

*Original paper*

## The prices of fireflies during the Japanese Modern Monarchical Period

### Ceny světlušek podčas japonske cesarske doby

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#### ABSTRACT

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This study reviewed articles about the prices of fireflies (Coleoptera: Lampyridae) in six Japanese newspapers published between 1886 and 1939. Their stated prices of fireflies were converted to USD as of February 2018. The price of fireflies during the modern monarchical period was much less expensive than at present. In addition, other aspects of fireflies during the period are described, such as their various uses in different settings.

#### ABSTRAKCIJNY

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V tomto studiju se pojavili članky s cěnami světlušek (Coleoptera: Lampyridae) v šesti japonskyh gazetah medžu 1886 a 1939 godom. Ihna cena byla izmenina do dnesnich amerikanskih dolarov (fevruar 2018). Cena světlušek byla mnogokratno nižši než dnes. Piše se i pro druge stranky světlušek, v tom tože pro ih razne upotreby v raznyh nastavjenjah.

**Keywords:** fireflies, Coleoptera, prices, newspapers, the modern monarchical period, Japan

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## Introduction

Japan has 54 species of fireflies (Coleoptera: Lampyridae), most of which are distributed in the Ryukyu Islands, and nine species are found in main islands of Japan, Honshu, Shikoku, and Kyushu. Two of the nine species, *Luciola (Luciola) cruciata* Motschulsky, 1854, and *L. (L.) lateralis* Motschulsky, 1860 (Fig. 1), are found near rivers and rice paddies and lay their eggs in fresh water. Their larvae are aquatic and prey on univalve shells. Adults are luminous for courtship display, mainly between May and July, during which period they feed rarely and die within weeks.

The two most popular firefly species among the Japanese people are the aquatic *L. (L.) cruciata* and the *L. (L.) lateralis*, and the Japanese people tend to associate the word “firefly” with those two species. These firefly’s lights are enjoyed near rivers, and festivals for watching fireflies are held yearly throughout Japan.

At present, Japanese fireflies are not bred as pets, and experiencing them generally is limited to enjoying them outdoors in the wild. However, during the Japanese modern monarchical period (1868–1945), adult fireflies were commonly sold at summer festivals as pets. The Japanese people of those days bought fireflies and bred them in insect cages until the insect’s death.

This study focused on newspaper articles published during the modern monarchical period to investigate the prices of fireflies because market prices and other aspects of fireflies were sometimes published in newspapers.

## Materials and Methods

The materials and methods used by this study were similar to my previous research<sup>2</sup>. Six newspapers were included: *Yomiuri Shimbun*, *Tokyo Asahi Shimbun* (currently, *Asahi Shimbun*), *Miyako Shimbun* (currently,

*Tokyo Shimbun*), *Ôsaka Mainichi Shimbun*, (currently, *Mainichi Shimbun*), *Yorozu-Chôhô*, and *Un-yu Nippô*. The names of the newspapers were abbreviated in this paper as YM, T, M, O, YR, and U, respectively. For example, a *Miyako Shimbun* article dated December 8, 1941, is identified as “M: 12.8.1941”.

During Japan’s modern monarchical period, the major currencies were the *yen* and the *sen*. One hundred *sen* equalled one *yen*. The prices of fireflies were typically less than five *sen* (Table 1). However, currently, the *yen* is the only official Japanese currency. Moreover, prices of fireflies are very different now than during the modern monarchical period, which makes it difficult to understand and relate to prices in *sen*.

Consequently, the prices during the study period were converted to USD values because the USD is a standard international currency. The price of a copy of T during the modern monarchical period ranged from one to six *sen* compared to today’s usual price of about JPY 100–160. As of February 2018, the JPY/USD exchange rate indicates about JPY 110 to USD one. Therefore, the price of a copy of T was roughly about USD one. For example, the T (which was about one *sen* per copy during the study period) reported in 1888 that the price of one firefly was 0.2 *sen*, which was roughly approximated to be USD 0.2 today.

## Results and Discussion

In the newspaper articles used in this study, the word “firefly” was written as the Japanese hotaru, which originally referred to the family Lampyridae. Therefore, I was unable to determine whether the word hotaru was referring to *L. (L.) cruciata* or to *L. (L.) lateralis*. Thus, the references to fireflies as hotaru in these articles necessarily include both species. Therefore, the word “firefly” is used as a term for *L. (L.) cruciata* and *L. (L.) lateralis*.

**Tab. 1:** The annual prices of fireflies.**Tab. 1:** Vsjakoročné ceny svätlošek.

Year	Price of a firefly	Present USD	Price in <i>Tokyo Asahi</i>	Authority
1886	0.3-0.5	0.2-0.33	1.5	YM. 6. 13.
1888	0.2	0.2	1	T. 7. 10.
1889	0.1	0.1	1	T. 6. 15.
1890	2.5	2.5	1	T. 5. 27.
1891	0.1-0.3	0.07-0.2	1.5	T. 6. 3.
1892	1	0.67	1.5	YM. . 6. 26.
1897	0.3	0.3	1	T. 6. 22.
1898	0.5	0.33	1.5	T. 6. 9.
1900	0.5	0.33	1.5	YR. 6. 11.
1902	0.3	0.2	1.5	YM. 6. 5.
1902	0.2-0.3	0.13-0.2	1.5	T. 5. 31.
1904	0.2-0.5	0.13-0.33	1.5	T. 6. 22.
1906	0.5-0.6	0.25-0.3	2	T. 5. 8.
1907	0.3	0.15	2	M. 5. 28.
1914	0.3	0.15	2	YM. 6. 10.
1917	5	2.5	2	U. 6. 19.
1922	0.1	0.03	4	T. 5. 18.
1926	1	0.33	3	YM. 6. 10.
1937	1	0.2	5	O. 6. 17.
1938	0.4-0.5	0.07-0.08	6	YM. 6. 22.
1939	1	0.17	6	O. 6. 15.
2017	400	3.6	150	shop A

In the second column from the left, currency is Japanese sen, except for prices in 2017 indicated by Japanese yen.

In the second column from the right, currency is Japanese sen, except for prices in 2017 indicated by Japanese yen.

In authority, YM, T, YR, M, U, O are abbreviations of newspapers. See text in materials and methods.

In authority, years publishing newspaper articles are omitted. See year in leftmost sections.

### **Prices of fireflies during the Japanese modern monarchical days**

Table 1 above shows the annual prices (1886–1939) of fireflies in the original currencies and converted to 2018 USD. Moreover, for comparison, Table 1 includes the 2017 prices charged by a current Japanese shop (Shop A) that specializes in fireflies.

*Meloidomorpha japonica* (de Haan, 1844), belonging to Orthoptera, also was a popular insect similar to fireflies that was sold during the modern monarchical period. The price of *M. japonica* was about two to five USD as of

February of 2017<sup>2</sup>. In contrast, the prices of fireflies of that period generally were less than USD 0.5, and they were much less expensive than *M. japonica* and current fireflies (Table 1).

Almost none of the fireflies for sale were bred, most were captured in the wild. Merchants dealing in fireflies collected large quantities of them in the metropolitan suburbs around Tokyo and Osaka<sup>3</sup>. The costs associated with selling fireflies were low because fireflies were common insects easily caught using insect nets. Thus, ordinary people could buy fireflies to enjoy during the summer festivals.

### **Uses of fireflies other than as domestic pets**

During the modern monarchical period, many newspaper articles about fireflies reported their prices and other aspects of fireflies, which are described below.

### **Releasing large numbers of fireflies at war commemorations**

During the Russo-Japanese War of 1904–1905, the Japanese combined fleet utterly defeated the Russian Baltic fleet at the Battle of Tsushima on May 27–28, 1905. On June 7, about 150 elementary school students from Nakano Town, Tokyo, went to the Imperial Palace with a few thousand fireflies to commemorate this decisive victory. They marched in front of the Ministries of the Army and Navy, and they released the fireflies at the moats of the Imperial Palace. Many spectators enjoyed the performance (M: 6.7.1905; T: 6.7.1905). Releasing fireflies to honour the anniversary of the victory of the Battle of Tsushima was repeated in following years (YM: 6.23.1910; T: 6.9.1911).

### **Fireflies as free gifts**

Since the 1910s, department stores and large retailers have released fireflies near their stores to attract customers, and they have offered fireflies in insect cages to their customers as gifts. For example, between 1912 and 1917, one of Tokyo's largest dry goods stores, Matsuzakaya, prepared about

five million fireflies for release and as gifts (YM: 6.20.1917). In 1917, Matsuzakaya erected a memorial tower on private land for the deceased fireflies (T: 6.21.1917).

### **Fireflies presented to the emperor and the royal families**

During the modern monarchical period, ordinary Japanese people were accustomed to presenting fireflies to the emperor and the royal families in Tokyo. For example, residents of Saitama and Shiga Prefectures, which were notable for fireflies, presented thousands to tens of thousands of fireflies every year (T: 6.5.1902; YM: 6.15.1910; YR: 6.4.1915; T: 6.6.1927).

Since the 1930s, residents of Fukuoka Prefecture, which is far from Tokyo, also began to offer fireflies to the emperor and the royal families (YM: 6.7.1934). They often transported fireflies to Tokyo on airplanes. One airline company, Nihon-kôkû-yusô, worked hard to help them to present the fireflies and transported them without charging for the shipping (YM: 5.31.1935).

### **Conclusions**

Currently, fireflies are almost never sold in community pet shops or at summer festivals in Japan, which is quite unlike the situation during modern monarchical period. Some professional shops, such as Shop A in Table 1, sell larvae and adults only for special releasing events, activities aiming to protect fireflies, and so on. However, as mentioned above, festivals for watching fireflies continue to be held every year throughout Japan. In addition, killing fireflies is considered morally wrong in Japanese culture, and fireflies are beloved by the Japanese people.

### **References**

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**Fig. 1:** *L. (L.) cruciata* (left) and *L. (L.) lateralis* (right)  
**Obr. 1:** *L. (L.) cruciata* (vlevo) and *L. (L.) lateralis* (pravo)