

PORCELLIO SPINICORNIS CARE INSTRUCTIONS

Your Isopod Package Includes:

- 12-15 *P spinicornis* – the brickwork isopod (origin: Edmonton) - in a starter container with some food
- A starter amount of blended substrate from our lab, which only includes enough for your isopods to last for a week or so. Please rehome ASAP.
- Possibly some springtails (tiny, beneficial jumping invertebrates which cohabitate in a bioactive unit with your worms)

Things You Need:

- a larger, new habitat: minimum 20 h x 20 w x 25 l in CM for a starter size. Plastic tote type containers work well.
- spoon or scoop for scooping dirt or picking up your new friends
- food and substrate
- chopsticks, spoons, or forceps to help you dig around in the dirt
- a spray bottle with mist function, in case your soil gets dry



WHEN THEY ARRIVE

Check them over: make sure they are alive and scurrying around. They have limited food and habitat in the little cup (wood and leaves from a hardwood tree such as oak or apple, substrate, and some veggie scraps). This is only enough for a week or so, until you have your supplies for a large home gathered. Please rehome your isopods as soon as possible: the more space, the better.

Immediate Needs:

- Keep your isopods between 18 and 25 degrees.
- Put them somewhere quiet, and in low light. Klugii are particularly shy isopods and very much prefer the dark!
- *Spinicornis* (also called “brickwork” because they are usually found around stones/bricks) isopods are some of the most adaptive to dry conditions, but always ensure there is ample damp substrate over at least 1/3 of the enclosure. Isopods breathe through modified gill-like structures: ensure there is access to a humidity gradient (wet spot) at all times. Humidity levels need to be fairly high (50-75%; so, keep the lid on) at all times. **They always need moist dirt.** If you notice the substrate drying out on top, spray it with water until you see condensation forming.

ENCLOSURE

The Substrate

Proper bedding is critical in maintaining the health of your isopods; it is their primary food source, it is their main source for hydration, and it is also where they live. Quality substrate is the most important care factor in maintaining and growing your population of isopods.

Your isopods only have enough substrate for shipping: you’ll need to expand on that. The mix you have been given is approximately a 1:1:1 blend of decomposing leaves, wood, black earth. Suitable substrates you blend and use:

- clean black earth potting soil (no chemicals, no fertilizer; usually available at garden centres) and coconut coir (can be found at greenhouses, hydroponic stores, pet stores).
- orchid bark or other shredded hardwood (decayed is best; no cedar)
- a handful of clean sand for grit
- Sphagnum moss
- Ground cover: *P spinicornis* are bold and you’ll see them often, but they are almost entirely detritivorous. They need lots of decaying hardwood, bark, and dried leaves.
- Rocks: brickwork isopods love rock slabs or pieces to hide around or on.

Wherever possible, use hardwood species, as it is most nutritious. Be cautious collecting things from the wild: a lot of leaf litter or wild-collected materials are going to be contaminated with runoff, herbicide, or pesticide.

Cuttlebone: crumble some in (available in the bird section at pet stores).

Isopods need calcium.

The Container

Your isopod habitat should have a lid, be waterproof, and ventilated. Plastic totes/shoebboxes work well. A minimum starter size is 20x20x25 CM; bigger is better.

Ventilation is also important: the isopods need air, so don’t seal them into a container with no holes. Nor should the container be completely open: it will dry out too quickly, and they will desiccate. Keep an eye on them, and modify the amount of ventilation as you get used to how quickly your substrate is drying out.

Do not use a bin made of wood – they cannot climb plastic or glass, but they can climb wood.

Habitat Issues

The main issue is dehydration in captivity. Avoid this by keeping at least one section of the substrate moist at all times.

FOOD

BASICS: Isopods are detritivores, which means their primary food is rotting dead plant matter, which should be in the habitat itself. They will also eat small amounts of rotten organic waste such as dead animals, proteins, and certain fruits and vegetables. You can exploit this to compost your kitchen scraps.

Spinicornis are slow eaters, very small, and prefer dead plant material to fresh food. It is possible to offer small amounts of veggies and fruit as supplementary food but you may find they do not touch it and prefer rotten logs and leaves. Any moldy food should be removed.

DO FEED:	DO NOT FEED:	NOT MUCH OF:
-rotten wood and leaves	-Citrus Fruits	-Protein: the best kinds are dry
-cuttlebone (should always be available)	-Onions	-dog/cat/fish food -
-Apple	-Potato	but protein should be less than 10%
-Melon	-Oil	of the diet
-Cucumber	-Butter	-Things super high in nitrogen
-Avocado	-Meat or Fish	
-Lettuce	-Pet/Human Waste	
	-Cheese	
	-Wet cat/dog food	

Don’t forget to monitor their substrate humidity! Decaying food adds moisture.

Many people have begun to exploit their eating habits by adding isopods into other animal habitats (such as herp vivariums) with varying degrees of success; for this reason they are popularly known as a “clean up crew.” Please ensure you are targeting the appropriate species to cohabitate! Isopods have needs of their own. Some species of isopods can and will injure other animals, and many will not be efficient for cleaning the animal waste you are hoping to. *Spinicornis* are not known to be aggressive, but may not be very effective helpers for pet waste.

TO AVOID ODOR & FLY PROBLEMS: Do not feed more than they will eat in 1-3 days.

Isopods make charming and entertaining invertebrate companions.

Edmonton brickwork isopods originate in our hometown, and may be released outside. However, a word to the wise:

Captive reared animals may spread diseases. Your isopods arrived healthy to you, but you can be a carrier when moving animals about. There is a particular disease, *isopod iridovirus*, which is particularly deadly to these animals. Please inspect any organisms you intend to release for health: and should they show any signs of symptoms, do not under any circumstances release your animals.

More information below.

A Little About Isopods

- Your isopods are properly called *Porcellio spinicornis*: try this name out as it really is the only one unique to this species. Wikipedia lists 23 common English names for isopods – including rollie-pollie, smooth woodlouse, and pillbug – and these are shared among many of the 5000 terrestrial species of isopod in our world. And that's just the English names! There are many more nicknames in other languages as well.
- *Spinicornis* isopods are sometimes called “brickwork isopods” because they like hanging on or around rocks and bricks and other hard surfaces.
- Isopods are not an insect, arachnid, or a millipede. They are a tiny land crustacean, so their closest cousins are shrimps, crabs and lobsters. They are not truly native to Canada, but are widespread after being introduced from Europe alongside settlers.
- Isopod bodies: they have three body parts: head, thorax, and abdomen: with seven segments on the thorax. There is 1 prominent pair of antennae (“flagellum”) at the front (you can see them waving them around and exploring their world with these) and one inconspicuous pair. They have two very simple compound eyes, and 14 legs in total. The little paired appendage at the “tail” end of the isopod is called a uropod: in males it is usually longer than on females. They breathe through primitive gill-like structures on the base of their legs.
- Your isopod's colour varies a little, mostly in the intensity of the yellow spots.
- Isopods live almost everywhere all around the world, from the ocean to our backyards. Some live at high altitudes, some live-in deserts, some live under the Antarctic sea ice. This is an ancient family of animals, around since the carboniferous era, and they have adapted to a wide variety of environments.
- Not all of them can curl fully into a ball. This *Porcellio* species can only curve, like a shrimp, but not ball up.
- Isopods have an exoskeleton: a hard shell. They can withstand a short fall, but please be careful not to squish them!
- Female isopods have a marsupium (like a kangaroo pouch) on their belly, about 2/3 - 1/2 way down their body, in between their legs. The eggs grow and when ready, hatch inside of this pouch, upon which she “gives birth” to babies that are ready to walk around. If you look carefully and gently you might be able to see full brood pouches on mature females.

LIFE CYCLE AND MOLTING

You will have both male and female isopods. After mating (which occurs during a female's molt cycle), the female grows eggs into a brood pouch on her underside (you can see it if you look very, very carefully; like a little white bundle in the middle of the body between the legs). The eggs develop inside this marsupium, and then stay as little mini white isopods inside until they are ready to be “born,” which is simply when the marsupium detaches and the little babies emerge. Some species of isopod have females who can reproduce asexually, without a male.

Like all animals with an exoskeleton, they must moult in order to grow; an isopod will molt 4 or 5 times to reach adulthood. Unlike most arthropods, they do not shed their exoskeleton all at once: first the back half is shed, and then in the next 2 or 3 days the front will follow. Watch for moulting individuals in your colony and avoid bothering them! You can spot a moulting isopod because the front half of the isopod will be a different colour than the back half (they moult their exoskeleton in two parts).

Moulted skins are called exuviae, and the adults will naturally eat them and recycle them as they would other decaying organic matter.

Your isopods have a lifespan of approximately 2-3 years.

HANDLING

Isopods are harmless and can be handled and observed easily as long as you are gentle.

Use a spoon or careful fingers to scoop and gently free them from the soil and deposit into your hand. They are very small and their legs are delicate, so never pinch them or press on them because you may not be able to see the damage that they can feel. Let them walk around on your fingers or hands freely; they do not appreciate being forced to stand still. They are fast walkers and can withstand a short drop. Like all arthropods, handling while they are moulting is discouraged! Immature individuals will be more fragile than the adults, so go for the bigger ones.

Sometimes you will find a mother with a full brood pouch on her belly: it will look like a fat whit-yellowish blob in between her legs in the middle of her body on the bottom. You might even be able to see the babies inside! Avoid handling gravid mothers like this.

Congratulations on your new role as an isopod caregiver! Isopods make an easy, convenient addition to the home or learning environment: like an ant colony, but they work for you!

They are a wonderfully helpful little invertebrate ally we can incorporate into our daily 21st century lives, allowing us to reduce our carbon footprint by diverting landfill waste, and helping to close the metabolic gap through recycling. They are charming and whimsical to watch as they trundle about on their cute isopod business. We like to think they will trundle their way right into your heart.

The world of isopods is vast and interesting: enjoy your journey!

Porcellio spinicornis are naturalized and widespread across Canada, though not truly native.

ISOPOD HEALTH AWARENESS:

Like many isopods, they are highly susceptible to isopod iridovirus, a possibly lethal and highly infectious virus which causes high mortality in all species of oniscids, a suborder of isopods. Before you release any isopods, please ensure your population is healthy.

Isopod iridovirus is characterized by:

- striking, iridescent blue or purplish-blue coloration on the isopod in patches or as sheen**
- decreased responsiveness**

Please google “isopod iridovirus” should you suspect ill health in your animals. Any symptoms or suspicion should be treated with isolation: there is no cure. Do not under any circumstances release your animals. Instead, photograph what you see and reach out to us at the lab:

bugs@butterflyab.com