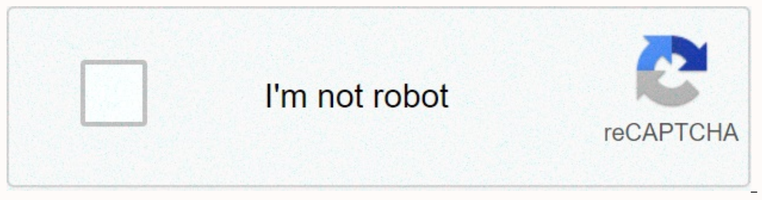

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How are pill bugs and earthworms alike

Name: _____ Roly-Poly Pill Bugs by Cynthia SherwoodSome people are afraid of bugs, would bugs pill also have something in commonspiders or cockroaches. But there's a cockroach with snakes. The same way snakes shed their skin only about everyone likes it - pill cockroaches. If you when it gets too small, the pill bugs do too.ever raise one, you know why its called molting. A moltsnickname bug pill is roly-poly. A cockroach of pills rolls about five times until it's grown.in a small, tight way to protect itself. This bug is scared of you, not the other way around! Pill bugs are a bit like owls, too. Pill bugs are nocturnal, which means they areThese small gray or brown bugs can be found most active at night. Then they most like to wander and watch the desert. That's because they're for food. And like earthworms, they need pills to stay wet. But they can live in dry bugs help break down plants in places like California due to soil turf. Pill bugs aren't just nice bugs. Eisprinklers. One of their favorite hang-outs is also the interesting ones!under wet flower pots. Did you know that pill beetles have something in common with kangaroos? After the eggs, the pill mother cockroach carries her baby in a bag under her belly. Little bugs pillstay there until they are big enough to be on their own. Super Teacher Worksheets - www.superteacherworksheets.comName: _____ Roly-Poly Pill Bugs by Cynthia Sherwood1. Why are pill bugs nicknamed roly-poly? _____ _____2. Where would you be least likely to find a pill bug.a. under a large rock near a pond b. under a log near a downspoutc. in a vegetable garden d. hiding in the roots of a cactus3. Is it a pill beetle like a kangaroo? _____ _____4. What does the word molting mean? b. spilling his skin a. active at night d. crawling like a snake c. crawling in a wet place5. are pill bugs and earthworms alike? _____ _____6. Which statement in the article is an opinion? A. This bug is scared of you, not the other way around. B. A bug pill molts about five times until it is full-grown. c. Pill Bugs are not just nice bugs; these are the interesting ones. d. One of their favorite hang-outs is under wet flower pots. Super Worksheets - www.superteacherworksheets.comName: _____ Roly-Poly Pill Bugs by Cynthia Sherwood1. Why are pill bugs nicknamed roly-poly? Pill bugs are nicknamed because they can roll into tight balls to protect themselves.2. Where would you be the least likely to find a pill bug? Yes. under a large rock near a pond b. under a log near a downspoutc. in a vegetable garden d. hiding in the roots of a cactus3. Is it a pill beetle like a kangaroo? Like a kangaroo, a mother pill bug is able to carry her cubs in a bag in her belly.4. What does the word molting mean? Ba. active at night b. shedding its skinc. crawling into a wet place d. crawling like a snake5. are pill bugs and earthworms alike? The earthworms and insects with pills break down the plants in the soil.6. Which statement in the article is an opinion? c a. This bug is scared of you, not the other way around. B. A bug pill molts about five times until it is full-grown. c. Pill Bugs are not just nice bugs; these are the interesting ones. d. One of their favorite hang-outs is under wet flower pots. Super Teacher Worksheets - www.superteacherworksheets.com Pillbug, Armadilidium vulgare (Latreille), is an isopod, a type of non-insect arthropod, also known as terrestrial crustaceans. Sometimes it is called a roly-poly due to its ability to roll in when disturbed (Figure 1). This defensive behavior also makes it look like a pill, which is why it is sometimes known as a pillbug. The name woodlouse is used for both pillbugs and sows in Europe and refers to where these arthropods are found, would be under logs. Pillbugs are nocturnal, although they can be found during the day in the soil or under debris. They are mainly beneficial in the garden or landscape, but can become occasional pests if they wander indoors. Figure 1. Pillbug, Armadilidium vulgare (Latreille), rolled into a. Photo by James Castner, University of Florida. Pillbug is often erroneously referred to as a sow, which is the common name used for other woodlice species in the genus Oniscus and Porcellio. Sowbugs and pillbugs are both isopods, but they differ in that a pillbug can run in one and a sow can't. Sowbugs are more flattened and have appendix that extends from the last abdominal segment that prevents them from rolling (Figure 2). Figure 2. A sow, another non-insect arthropod, which is often mistaken for pillbug, Armadidium vulgare (Latreille). Photo by James Castner, University of Florida. Distribution (Back to Top) Pillbugs have been introduced from Europe and are found around the world as a cosmopolitan species. Description (Back to Top) Pillbugs are nocturnal isopods. During the day, they can be found in dark, wet places, such as under fallen leaves, rocks, or logs. They are terrestrial crustaceans that live their entire lives on land. Pillbugs feed mainly with decaying plant leaves and other decomposing materials. Back to Top Eggs: Eggs are transported in a marsupial (brood bag) on the ventral surface (lower part) of the female can reach a diameter of 0,7 mm. Eggs hatch after three to four weeks. Females can produce one to three saplings each year and each brood is composed of 100 to 200 eggs. Young: After the incubator, the chicks can sit in the bag on the underside of their mother for another one to two weeks and grow up to 2 mm in length before venturing on their own. Whereas in the marsupial, both eggs and chickens survive on nutrients received by marsupial fluid (Capinera 2001). Figure 3. Pillbug, Armadilidium vulgare (Latreille), adult and young. Photo by Lyle J. Buss, University of Florida. The young man's first molt takes place a day after he left his mother. This first molt allows them to gain the seventh segment of their pereon (thoracic structure in crustaceans). The second molt takes place two weeks later and allows the seventh pair of legs to generate, coming from the newest thoracic segement. Pillbugs continue to molt every one to two weeks for the next 18 weeks. When molting, the back of the body flows first and then the anterior portion flows around three days later (Capinera 2001). Adult: Adult color varies from gray to brown and reaches 8.5 to 18 mm long when mature (Capinera 2001). The head has a pair of antennas and a pair of antennas, both used to detect sensory stimuli in the pillbug environment. Complete eyes are located on the cephalotorax side (head-like region in isopods composed of the molten head and thoracic segment) (Figure 4). The armadilidium vulgare body consists of a thorax (known as a pereon) with seven segments and a abdomen (pleon) with uropods (appendixe arising from the last segment of the abdomen). Pillbugs have seven pairs of legs, one pair for each segment of the chest. Males and females can be distinguished by looking at the ventral plane (below). Males have copulating organs on the anterior portion of the thorax and females have a bag for brooders (marsupi) if they are pregnant. Adults can live between two and five years. Figure 4. Pillbug adults, Armadidium vulgare (Latreille). Photo by James Castner, University of Florida. Host plants (Back to top) The main pillbug habitat is under mulch, fallen leaves, and rocks. Pillbugs are nocturnal and require wet conditions during the day. Pillbugs are generally found in soil with sows, millipedes, and earthworms. Their preferred soil habitat is composed of organic matter and has a neutral to alkaline pH. Pillbugs are the least likely to be found in soil that has been cultivated, is too wet, or has an acidic pH (Capiera 2001). Pillbugs have also been found feeding on seedlings and some plant roots, leading to occasional minor pests. Plants with damage to the green leaves of Armadilidium vulgare (Latreille) include Picris echioides and Silybum marianum in the meadows (Paris 1963). In addition, Armadilidium vulgare (Latreille) was found to cause damage to tomatoes, radish, lettuce, mustard, peas, and bean crops (Pierce 1907). Armadilidium natum has been reported feeding cucumber and fruit plants (Capre 1985). Back to Top A study was conducted on the effects of detritivorous behavior (consumption of dead plant material) of pillbug in the forest of waterhardwood in central Florida. Feed from robberies had a positive impact on the ecosystem, demonstrated by the increase in mineral layer nutrients (nitrogen, phosphorus and potassium), increased pH and higher amounts of carbon removed from fallen leaves (Frouz 2008). Pillbugs can also be found inside homes, but are not known to cause any damage, just bother people to be present inside their residences. Management (Back to Top) Preventing the establishment of pillbugs in unwanted areas is the best management strategy. Pillbugs traveling inside a house can be easily swept away and taken outside. To prevent their re-entry, make sure that the cracks at floor level and door entrances are sealed. Cultural controls to prevent pillbugs from causing damage to seedlings or vegetables and fruits on the ground may include avoiding overwatering leading to wet soil conditions and removing decomposing plant material, which can serve as a host area for isopods. 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