

Pantry Pests - Comparative Study of Drug Store Beetle and Cigarette Beetle

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Abstract—*Stored product pests cause tremendous damage and economic losses to post-harvest products. Cigarette beetles commonly infest dried tobacco and tobacco products, raisins, figs, dates, ginger, pepper, chili powder, curry powder, barley, cornmeal, flour, soybean meal, wheat, wheat bran, rice meal, beans, cereals. Drugstore beetles will feed on many drugs, including poisonous substances such as belladonna and strychnine. They infest almonds, peanuts, red pepper, alfalfa meal, cornmeal, flour, wheat, wheat bran, wheat germ, bread, beans, coffee beans, powdered milk, books and manuscripts, dried flowers, and fabric coverings of furniture. The cigarette and drugstore beetles (Coleoptera: Anobiidae) are two of the most common pests of stored products in homes. Both species are found throughout the world. The cigarette beetle, Lasioderma serricorne (Fabricius), is common throughout tropical and subtropical regions, and is commonly found in heated buildings in temperate areas. The drugstore beetle, Stegobium paniceum (Linnaeus), is characteristically more in temperate than tropical. Adult: The beetles are cylindrical, 2.25 to 3.5 mm (1/10 to 1/7 inch) long, and are a uniform brown to reddish brown. They have longitudinal rows of fine hairs on the elytra (wing covers). Drugstore beetles are similar in appearance to the cigarette beetle however, two physical characters can be used to compare the distinguishing characters. The antennae of the cigarette beetle are serrated (like the teeth on a saw) while the antennae of the drugstore beetle do not have 3-segmented club. The other difference is that the elytra (wing covers) of the drugstore beetle have rows of pits giving them a striated (lined) appearance while those of the cigarette beetle are smooth. Adult females live approximately 13 to 65 days and approximately 28 to 30 days in case of cigarette beetle and drug store beetle respectively. Larvae: Larvae of both species are C-shaped grubs about 3/16 inch long when mature the later instars are scarab-like. Cigarette beetle larvae are creamy white and covered with long, yellowish brown hairs. They have a brown head and legs. Drugstore beetle larvae are similar but do not have the fuzzy appearance. The larval period ranges from 4 to 20 weeks. Larvae tunnel through the substrate and when fully grown build a cocoon and pupate. Pupae: Pupation takes from 12 to 18 days in cigarette beetle while in drug store beetle pupation stage takes from 7 to 21 days. Life cycle: The entire life cycle is generally less than two months but can be as long as seven months. The duration of the life cycle is highly dependent on the temperature and food source. Development occurs between 60 to 93°F (~15 to 34°C) but is optimal at about 85°F (~30°C) and 60 to 90% relative humidity. There are usually three to six generations of cigarette beetles and one to four generations of drugstore beetles each year.*