

A Probable Mechanical Vector in the Transmission of Coronavirus Disease is the Housefly (*Musca Domestica*)

Matthew S*

Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139, USA

Abstract

The housefly is one of the world's most dangerous health pests. A significant number of bacterial, viral, and parasitic diseases can be mechanically transmitted by this species. Coronavirus is one of the most widespread and important virus families in humans and animals. COVID-19 is a novel Coronavirus that can produce mild, moderate, or severe symptoms as well as mortality in individuals. Coronavirus sickness is unfortunately expanding rapidly over the world, and there is no thorough information on the disease's transmission channels. Houseflies can mechanically transmit coronavirus between humans and animals, making mechanical transmission one of the conceivable mechanisms of coronavirus transmission.

Although vaccination is the greatest strategy to prevent COVID-19, until a vaccine is fully developed and effective, the most effective method is to eradicate and minimise the pathways of transmission of coronavirus disease. Insect removal and control measures (environmental improvement, mechanical, and chemical approaches) can be one of the most effective ways to break the coronavirus transmission epidemiological cycle.

Keywords: Liver Disease • Surgery • Malignancy

Introduction

Musca domestica (Diptera: Muscidae) is the most common and widely distributed fly species on the planet. This species is highly adaptable to its surroundings and can be found in large numbers in both human and animal populations in both rural and urban areas [1].

Musca domestica (Diptera: Muscidae) is the world's most common and widespread fly species. This species is extremely adaptive to its environment, and it can be found in huge numbers in both human and animal populations in both rural and urban settings.

The presence of risk characteristics in domestic flies, such as kind of behaviour, high flying strength, rapid movement, and high olfactory and visual power, could indicate that *M. domestica* is a possible vector of a variety of infections (bacterial, viral, and parasitic). Houseflies can sit on the surfaces of infected objects and meals and subsequently transfer a range of infections through various bodily regions (legs, wings, mouth parts, abdomen, hair on the surface of the body). Typhoid, polio, TB, cholera, salmonellosis, dysentery, diarrhoea, anthrax, Rota virus, viral hepatitis, poliomyelitis, and other diseases have been linked to houseflies in studies [2].

Coronaviruses are enclosed viruses with a single-stranded positive-sense RNA genome that belong to the Coronaviridae family. Coronaviruses (26-32 kbp) are among the biggest RNA viruses that may infect mammals and birds.

In the late 1920s, coronavirus was originally discovered in hens suffering from acute respiratory distress in North America. The first human coronavirus was discovered in the United Kingdom and the United States in 1960. Later on, other coronaviruses were discovered and isolated in the same way. In late 2019, a new strain of coronavirus (Covid-19) was found in Wuhan, China, and it quickly spread over the world, causing moderate symptoms such as a simple cold to severe respiratory symptoms. This disease is spread via respiratory secretions, contact with infected surfaces (hands, eyes, mouth), and other unknown mechanisms (under study). The coronavirus can survive for a long time on various surfaces (several hours to several days).

***Address for Correspondence:** Matthew S, Department of Chemistry, Massachusetts Institute of Technology, Cambridge, MA 02139, USA. E-mail: matthew.s@gmail.com

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The long-term stability of the coronavirus, as well as the behavioural and dietary properties of houseflies, allow the virus to be transmitted mechanically [3].

Because the Covid-19 sickness is rapidly spreading, there are many concerns regarding the virus's undiscovered transmission channels, which is a major and pressing concern for the World Health Organization. As a result, extra attention and research should be paid to the disease's transmission and spread channels, so that the appropriate steps can be made to limit and control the disease based on correct and precise understanding of the disease's transmission routes. Some insects, such as flies and cockroaches, can be potential mechanical vectors of infections, particularly coronavirus, based on their behaviour and biology, as well as their contact with human beings. Scientists are studying the transmission of the coronavirus by many insect species, however the virus's transmission by bloodsucking insects has not been documented or proven [4].

Since there is no definitive cure for the disease, the only approach to prevent it is to obtain a vaccine that is effective. As a result, methods of control and removal of vector, such as mechanical and physical methods (placing nets on doors and windows, Ventilators), improving the environment (correct garbage collection, preventing the accumulation of human and animal waste), chemical methods (spraying surfaces and space), and others, are effective in controlling coronavirus disease.

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