [in size]. It has fine scales and a dark color, with spots. Its shape looks like that of a small snake (viper?). Its tail has no fork. It has a repulsive look and must not be touched. . . .

The reading *umi unagi* has been given here in *katakana* to avoid confusion, because if written in Chinese characters, it would have been exactly the same: 海鰻.

³⁸ *Yamato honzō* (op. cit.), vol. 16, pp. 336–337.

³⁹ This last *umi-unagi* is possibly the one mentioned in the *Bencao gangmu* under the name of *kaimanrei* 海鰻鱺, but Kaibara remains silent about it. See note 40 below.

⁴⁰ The *Bencao gangmu* mentions two different fish named *manreigyo* 鰻鱺魚 and *kaimanrei* 海鰻鱺 (Table 3), which can be translated respectively as "eel" and "sea eel." The transcription *hamo* 海鰻 only keeps the first two characters of the second fish.

fish called *rei* 鱧. The entry begins with a quotation from the *Bencao gangmu*, giving that work's description of the fish and its therapeutic indications. This is followed by a detailed description of the local specimen, mentioning the seven or eight small star-shaped slots near each eye, as well as some information about its habitat. According to Terajima's explanation, the fish is found in the rivers and ponds of northern regions (of Japan); in winter, it is fished by breaking the surface of the ice. Local people consume it, and it tastes better than [ordinary] eel. It is also sold dried, as *himono* 干物, in Kyoto. The author complains about the fact that many wrong readings of the name of this fish are still in circulation.⁴¹

The *Wakan sansai zue* also contains an entry dedicated to the *hamo*/*hamu*, which he writes with the same Chinese characters (海鰻) as Kaibara.⁴² The description is partly quoted from the *Bencao gangmu*, which is explicitly mentioned. He also quotes from the *Honchō shokkan* and from another source, but these contemporary sources are not explicitly mentioned. He furthermore warns about the confusion often made between the *reigyo*—that is, the *yatsume unagi*—and the *hamo*. Thus do we see that Terajima closely follows the example of Kaibara in conceiving two separate entries for the *hamo* and the *reigyo*, with the difference that he identifies the *reigyo* with the *yatsume unagi*. For his two predecessors, the *yatsume unagi* is a distinct fish.

From this first short examination, we can conclude that Li Shizhen's *Bencao gangmu* remained an essential reference for the three Japanese scholars. Li's description of the fish is systematically quoted and constitutes the starting point of their investigations. The three authors have different interpretations regarding the name given to this fish in Japan. For Hitomi Hitsudai, the *reigyo* has to be identified with the *hamo*. For Kaibara, it has no strict equivalent in Japan, but is close to a fish found in the Kyushu area. For Terajima, it is the *yatsume unagi*. Among the three scholars, Kaibara is the closest to the “truth” since the *reigyo* is not found in Japan and is only known through imported specimens.⁴³ One might find it strange that, while the fish was barely known in Japan, Kaibara kept mentioning it in his *Yamato honzō*, supposedly centered on Japanese substances. This can be explained by the fact that his priority was to shed light on the true nature of this fish, and to categorically reject the hasty identifications of his contemporaries.

[2] 鮪 (*shibi*)

Let us now turn to the second example: tuna 鮪 (*shibi*).

Tuna has been widely fished and consumed in Japan since ancient times. The name *shibi* was used to designate tuna, especially in western Japan. This name

⁴¹ Terajima Ryōan, *Wakan sansai zue* 和漢三才図会, vol. 1 (Tokyo: Tōkyō Bijutsu, 1970), p. 553.

⁴² Terajima (op. cit.), p. 562.

⁴³ Nowadays, the “true” *reigyo* is called “Blotched snakehead.” But it is interesting to note that the fish called *hamo* is sometimes written with the same characters as *reigyo*. See Ono Ranzan 小野蘭山, *Honzō kōmoku keimō* 本草綱目啓蒙, vol. 3, *Tōyō bunko* (Tokyo: Heibonsha, 1991), p. 230.

was mentioned in the *Wamyōshō* and it was used in ancient poetry as well. Edo scholars were nevertheless faced with a delicate problem. There was no entry in the *Bencao gangmu* under the name *i* 鮪, but the word *i* 鮪 did appear under the *shingyo* 鱈魚 entry, as an alternative name used in ancient books.⁴⁴ The problem was, firstly, that the description of the *shingyo* 鱈魚 or the *i* 鮪 in the *Bencao gangmu*—nowadays identified with the marlin—did not fit the fish known as *shibi*, that is, tuna⁴⁵; and secondly, that there was no fish in Japan corresponding exactly to the *shingyo*'s description.

The description given in the *Bencao gangmu* could be summarized as follows: The *shingyo* is a shark-like fish, living in deep water. It has white flesh and has no scales on its back. It is blue-green in color. Its belly is white. In the springtime, it moves up to the warm waters of the surface and is dazzled by the sun's rays. It has a very long nose, as long as its body. Its mouth is under its jaw. It eats but does not drink. It has blue, plum blossom-like spots under its cheeks. The color of its flesh is pure white. Its flavor is inferior to that of the fish called *ten* 鱈, the sturgeon, etc.⁴⁶ The *Bencao gangmu* entry also included short comments regarding the fish's edibility (its taste is considered good) and various minor therapeutic indications or effects on the body.

When examining how this fish is discussed in the three Japanese books, one notes that both the *Honchō shokkan* and the *Yamato bonzō* have an entry under *shibi* 鮪, but have no entry under the name *shingyo* 鱈魚. In the *Yamato bonzō*, the name *shibi* is given only phonetically, using the *hiragana* syllabary. The *Honchō shokkan* provides a range of first-hand information the author seems to have collected directly from fishermen. This is a remarkable feature of the work that can also be seen in other entries, such as those for “mackerel,” “bonito,” or “whale.” As the text is long, I will give here only an outline of the description.

- Habitat: places where it is fished (on the coast of the northwestern regions)
- History: known since ancient times and mentioned in ancient poetry (the *Man'yōshū* 万葉集)

⁴⁴ Li Shizhen says that “the big ones are called *ō-i* 王鮪 [“king-*i*”], the small ones *shuku-i* 叔鮪 [“cadet-*i*”], and the smallest ones *rakushi* 鰭子.”

⁴⁵ From the description Li Shizhen gives of the *shingyo*, the identification is difficult. Ono Ranzan, in his *Honzō kōmoku keimō*, begins the entry for this fish by saying that “it is not clear” (*tsumabiraka narazu* 詳ナラズ), and adds that it has wrongly been identified with the *kajikitōshi*. But he says also that the *shingyo* is the fish called *keigo* 旗魚 in the *Taiwan fuzhi* 台湾府志 (Description of Taiwan Prefecture). See Ono Ranzan, *Honzō kōmoku keimō*, vol. 3 (op. cit.), p. 236. Today, the *keigo* is identified as the marlin, that is, as the *kajiki* of Japan, another name for the *kajikitōshi*, one that refers to its spear-like snout. We will see below that the *Wakan sansai zue* identifies the *shingyo* as the *kajikitōshi*.

⁴⁶ 時珍曰、出江淮、黄河、遼海深水处、亦鱈属也。岬居、長者丈余。至春始出而浮陽、見日則目眩。其状如鱈、而背上無甲。其色青碧、腹下色白。其鼻長与身等、口在頷下、食而不飲。頰下有青斑、紋如梅花状、尾歧如丙。肉色純白、味垂於鱈、髻骨不脆。羅願云、鱈状如鬻鼎、上大下小、大頭哆口、似鉄兜鍪、其鰓亦可作膠、如鱈缺也、亦能化龍。See the entry for 鱈 in *Bencao gangmu*, chapter 鱗之四, section 無鱗魚. See Li Shizhen (op. cit.), p. 486.

- Morphology: size of the fish, big head, sharp mouth, long nose; a mouth under the jaw; the two opercula are like a steel helmet; green spots under the cheek; blood spurting out of the eyes after its death; no scales on its back but a dark blue color; white belly; a hard and forked tail; etc.
- Taste: mentions the *chiai* 血合, a part of the flesh, dark-colored, which has to be removed when cooking because of its bad taste.
- Fishing: tools and techniques used by fishermen.
- Strength and weakness of the fish: strength concentrated in its head.
- Fish processing and culinary preparations (eaten raw or passed quickly over the flame). Trade.
- Different names of the fish, according to its age. Names of young fish (*mejika* 目鹿).
- Places where it is consumed.
- Flavor.⁴⁷

The author does not explicitly mention the relationship of the fish with the one called *shingyo* in the *Bencao gangmu*. Comments, however, regarding its flavor and its therapeutic indications are reproduced from the corresponding headings of the *shingyo* entry in the *Bencao gangmu*. For this author, therapeutic indications are an important part of an entry, and should be included regardless of their degree of appropriateness.

We note once again this remarkable feature of the *Honchō shokkan* of being on the one hand open to observation, and to including first-hand information about food consumption, while on the other hand being excessively respectful of tradition, reproducing even rubrics that have lost their meaning, and about which the author himself does not hide his suspicion.

The *Yamato honzō*, for its part, explains where the problem lies for its author. He says:

The character *i* 鮫 has been read as *shibi* in Japan since ancient times. This *i* 鮫 is another name for the *shin* 鯨. In the *Bencao gangmu*, Li Shizhen says: “the *shin* has a blue-green color, the color of the belly is white.” This is close to the fish called *shibi*. Shizhen also says: “[I]ts nose is long, as long as its body. Its mouth is under its jaw. The color of its flesh is pure white.” All of this is different from the *shibi*.⁴⁸

He then goes on to describe the *shibi* found in Japan and stresses the fact that it is a scaly fish, that its morphology is similar to the bonito's (*katsuo* 鰹). Its flesh is red and toxic and occasionally causes ailments. It is fished in great numbers in the Gotō islands and Hirado island in Kyushu. The problem was that there was no fish in the *Bencao gangmu* that corresponded to the *shibi*'s description. He concludes that the *shibi* and the *shingyo* are probably of the same category (*rui*).

Thus can we see that, for the *Yamato honzō*'s author, the main issue is to designate each fish by its correct name. He is using the *Bencao gangmu* as a sort of bible

⁴⁷ *Honchō shokkan* (op. cit.), pp. 223–224.

⁴⁸ *Yamato honzō* (op. cit.), pp. 343–344.

that will provide the correct name and an accurate morphological description for each fish. Its content can neither be questioned nor discussed. And inasmuch as the description of the *i* 鮓 did not correspond to the morphology of the fish called *shibi* in Japan, he does not feel authorized to use the character 鮓, even if it had been used in Japan from ancient times.

Concerning the fish itself, Kaibara does not say much about the way it is consumed. He stresses its toxicity and considers it as a fish less tasty than the *katsuo*.⁴⁹ We can therefore conclude that Kaibara's objective lies much more in the identification of the correct name than in giving complete information on the fish itself. But we also note that identifying the correct name cannot be done without observing the physical features of each fish with great detail. Therefore, the observation of fish is more a consequence in his case than an objective in itself.

The *Wakan sansai zue*, for its part, keeps the two entries: *shin* 鱒 (Japanese name: *kajitoshi* 梶通し)⁵⁰ and *i* 鮓 (*shibi*). For the former, the description of the *Bencao gangmu* is quoted. For the latter, he quotes the *Yamato honzō* and the *Honchō shokkan* without mentioning his sources. He says that the two fish are considered to be the same fish in the *Bencao gangmu*, but that the issue has not been resolved.

[3] *kisugo*

Let us examine lastly the example of the *kisugo*, a fish mentioned in the three Japanese books and known only through its vernacular name (*zokushō* 俗称). Both the *Honchō shokkan* and the *Wakan sansai zue* make reference to the name's phonetical transcription in *ki-su-go* 幾須子 (or 幾須吾) but the *Yamato honzō* gives only a *hiragana* transcription.

The *Honchō shokkan* offers by far the most detailed description, one which is partially taken up by the other two books. The fish is found almost everywhere in the seas of Japan. It is a small fish that can reach at most 7 or 8 *sun* 寸 (20–25 cm), with large and thin scales, a non-forked tail, and very white flesh with a sweet flavor. It can be consumed as *namasu* 魚臄 (served raw in vinegar) or in grilled fish cakes (*gyohei* 魚餅). Although they belong to the same category, the author mentions the morphological differences between those that swim upriver (*kawakisu*) and those that are fished in the open sea (*umikisu*). The popular fishing for it organized in various areas (Shiba, Shinagawa, Nakagawa) within the city of Edo, during the seventh and eighth lunar months, is mentioned as a distinguished entertainment. The *Honchō shokkan* takes a close interest in the *kisugo*'s not-so-common particularity of having two “white stones” in its head. He explains

⁴⁹ Here we note a discrepancy between the appreciation of the fish in the *Honchō shokkan* and the *Yamato honzō*. Tuna was not very popular in western Japan where it was considered toxic. In eastern Japan, especially in Edo, the fish was widely consumed and appreciated.

⁵⁰ The Japanese name given to the *shingyo* seems to be correct, according to Ono Ranzan, though Ranzan states that the identity of this fish is unclear. See note 45 above.

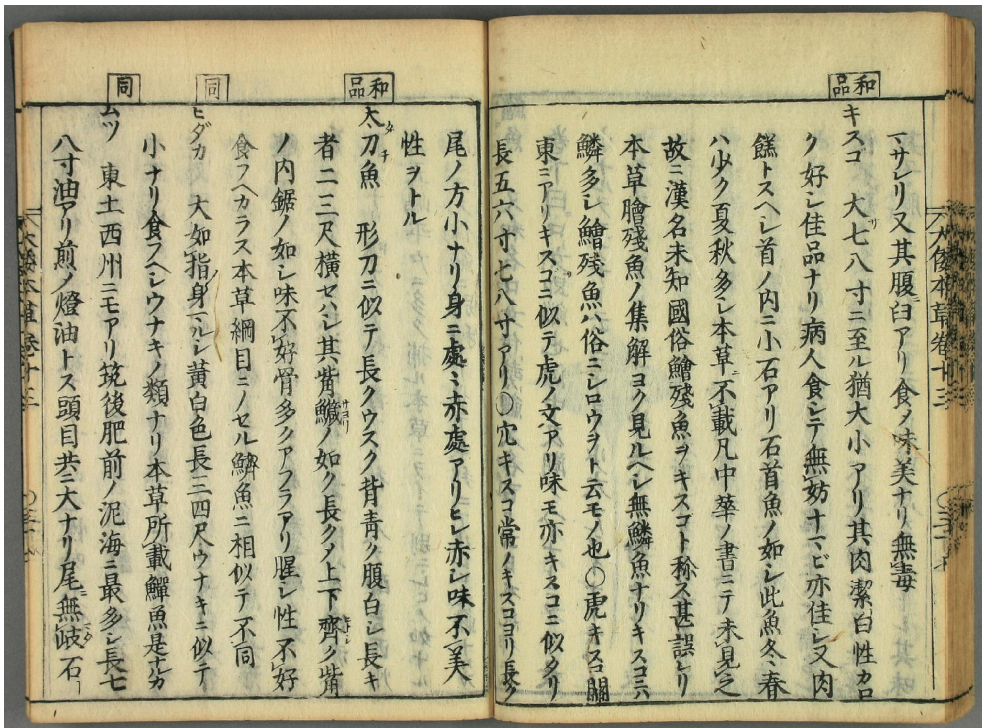


Figure 2. Entry for *kisugo* in the *Yamato honzō*. (Waseda University Library).

https://archive.wul.waseda.ac.jp/kosho/ni01/ni01_00413/ni01_00413_0013/ni01_00413_0013_p0039.jpg

that these are only head bones, but that by their color and shape they look like stones. For the author, the *kisugo* is not only a tasty fish that will not harm even sick people, but it also has therapeutic effects against urinary lithiasis.⁵¹

As already mentioned, entries in the *Yamato honzō* do not follow a fixed pattern. In this case, the morphological description is summed up in two lines:

Its length can reach 7 to 8 *sun*. There are large ones and small ones. Its flesh is an immaculate white, its nature light and good.⁵²

We have already mentioned that Kaibara did not make use of the transliteration of the name using Chinese characters. Kaibara also briefly comments that the *kisugo* has wrongly been mistaken in the past for the fish called *kaisangyo* 鯨殘魚 in the *Bencao gangmu*. He gives evidence of this being a mistake (the former has no scales while the latter has them), then adds: “The *kaisangyo* is what is currently named *shiro’uo* in Japan.” Kaibara ends by mentioning two varieties of fish that

⁵¹ *Honchō shokkan* (op. cit.), pp. 60–61.

⁵² *Yamato honzō* (op. cit.), p. 343.

look like the *kisugo*.⁵³ Thus we see that, once again, Kaibara never loses sight of Li Shizhen's teaching and is particularly careful not to use mistaken Chinese names to designate Japanese varieties (**Figure 2**).

The entry in the *Wakan sansai zue* is also very short, providing a very general description of the fish and also of its culinary quality. There are no new observations reported by the author. It contains no new elements, with the exception of a regional name and details on the morphology of the two varieties called *kawakisu* (“*kisu*[go] of the river”) and *torakisu* (“tiger *kisu*[go]”).

Conclusion

Our study of entries on fish in three encyclopedias published at the turn of the 18th century has shown that, as far as fish are concerned, the current assessment of the *Yamato honzō* is not necessarily an apt one.

More precisely, it was made clear that:

- The *Bencao gangmu* played a key role in the design of these three books, especially with the morphological descriptions and the names that it provided for each substance. Regarding fish, therapeutic indications were often quoted but rarely investigated. These may have been considered of little use, given the primary purpose for which fish were caught.
- The *Honchō shokkan* stands out for the place it gives to first-hand information about morphology, toxicity, gustative quality of the fish, fishing grounds, fishing techniques, and culinary preparations. It is likely that observations and data were collected from those involved in catching fish or processing them. The substances examined are only those that can be found in Japan, and the accuracy of their naming is not a priority. Hitomi Hitsudai's approach corresponds best to that of “natural history,” even if his investigations are essentially driven by pragmatic and utilitarian considerations.
- The *Yamato honzō* allows only limited space for the description of the fish. Priority is given instead to its identification—i.e., to the assignment of a correct Chinese name. When no Chinese name can be assigned to the substance (i.e., when the substance is only known in Japan), the Japanese name is written in *hiragana*. This does not prevent Kaibara from being an excellent observer, if only because of his strong motivation not to deviate from the *Bencao gangmu*'s teaching.
- As for the *Wakan sansai zue*, its approach is original in that it does not follow any of the paths taken by its predecessors, even though it draws heavily on their work. The author's veneration for the *Bencao gangmu* leads him to include almost systematically all the substances mentioned in the Chinese book⁵⁴ and to

⁵³ The *tora-kisugo* 虎きすご, already mentioned by Hitomi Hitsudai, and the *ana-kisugo* 穴きすご.

⁵⁴ See **Table 3**, listing the fish entries in the three books.

quote from it abundantly. The *Wakan sansai zue* lists a large number of Chinese substances that, being barely found in Japan, had been eliminated by its two predecessors. This is consistent with the author's definition of his own encyclopedia as "Sino-Japanese" (*wa-kan* 和漢), in contrast to predecessors whose works had put the emphasis on Japan. Although his sources are not made explicit, and we do not know whether he himself made his own observations, the knowledge he collected is considerable, making him a true encyclopedist.

Our investigation has shown that, on the threshold of the 18th century, scholars were not really engaged in the observation of nature for its own sake, but driven rather by utilitarian considerations, or by the desire to remove, once and for all, the uncertainties that existed regarding the names of the substances. Their knowledge of natural substances had nevertheless been enriched with many new elements. As far as edible products are concerned, attention was now focused on the living environment and on consumption processes, rather than on medical applications. In this respect, it can safely be stated that the scope of *bonzō* studies in Japan had come to extend far beyond the *materia medica*.

Table 3

List of Fish Entries in the *Bencao gangmu* and the Three Japanese Encyclopedias

本草綱目 (1596)	本朝食鑑 (1697)	大和本草 (1709)	和漢三才図会 (1712自序)
鱗類魚 31	河湖有鱗類 11	河魚 39	河湖有鱗魚類 26
鯉魚	鯉	鯉	鯉こひ
鰕魚	鮒ふな	鯽 (一名鮒)	鮒ふな
鱒魚	鮭さけ	鱒魚さけ	波長魚はちやう
鱒魚	鱒ます	鰻魚あめのうを	鮒たひらこ
鮭魚	鮭あめ	鱒魚あゆ	鱒みごい
青魚	鮓はそ	鰻はえ (和品)	嘉魚まるたいを
竹魚	鮓あゆ	をいかは (和品)	鮭さけ
鱒魚	鮓はえ	もろこ	鱒ます
白魚	佐比魚さひ	かまつか (和品)	鮭あめのいを
鰻魚	鱒み (或みごひ)	ごり (和品)	波須魚はすうを
鱒魚	金魚 (きんぎょ)	をもと	鱒あゆ
石首魚	河湖無鱗類 8	鮓みごい	黄鯛魚わたこ
鰻魚	鮓なます	あゆもどき (和品)	石鰻魚をいかば
鱒魚	鮓 (さんしょうお)	泥鰻どちやう	鰻うぐひ
鰻魚	鰻鱺魚うなぎ	杜父魚	鱒はえ
嘉魚	鮓どちやう	ひび	鯊かなびしや
鰻魚	加志加魚かじか	鱒絲魚きぎ	石斑魚いしぶし
鰻魚	鮓ぎぎ	はす (和品)	渡父魚どんぼ、どんこ
鰻魚	鮓いしぶし	わたか (和品)	番代魚ばんだい
鱒魚	泳沙魚すなくぐり	鰻魚いさぎ	彈塗魚はぜ
鰻魚	江海有鱗類 35	鰻殘魚しろうを	牟豆むつ
鯊魚	鯛たい	麵條魚しろうを	金魚きんぎょ
杜父魚	鰻たら	うぐひ (和品)	鰻かん
石斑魚	阿羅魚あら	水くり (和品)	鰻そう
石鰻魚	鰻いしもち	鰻魚にんぎょ	鰻おこぜ
黄鯛魚	幾須子魚きすご	鰻魚さんせうを	鰻あさち
鱒魚	鰻なよし	鱒ます	江海有鱗魚類 48
鰻殘魚	鰻すずき	河鰻	鯛たひ
鰻魚	鰻ぶり	しくち (和品)	はなおれたひ
鰻魚	鰻さば	河鰻かわぼら	鳥類魚すみやきたひ
金魚	鰻いわし	鰻鰻う (む) なぎ	海鰻くろたひ、ちぬたひ
無鱗魚 28, 附録 9	鰻このしろ	わかさぎ (和品)	鷹羽魚たかのは
鰻魚	鰻かど	こもつつき (和品)	方頭魚くずな、あまたひ
鰻鰻魚	鰻かます	岸鰻きしにらみ (和品)	金線魚いとより
海鰻鰻	細魚さより	目高 (和品)	錦鯛くそくいを、にしきいを

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鰾 (善) 魚	鯉魚やがらいお	金魚	緋魚あかを、あか
鰯魚	鰯こち	鰯魚なまつ	血引魚ちひき
鱈魚	学鰯まながつお	鯊はぜ	眼張魚めばる
鰯魚	鰯かれい	いだ (和品)	藻魚もいを
牛馬	赤魚あかお	海魚 83	銅頭魚かなかしら
鰻魚	眼張魚めばる	棘鬣魚たひ	保宇婆宇ほうほう
鰯魚	藻魚もうお	鰯ぶり (和品)	古伊知こいち
鯉魚	鮎魚女あひなめ	えつ	藻伏魚もふし
鰻魚	旗代魚はたしろ	ふか (和品)	榮螺破魚さしいわり
黄鰯魚	波世魚はぜ	鰻魚	鰯白魚はたしろ、せう
河豚	鰻あさち	大口魚たら (外)	鰯身魚あいなめ
海豚魚	鰯たちうを	松魚かつを (外)	油身魚あぶらめ、いたちいを
比目魚	鉄頭魚かなかしら	鬼鰯 (和品)	梭子魚かます
鰯魚	伊左幾魚いさき	鰯魚やから	鰯さより、はりを
鰻魚	鰻むつ	鰻あぢ (和品)	啄長魚たす
烏賊魚	棚子魚たなご	海鰯くじら、いさなどり	鯉魚やがら
章魚	恵曾魚えそ	龍涎	鰯こち
海鰻魚	藻臥魚もふし	華臍魚あんかう (外)	恵曾魚えそ
文鰻魚	志比羅魚しひら	青魚かど (和品)	幾須吾きすご
魚虎	乃宇羅幾魚のうらぎ	鰯さば	鰯にべ、くち
魚師	鰻魚いたちうを	鰻魚たなこ	墨頭魚
海蛇	江海無鱗類 37	馬鰻魚さはら	佐伊羅さいら、のうらぎ
鰻	鯨くじら	鰻いはし	鰻しいら、ひいを、くまひき
海鰻	鰻ふか	鰻魚うみうなぎ	鰻ひら
海馬	鰻さめ	海鰻はも	鰻ほら、なよし
鰻魚	鰻わに	あなご (和品)	鰻すずき、はね、せいこ
鰻鰻	鰻鰻魚いるか	鰻魚しゃちほこ (外)	鰻さば
鰻	鰻しび	緋魚	鰻このしろ、つなし、こはだ
鰻膠	鰻かつを	鰻すずき	鰻たなこ
魚鰻	鰻さはら	鰻このしろ	伊佐木いさき
魚鰻	鰻あじ	いさき (和品)	大口魚たら
魚脂	疣背魚いばせ	藻魚もうを (和品)	阿羅あら
魚鰻	鰻はも	目ばる (和品)	鰻ぶり、はまち
魚子	八目鰻やつめうなぎ	滑魚なめり (和品)	鰻王しわう
諸魚有毒	鰻鰻ふぐ	しいら (和品)	鰻いわし
	鰻鰻あんこう	あら	閩眼鰻うるうめいわし

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	鰾えい	比目魚かれい	鯢にしん、かず
	植魚うきぎ	靴底魚くつそこかれい	魚虎しゃちほこ
	鯨とびを	章魚たこ	人魚にんぎょ
	鰾をこし	水母くらげ	鰾魚ろくぎょ
	鮓しろを	鰻鰻魚あいのうを (和品)	河湖無鱗類 9
	氷魚ひを	鰻魚さより	鮓なまづ
	蛸魚たこ	石首魚くち	黄鰻魚ごり、かじか
	烏賊魚いか	梭魚かます (外)	鰻絲魚ぎぎ
	海月くらげ	文鰻魚とびうを	鰻さんせういを
	海鼠なまこ	海鰻ゑい	鰻鰻うなぎ
	老海鼠ほや	鰻魚なよし	鰻やつめうなぎ
	海馬	きすご (和品)	鰾きたご、あぶらこ
	雀魚すずめを	太刀魚たち (和品)	泥鰻とじょう
	鰻えび	ひだか (和品)	鮓ひを
	鯢あみ、あみざこ	むつ (和品)	江海無鱗類 40
	石楠花鰻しゃくなげ	しび	鯨くじら
	乾魚 (ほしうお)	海豚いるか	鰻ふか
	鹽魚	つかや (和品)	鰻かちとをし
	魚醬 (しおから)	きだこ (和品)	鮓しび、はつ
	魚鮓すし	烏賊いか	堅魚かつを
	魚膾なます	鰻魚まなかつを	鰻なめいを
	蒲鉾かまぼこ	まんぼう (和品)	海豚魚いるか
	魚脂	白魚	河豚ふぐ、ふぐへ、ふぐと
		むかでくじら (和品)	鰻わに
		河豚ふぐ	鰻さめ
		鰻魚すずめふぐ、すずめうを (外)	皮剥魚かははぎ
		うき木 (和品)	馬鰻さはら、さごし
		をこぜ (和品)	文鰻魚とびいを、ひいご
		金頭かな (がしら) (和品)	華鰻魚あんかう
		有足魚 (和品)	海鰻魚ゑい、こめ
		はたはた (和品)	鰻まながつを
		こち (和品)	鰻かがみいを、まとうを
		八目鰻鰻 (やつめ) うなぎ (和品)	鰻背魚うぼせ
		和尚魚 (外)	仁良岐にらぎ
		彈塗めくらはぜ (外)	鰻かれい、からゑひ

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		とくひれ (和品)	牛舌魚うしのした
		奥目張をきめばる (和品)	鰺あぢ
		かうざ (和品)	楂魚うきく、まんぼう
		海鱸絲魚 (和品)	海鰻はむ、はも
		ゑそ (和品)	阿名呉魚あなご
		なきり (和品)	鱈たちいを
		きこり魚 (和品)	玉筋魚いかなご、かますこ
		たがへ (和品)	鱈殘魚しろいを
		魚臈	鱈ちりめんこあい
		魚鮓	章魚たこ
		鰹鮓ちくい、なしもの、しほから	石距てながたこ
		鮑魚ほしうを	望潮魚いひたこ
		肉糕かまぼこ (和品)	烏賊魚いか
		糟魚麴魚	柔魚たちいか、するめいか
		糟しおうを	海鼠とらご
		びりり (蛸種)	海蛇くらげ
			鰯魚すずめいを、うみすずめ
			鰕えび
			紅鰕いせえび、かまくらえび
			海糠魚あみ、あめじゃこ
			鰕姑しゃこ、しゃくなげ
			海馬かいば
			船留魚ふなとめ
			魚の用
			鱗いろこ
			鰓あぎと
			魚干かしらほし
			鰭はた、ひれ
			腴つちすり
			鰯いをのわた
			鰱いをのほし
			鰺いをのこ
			炙やきもの
			膾あつもの

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			膾いりもの
			膾なます
			魚軒さしみ
			鮓すし
			蒲鉾かまぼこ
			魚醢ししひしを
			鱖鮓しほから
			鰯ふへ
			鮓しをもの
			鰯ひもの
			鰯めさし
			肴さかな