

Fireflies in Art

Subjects: [Entomology](#)

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Fireflies are well-known bioluminescent beetles (Coleoptera: Lampyridae) of great cultural significance, especially in Japan. This study examined artistic representations of fireflies and depictions of how people interacted with these insects from a historical perspective, with a focus on Japanese woodprint prints from the Edo, Meiji, and Taishō periods. Visual information from the artwork was summarized, highlighting themes and connections to firefly biology and cultural entomology. The artwork highlights the complex interactions between fireflies and humans. Insect-related art can contribute to education and conservation efforts, particularly for dynamic insects such as fireflies that are facing global population declines.

Lampyridae

cultural entomology

ukiyo-e

conservation

eco-art

1. Introduction

Art is a means of expression and a valuable communication tool. Examining artistic representations of insects and their relatives can provide insight into people's perceptions and attitudes towards arthropods, as well as document human–insect interactions and how they change through time [\[1\]\[2\]\[3\]\[4\]\[5\]\[6\]](#). Insect-related artwork can also contribute to educational efforts [\[7\]\[8\]](#), and stimulate discussion about modern societal concerns, e.g., impacts of anthropogenic activities on the environment [\[9\]](#) and conservation of culturally important insects, such as fireflies [\[10\]\[11\]](#).

Fireflies are beetles (Coleoptera: Lampyridae) famous for their bioluminescence. There are over 2500 species of lampyrids [\[12\]](#). Researchers have used mating behavior signals to group North American fireflies into three categories: diurnal species that rely on pheromones (dark fireflies), larviform females that glow and alate males that do not (glowworm fireflies), and alate females and males that both flash (lightningbugs) [\[13\]\[14\]](#). People are likely the most familiar with the latter (e.g., *Photinus*, *Photuris*, *Luciola* spp.), where crepuscular or nocturnal adult males and females use light for communication and mating, or in the case of predatory fireflies to attract prey [\[13\]\[15\]\[16\]\[17\]](#). Fireflies spend most of their lives as immatures, which are found most often in damp habitats [\[18\]](#). Species that are important in Japanese culture are dependent on water (e.g., creeks, rice paddy fields) as immatures [\[19\]](#). Fireflies are of great cultural significance in Japan, both historically and currently [\[19\]\[20\]\[21\]\[22\]\[23\]\[24\]\[25\]](#). Three firefly species are well-known in Japan: Genji-botaru or Minamoto-Firefly (*Luciola cruciata* Motschulsky), Heike-botaru or Taira-Firefly (*Aquatica lateralis* Motschulsky) and Hime-botaru (*Luciola parvula* Kiesenwetter) [\[26\]\[27\]\[28\]](#). *Luciola cruciata* is a designated national natural treasure, and people are highly interested in its conservation, especially as the larval stage is aquatic and vulnerable to water pollution [\[21\]\[27\]](#).

2. Focus on Fireflies

Information and websites for images referenced in this study are listed in the associated article published in *Insects* (<https://doi.org/10.3390/insects13090775>), with each work given a unique identification number. Artists depicted adult fireflies in the absence or presence of people. Representations of adults were diverse, whether free-ranging or contained within cages, and ranged from realistic-looking insects to yellow-colored or golden dots. Some fireflies appeared to be generalized insects or resembled butterflies, or were more abstract, such as a blotch or the letter 'X'. However, in other pieces the insects were clearly fireflies. In general, the more accurate depictions of fireflies tended to be on artwork lacking people or on objects. Images of fireflies interacting with other animals were rare. Two-dimensional artwork focused solely on the insects fell into two broad categories. Several pieces, including multiple works by Zeshin, had a few non-glowing fireflies flying or at rest, usually outdoors in the daytime surrounded by white space or in still-lives. A second group of paintings and prints depicted fireflies—often dozens of them—at night near water. These night scenes had muted gray or black color palettes, which highlighted the fireflies' reddish body parts and luminescence (**Figure 1**).



Figure 1. (T127). Fireflies Over the Uji River by Moonlight (detail). Meiji period (1868–1912). Suzuki Shōnen (Japanese, 1849–1918). Painting, hanging scroll; ink, color, and gold on silk. Purchase, Gift of Mrs. Russell Sage, by exchange, 1979. Accession Number: 1979.72. The Metropolitan Museum of Art, New York, USA, www.metmuseum.org (accessed 4 January 2022). Open access image, CC0.

Some night scenes had human elements, such as buildings and indistinct figures on boats or behind window shades, although the fireflies were the primary element of interest. Several images had silhouetted figures, including work by Gekkō, Hiroaki, Shōtei, Shōun, Toshihide, and Toshikata, and one had the background landscape and plants in silhouette while the people in the foreground were in vibrant color (T88). Artists used different strategies to convey nocturnal or twilight settings. Some prints had a solid black background (e.g., **Figure 2a**), a grayish or blue sky (e.g., **Figure 2b**). Many images had a lighter background with a dark streak at the top,

and one had an orange horizon akin to a sunset. However, many images of people watching or collecting fireflies had a light background without any indication of darkness, some of which were *benizuri-e* style prints.

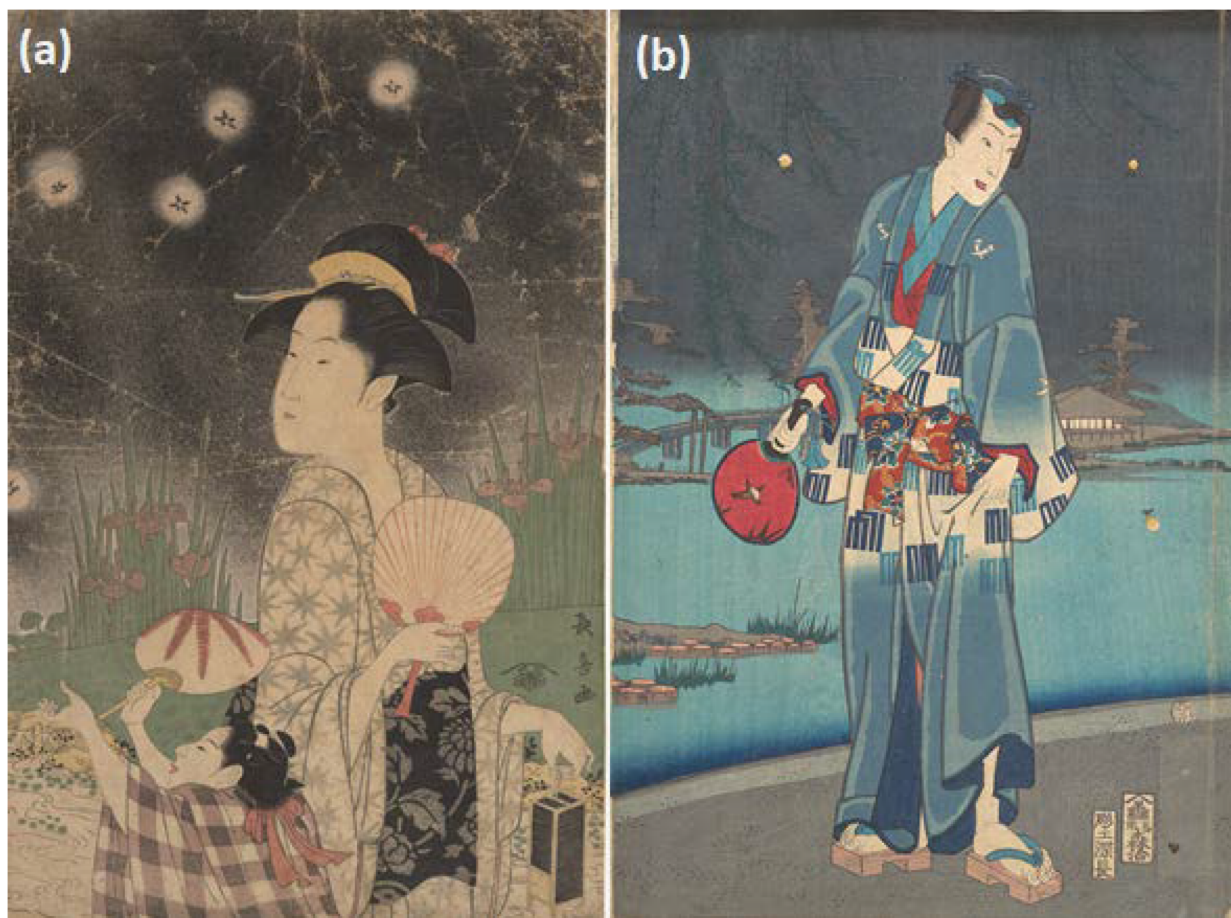


Figure 2. The Metropolitan Museum of Art, New York, USA, www.metmuseum.org (accessed on 4 January 2022). Open access images, CC0. **(a)** (T16). *Woman and Child Catching Fireflies*. ca. 1793. Eishōsai Chōki (Japanese, active late 18th–early 19th C.). Woodblock print; ink and color on paper. H.O. Havemeyer Collection, Bequest of Mrs. H.O. Havemeyer, 1929. Accession Number: JP1739. **(b)** (T67). *Modern Genji—Firefly Viewing* (Imayō genji shiken hotaru asobi). 1961. Toyohara Kunichika, (Japanese, 1835–1900). Central sheet of a triptych; woodblock print, ink and color on paper. Museum Accession. Accession Number: JP1093.1.

3. People Represented in Artwork

Japanese children frequently spend a great deal of time learning about, and observing or playing with insects, or *mushi*, and often hunt fireflies in the summer [28][29][30][31][32]. “Girls follow the chase with paper fans; boys, with long light poles to the ends of which wisps of fresh bamboo-grass are tied.” [28] (p. 150). This is not restricted to Japan; catching fireflies is also a common pastime for children in the United States [33][34][35][36][37]. Some Japanese artwork only featured children, but many of the images with children showed one child collecting fireflies with one woman who was likely their parent or multiple women with multiple children (e.g., **Figure 3**). Beautiful women (*bijin*), *geisha* (professional female entertainers), and courtesans were common subjects of *ukiyo-e* prints [38][39].

Pieces with men often focused on *kabuki* actors, which were extremely popular *ukiyo-e* prints [38]. Images with larger groups of people showed social gatherings where the evening's entertainment focused on collecting and observing fireflies. Lanterns, blankets, food, beverages, pipes, musical instruments, and pets were often pictured, emphasizing the recreational aspect. Small groups in boats and larger boating parties were common. A few images were humorous and involved physical comedy e.g., people tumbling to the ground or falling into a stream surrounded by escaping fireflies.



Figure 3. (T186). Catching fireflies (Hotaru gari). ca. 1796–97. Kitagawa Utamaro (Japanese, ca. 1754–1806). Triptych of woodblock prints; ink and color on paper. Rogers Fund, 1914. Accession Number: JP151. The Metropolitan Museum of Art, New York, NY, USA, www.metmuseum.org (accessed on 4 January 2022). Open access image, CC0.

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