

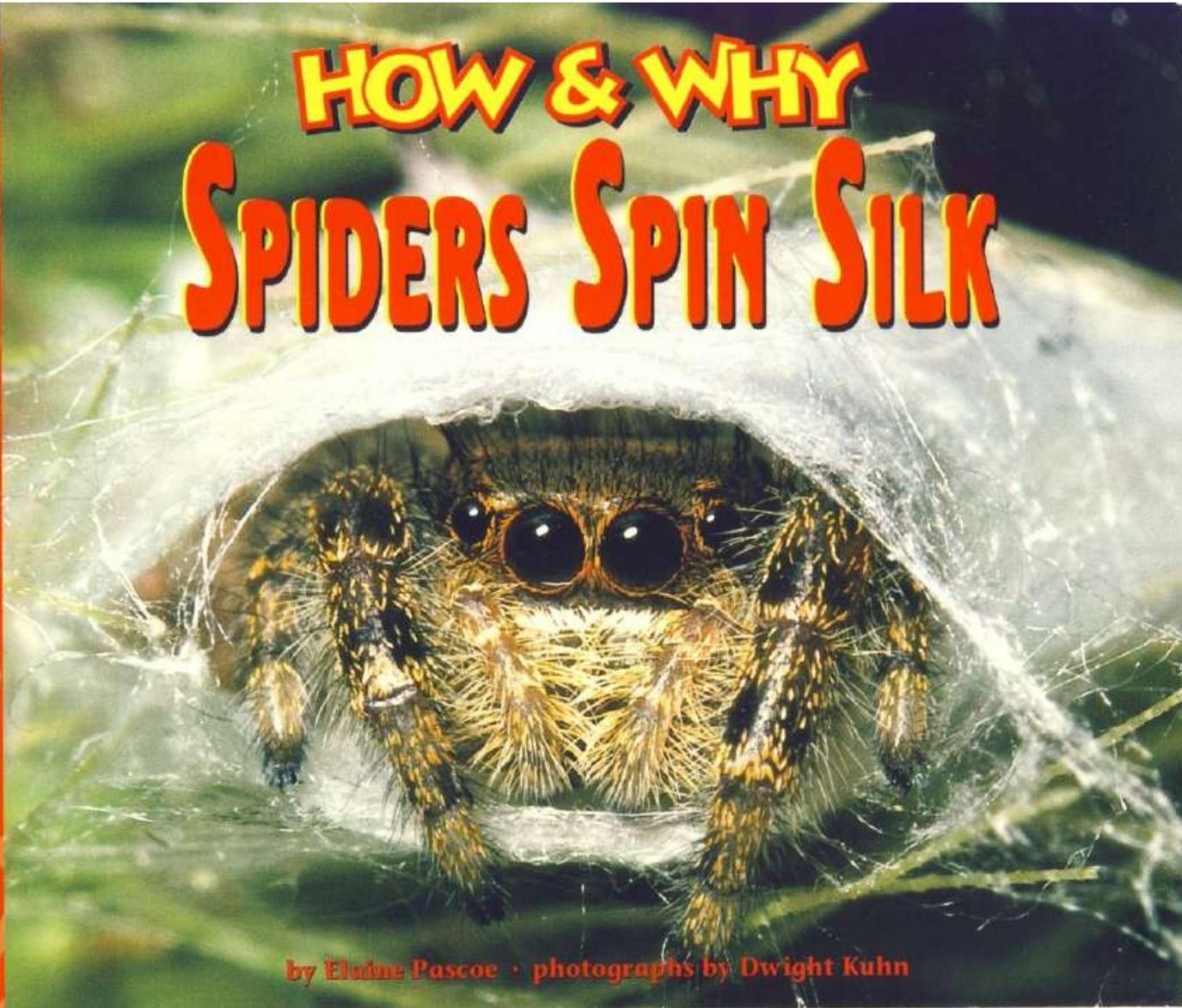
Elaine Pascoe and Dwight Kuhn
HOW & WHY
Spiders Spin Silk

絵本の紹介
なぜ どうして
クモは糸を紡ぐの
訳 池田博明

CTP 2968



HOW & WHY SPIDERS SPIN SILK



Creative Teaching Press

by Elaine Pascoe · photographs by Dwight Kuhn

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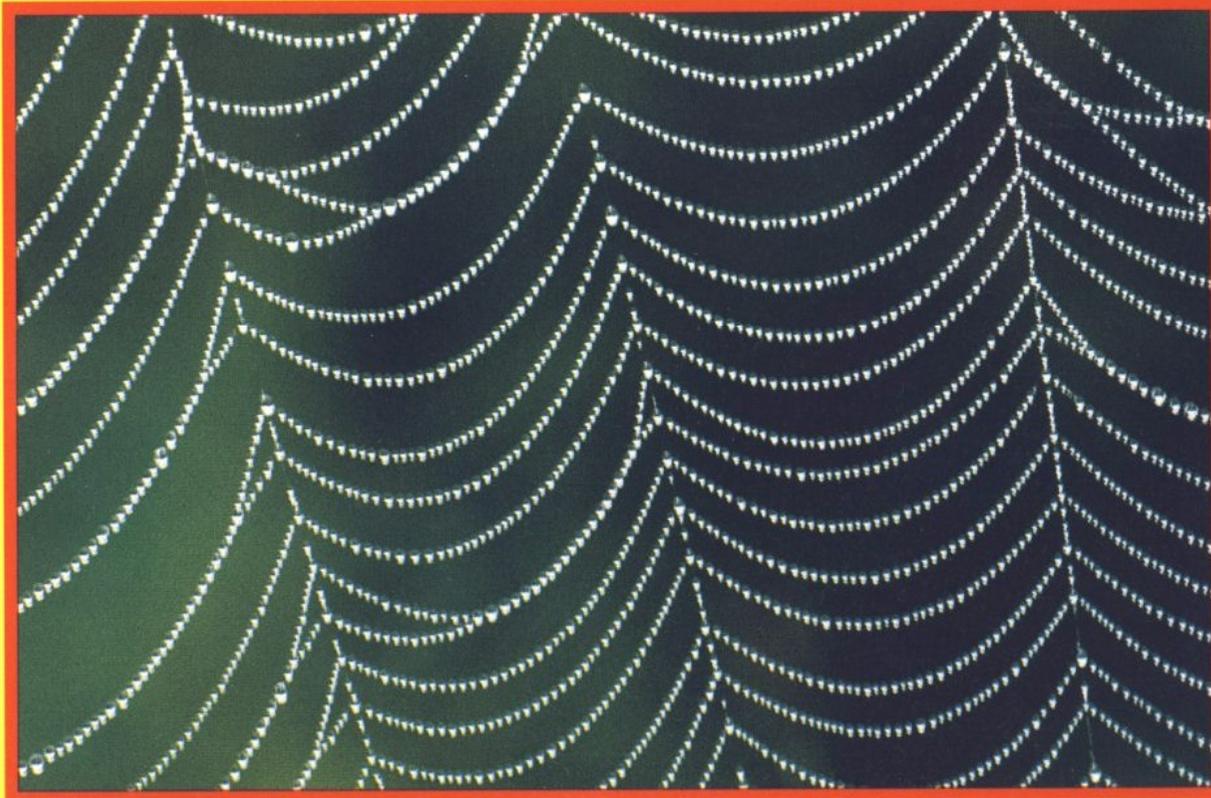
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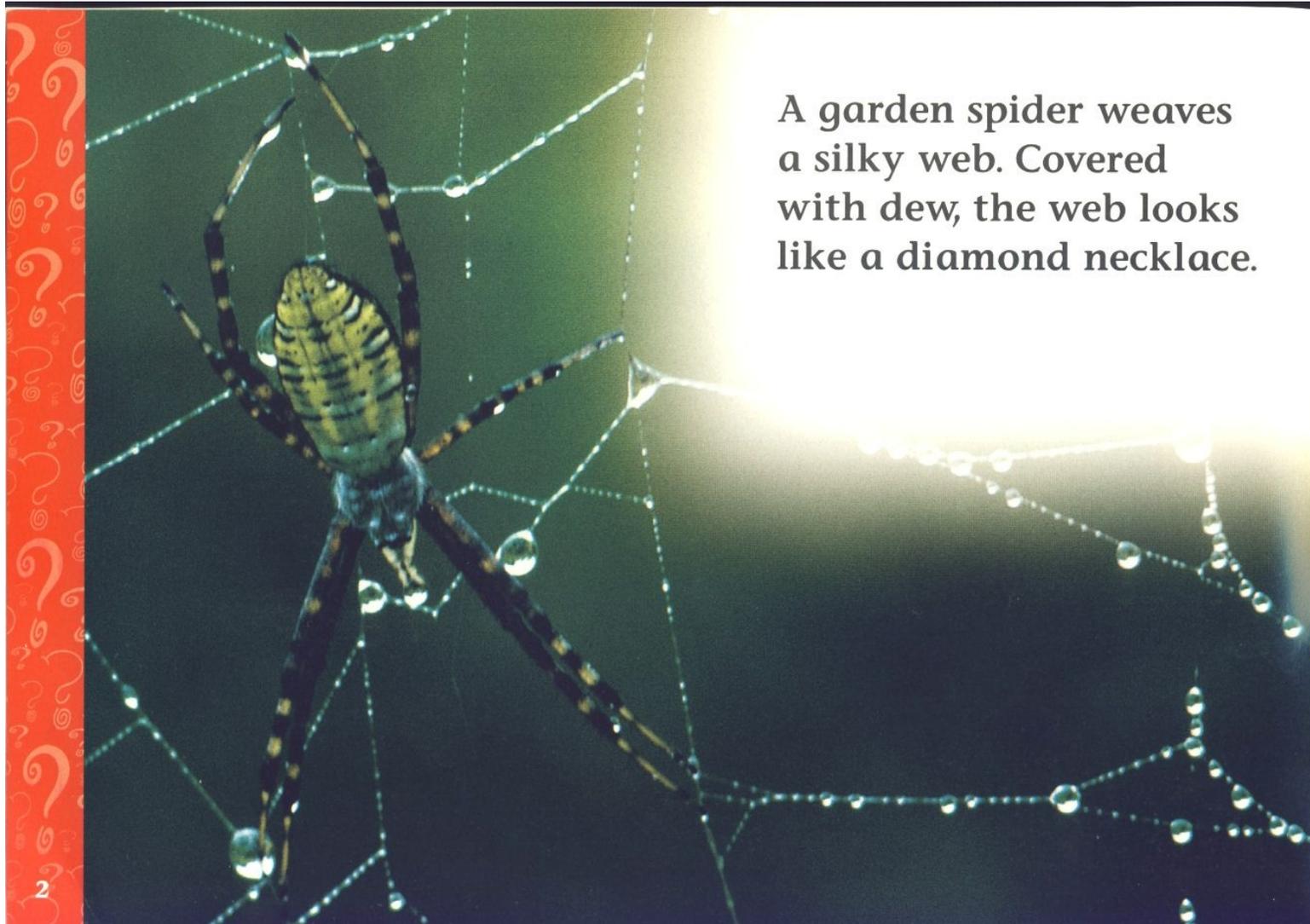
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How & Why Spiders Spin Silk





A garden spider weaves a silky web. Covered with dew, the web looks like a diamond necklace.

庭のクモは糸でできた網を張ります。水玉がつくと網はまるでダイヤのネックレス。

A jumping spider spins a silk anchor line. The thread looks fragile, but it is very strong. Spiders make many kinds of silk. They use their silk in many ways.



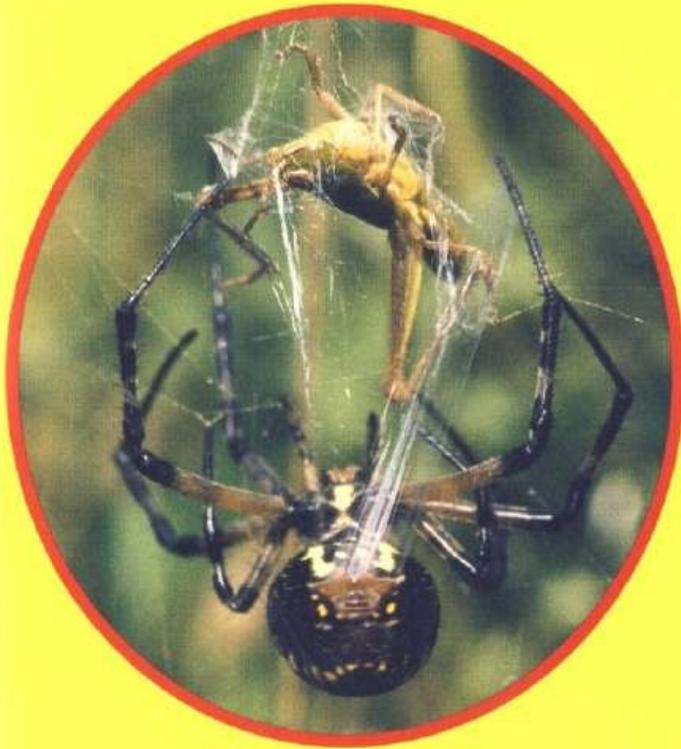
ハエトリグモは命綱を引いています。弱々しく見えてもとてもじょうぶ。クモはいろいろな糸を作ります。使いかたもいろいろです。

A garden spider's web is a deadly insect trap. When a grasshopper blunders into the web, it is caught in the sticky silk threads. The hungry spider rushes over. It wraps its grasshopper meal in sheets of silk.



庭のクモの網は効果的な虫のわな。うっかりバッタはねばねばの糸につかまった。お腹をすかせたクモが近寄って、アッという間にぐるぐる巻き。

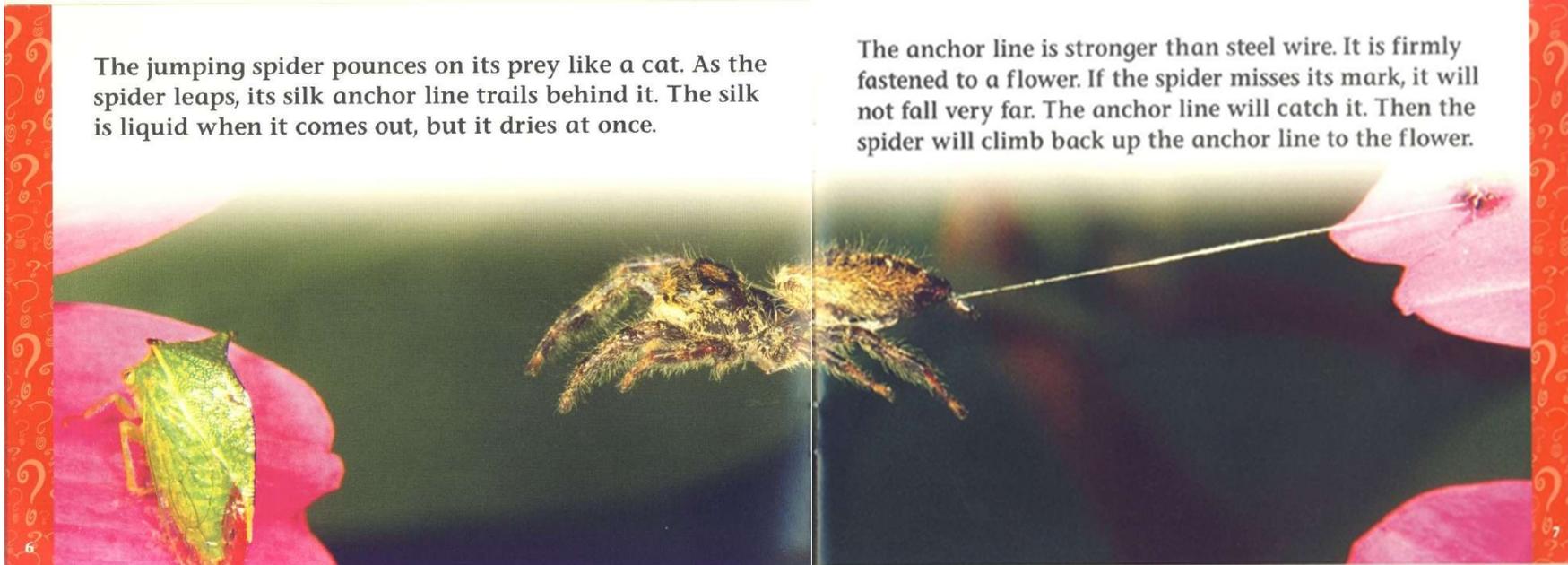
The silk is made by glands in the spider's belly. It comes out through openings called spinnerets. All spiders have spinnerets, and they all make silk this way.



糸はクモのお腹の中の糸腺で作られています。糸は糸いぼから引き出されます。どのクモも糸いぼを持ち、こんな風に糸を使います。

The jumping spider pounces on its prey like a cat. As the spider leaps, its silk anchor line trails behind it. The silk is liquid when it comes out, but it dries at once.

The anchor line is stronger than steel wire. It is firmly fastened to a flower. If the spider misses its mark, it will not fall very far. The anchor line will catch it. Then the spider will climb back up the anchor line to the flower.



ハエトリグモはネコのように虫におそいかかります。跳ぶときも、後ろに命綱を引いています。引き出された糸は液体ですが、すぐに乾きます。

命綱の糸は鋼鉄線より強く、花にしっかりと留められています。もしクモがねらいをはずしたとしても、遠くに落ちることはありません。命綱が守ってくれます。

クモは命綱を伝って、花にもどってきます。

Many spiders use silk to make nests. A silky nest is a safe place for a spider to hide.



多くのクモは糸で巣をつくることができます。ここに隠れれば安全です。

You may have seen a house spider's nest. There may be one in your house! This spider's nest is a messy tangle of silk. The house spider is not a very neat housekeeper!



家に住むクモの巣は見たことがあるでしょうね。あなたの家にもいますよ。
このクモの巣は目のこまかい棚網です。きれい好きなメイドじゃないですよ。

The crab spider has no web. It waits for insects to come to a flower. When a bee comes looking for nectar, the crab spider rushes out and bites it. The bite is poisonous, and the bee stops moving.



カニグモは網を張りません。花のうえで虫を待ち伏せしています。蜜を探してやってきたハチにカニグモはおそいかかりかみつきます。かまれたハチは毒を注入されて動きが止まります。

Then the spider pumps
juices into the bee.
The juices turn the
inside of the bee into
bee soup, and the
spider sucks it up.
The crab spider does
not use silk to catch
its prey. But like many
spiders, it has other
uses for silk.



クモは消化液でハチの体内を溶かします。それから溶けた液を吸い込みます。カニグモは虫をつかまえるのに糸を使いません。けれども多くのクモのように他の目的で糸を使います。

Female spiders wrap their eggs in sheets of soft silk. Then the spider bundles her silk-wrapped eggs into a round egg sac. Many spiders stay near their eggs to guard them.



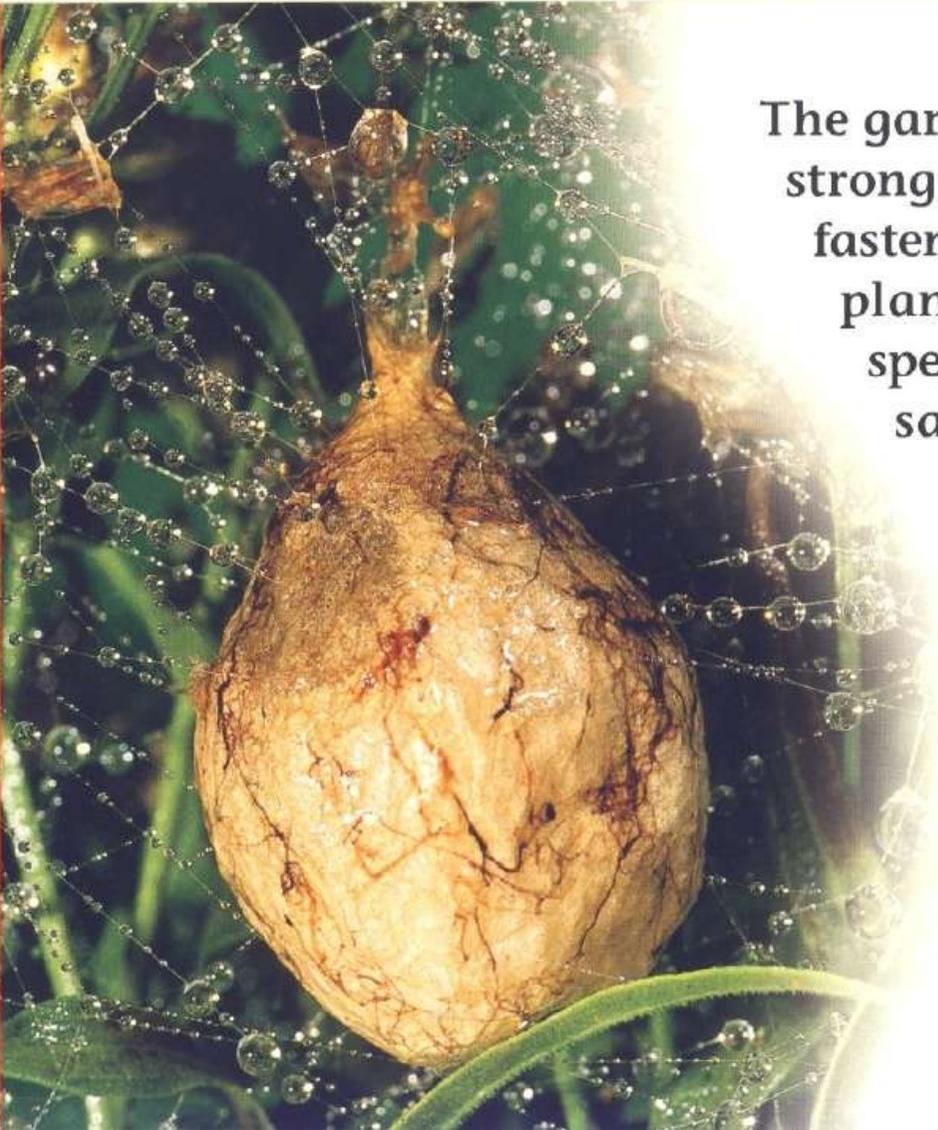
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メスは柔らかい糸製のシートの上で糸で卵をつつみます。それから、糸でつつんだ卵をくるみ、卵のうに仕上げます。多くのクモが卵のうをそばで守ります。

The wolf spider's egg sac is attached to her spinnerets.
She carries it wherever she goes.



コモリグモは卵のうを糸いぼにつけて、自分と一緒に運んでいます。



The garden spider uses strong strands of silk to fasten her egg sac to a plant. Her eggs will spend the winter there, safe in their silky case.

庭のクモは卵のうをじょうぶな糸で植物に結びつけました。冬の間、卵は卵のうのなかで安全に過ごすのです。

Young spiders hatch inside the nest. In early spring, they leave the nest, ready to spin webs of their own.



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巣のなかで子グモが生まれました。春先に子グモが巣を離れるころには、自分の糸を出せるようになっています。



Use the information in this book to answer some “how and why” questions.

- Why does a garden spider make a silk web?
- How does the spider make silk?
- How does silk keep a jumping spider from falling?
- How does the crab spider catch its prey?
- Why do spiders build nests?
- How do spiders use silk to protect their eggs?

この本を使って次の疑問に答えてみましょう。

- ・なぜ庭のクモは網を作りますか
- ・クモはどうやって糸を作りますか
- ・ハエトリグモはどのようにして落下から身を守りますか
- ・クモはなぜ巣をつくりますか
- ・クモは卵を守るためにどのように糸を使いますか

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このシリーズの紹介



ELAINE PASCOE

Elaine Pascoe is the author of more than 20 acclaimed children's books on a wide range of subjects. She previously collaborated with photographer Dwight Kuhn on the science activity series *Nature Close-Up*, which has won praise from *Scientific American*, *Science Books & Films*, and other respected journals. Elaine has worked as a newspaper reporter, a magazine writer, and an editor of reference and children's books. She now devotes her time to writing books and magazine articles for adults as well as young people. She lives in Roxbury, Connecticut.



Carey Sedillo

DWIGHT KUHN

Dwight Kuhn is one of the leading nature photographers in America. Artistic close-up images characterize his distinctive style. He became a full-time photographer after 18 years as a high school chemistry and biology teacher. Dwight's scientific expertise and his artful eye work together with the camera to capture the wonder of the natural world. Textbooks, trade books, and magazines feature Dwight's magnificent photography. He and his family live in Dexter, Maine.



David Kuhn

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