

Christian Liberty Nature Reader

Book Two

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NATURE READER BOOK 2

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Preface

We are honored to bring you a classic textbook. This particular textbook is designed to not only improve a student's reading skills and comprehension, but to also increase the student's understanding of and interest in God's wonderful creation.

To be able to read is to have the foundation for all subsequent education. The child whose reading training is deficient grows up to become the child who is frustrated, in despair, and soon to join the ranks of the drop-outs, the pushed-outs, the unemployed and the unemployable.

Millions of Americans are handicapped in their reading skills. The "look-say" method of teaching, rather than the older "phonics" technique, has resulted in a generation of functional illiterates. It has been revealed that the U.S. literacy rate has dropped to the level of Burma and Albania and is rapidly approaching that of Zambia.

Not only is the method of teaching reading of vital importance, but also the literary quality of the reading material. So much of what passes for "modern" readers in education today is nothing more than pabulum that stresses "social adjustment."

The Bible says we are to do "all for the glory of God" (I Corinthians 10:31). Reading for God's glory necessitates reading material that draws attention to Him

and His truth, that reflects His majesty, and that meets the standards of the Holy Scriptures. What this means is that we should take any reading selection to Philippians 4:8 and ask these simple questions: “Is it true? Is it noble? Is it right? Is it pure? Is it lovely? Is it admirable? Is it excellent? Is it praiseworthy?”

As we look at the American readers of days gone by, we find that the biblical standard was followed. Such readers featured the finest British and American authors who emphasized God, morality, the wonders of creation, and respect for one’s country.

The *Christian Liberty Nature Reader* series follows the pattern of the past. Believing that the student can gain an enhanced appreciation for God by studying His creation (Psalm 19:1; Romans 1:20), this textbook seeks to present the majestic splendor of His handiwork.

It is our prayer that this series will give to the reader the joy that is to be associated with “good reading,” and that the knowledge imparted will help “make wise the simple” (Psalm 19:7).

Dr. Paul D. Lindstrom

Chapter One

All About Crabs

Mr. and Mrs. Crab



This is a picture of Mr. and Mrs. Crab. Do you see the round hole? It is the door of their house. Mr. Crab lives in the sand by the sea. He has a smooth, flat outer “shell” on his back, eight legs, and two “hands,” or **claws**. One claw is large; the other claw is small. Mr. Crab fights with the big claw and takes his food with the little one or with both claws.

Mr. Crab digs out his house in the sand; he makes a place for a hall, a bedroom, and a **pantry**. Mrs. Crab does not dig.

Both her hands are small and weak. She gets food to put into the pantry, and she never fights. If she is in any trouble, she runs home or to a hole in a rock.

See how strange a crab's eyes look! They are set on **pegs**; some call them **stalks**. The crab can push the eye-pegs out and pull them in. How odd would you look if you could make your eyes stand out six inches? When crabs go into their houses, they draw down their eyes and tuck in their feet.

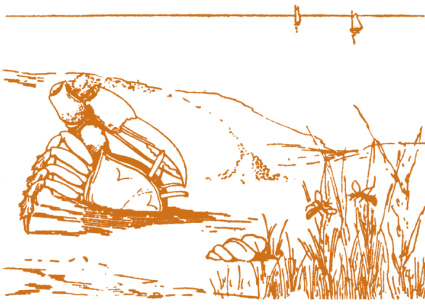
God made crabs with many different colors. He made some that are red, brown, green, yellow, or blue. The claws of crabs are often of a very bright color. The color on their outer "shells" is less bright; this color is in small dots. The color on some kinds of crabs is in lines. No crab is clear, bright red when it is alive. When crabs are cooked in boiling water, their color turns

to bright red. Why is this? We cannot tell why the heat makes their color change.

Mr. Crab and His House

The water from the sea comes and goes in **tides**. Twice each day the water rises—this is called high tide. After each high tide, the water goes back—this is called ebb tide. Each tide lasts six hours. If a stream or brook near your home were high and low twice each day, the change would be like the high and low tides of the sea. If you live near the **ocean**, then you know how the tides flow in and out every day.

When the tide is low, Mr. Crab digs out his house. He scoops out the sand with his big claw. Then he folds his claw to carry the sand, as you would carry grass or leaves in your arm. Some kinds of crabs carry sand in three of their legs, bent to form a basket. Mr. Crab takes the sand



to the top of his hole. Then, with a jerk, he throws the sand in a heap.

Mr. Crab is very strong. He can lift and carry things larger than his body. He digs out a long hall in the sand. He makes rooms in his house. Then he goes with his wife to look for food.

Mr. and Mrs. Crab eat flies, gnats, ants, ladybugs, and other little insects. They also eat seaweed. When beach fleas land on the sand or seaweed, the crabs jump at them and catch the fleas as cats catch mice. Even cats do not move as quickly as Mr. and Mrs. Crab. They put the bugs they catch into their pantry.

Mr. and Mrs. Crab keep near their home in case there is danger. For six hours, while the tide is high, they stay in their

house and eat insects and seaweed they have stored away.

God the Creator gave crabs the ability to know how the tides come and go. The crabs know when the tide will be high over their house and when it will be low, so they can come out again.

More About Mr. Crab

I could tell you many strange things about Mr. Crab. At this time, let me simply ask you a question. Where is your **skeleton**? It is inside your body. Your skeleton is made up of bones that hold up your soft flesh. Mr. Crab's "skeleton," however, is on the outside of his body; it is called his **exoskeleton**. It is a thin, hard "shell" that covers Mr. Crab's body. His exoskeleton is like armor that keeps him from being hurt.

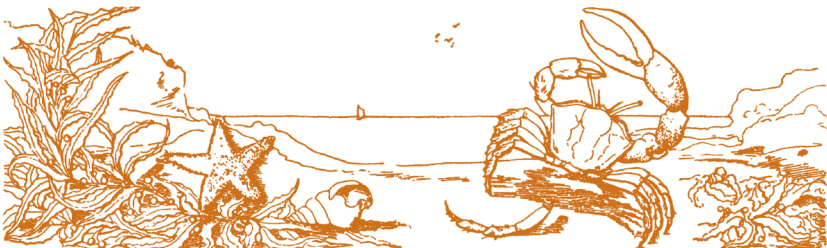
Did you know that Mr. Crab can live and breathe either in the water or on the land?

You can live only on the land, but he can live on the land and in the water.

A hen, you know, lays eggs, one by one, in a nest. She keeps them warm till the chicks come out. Mrs. Crab also lays eggs but does not leave them in a nest. She puts her eggs in a long tube or sack. Mrs. Crab carries them tied on her long legs or under her body. When the small crabs come out of the eggs, they grow very fast.

Did you ever try to catch a crab? At first, it will pinch you, if it can, with its big claw. When you catch a crab by its leg and do not let go, it will drop off its leg and run. Could you run with one leg gone? No, but the crab can. In fact, the crab has legs

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to spare. When one leg drops off, a new leg will grow back. A boy or girl could never grow a new arm or leg! A crab's leg, however, will grow again very soon.

If a crab's eye-peg is cut off, however, it takes a whole year for a new eye to grow. I think a crab knows that; it is very careful of its eyes.

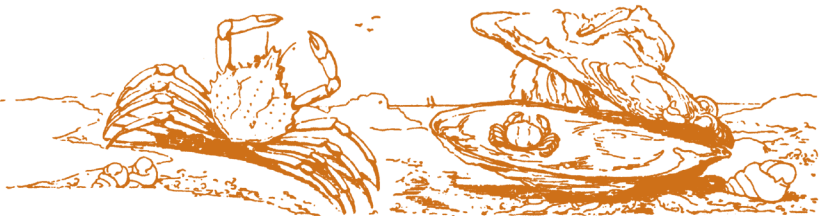
Mr. Crab has a wide, flat exoskeleton with a notch in each side. He can let his eye-pegs lie in the notches. How can he do that? His eye-pegs are so long he can bend them down flat to fit in the notches. There they are kept safe.

Mr. and Mrs. Crab Get a New Coat

Your skin is soft and stretches easily into a new shape. As you grow more and more, your skin does not break. Your skin gets larger as your body grows. Mr. Crab, however, is in a hard exoskeleton that

will not stretch. When it gets too tight, what can Mr. Crab do? What do you do when your coat is too small?

Now I will tell you something strange. When Mr. Crab finds that his “coat” is too small, he takes it off, as you would take off your coat. He pulls his legs, claws, and back out of it. He does that in his house, just like you do when you change your clothes in your room. As Mr. Crab slips out of his exoskeleton, he pulls out his “feet” and claws, as if he were taking off boots and gloves. Then he becomes a helpless, cold creature. His body is only covered with a skin, soft as paste; this skin is made of **lime** and a kind of “glue.” In a few days it gets hard. It is as big as Mr. Crab and fits his shape well. It is a strong, new “coat”! It also has the right



colors—blue, brown, red, or gold. It may have spots and rings, too.

When Mrs. Crab changes her “coat,” Mr. Crab stays near and tries to keep her from being hurt. He also watches over the young crabs, which have to change their “coats” often. They grow so fast!

Crabs that live in dark mud have dark brown or green exoskeletons. Some crabs have sand-colored ones—pale gray or brown, with close, fine specks like sand on them. God gives each kind of crab just the right color it needs to hide when there is danger.

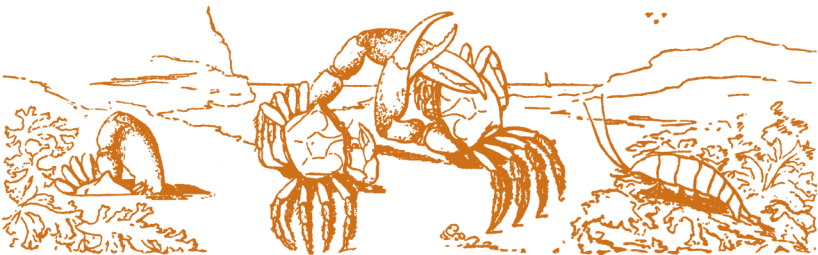
There are more kinds of crabs than you could count. They live in all parts of the world. This book tells you only about a few of them.

What Mr. Crab Does

Do you get angry quickly? Mr. Crab does, and he also likes to fight. He is like a boy

who acts badly when he is upset. When Mr. Crab sees some other crab near his house, he becomes angry. Then he stands high on his toes and pulls in his eye-pegs for fear they will be hurt. He spreads out his big claw. Now Mr. Crab is ready to fight! He runs at his enemy! Each crab tries to hit the other with his big claw. This big claw can cut and pinch hard.

Sometimes Mr. Crab cuts off the claw or leg of the other crab, or he bites the exoskeleton on the other crab's back. If only a leg is cut off, the crab may keep on fighting; but if his claw, eye, or back is hurt, he must give up. He runs home to hide until a new eye, claw, or leg can grow. If your hand is cut off, will it grow again? No, God only gives a few wild



animals the ability to grow new body parts. When Mr. Crab has lost a leg or claw, and a new one grows, it is small at first. Then when he gets a new “coat,” the new claw or leg becomes half as large as the one he lost. The next new “coat,” the new claw or leg comes out the full size it should be. When Mr. Crab gets a new exoskeleton, we say he **molts**.

When Mr. Crab is afraid, he runs home; but he is very brave and does not fear other crabs. He fears birds most because they eat small crabs, and he cannot fight a bird that is larger than he is.

Swing a rag over a crab’s head. Up fly its eye-pegs! Up comes its big claw! There, it has caught the rag! It will not let go. You can lift it into the air by the rag, and it still holds on. Once I saw a blue crab catch a dog’s tail. The crab held on fast. The dog gave yelps, and ran up and down the beach. We had to catch the dog and pry open the crab’s claw.

Let us look at the crab that grabbed the rag. It has let go of the rag and has gone to dig in its house. If you lay a piece of shell on its hole, it will run up and hit the shell with its head. See it shake! Now it waits. Watch carefully. There, the shell flies up in the air! As the crab ran, it struck the shell hard and made it fly up. I saw the crab try twice, making the shell shake, before it found how hard it must hit the shell to get it out of the way.

Some folks think the crab shuts the door of its house with its big claw. I do not think so. It knows that the tide will wash a lump of sand over its hole for a door. The tide shuts it in. The crab watches the waves come near. At the last wave, it flies into its house because it knows the next wave will close the door. The crab never stays up one wave too long. It gets in its house just in time.

Food for Mr. Crab

The crab that has one large claw has many names. Some call it the “fighting crab” because it is angry so much of the time. Others name him the “calling crab” because, when it runs, it holds its big claw high as if it is calling, “Come! come!” Most people call him the “fiddler crab” and say that its big claw is its **fiddle**. I think **fiddler crab** is the best name for it because it can, and does, play a tune on that claw. Do you see a row of little knobs on the inner edge of its big claw? It rubs those knobs on the edge of the exoskeleton that covers its back and makes a tune. It uses that tune to call its mate, which thinks it is fine music. The crab’s big claw is its **violin**, as well as its “hand,” “spade,” and “sword.”

Mr. Crab finds food on the beach, as well as down deep in the sand and in the water. When he walks along the sand, he meets big flies with two wings. He is glad to see

them. Why? These flies put their **grubs**, or young ones, in the sand, and Mr. Crab knows just where he can find them to eat. Mr. Crab also meets a large, green **tiger beetle**. He does not fight with him, but Mr. Crab knows that he shall find the beetle's grubs in the sand and eat them.

While he digs down in the sand, he meets a little, fat, round crab with big eyes and a thin, gray exoskeleton. He is glad to see him. If Mr. Crab does not have enough food to eat when the tide is high, he will creep along in the sand and catch this small crab for his dinner. Deep down, Mr. Crab also meets long worms that are green, red, or brown; but he does not trouble them. They are making houses for themselves.

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Out in the sea, Mr. Crab finds some small shellfish called **limpets**; they are small snails with flat shells. He likes the limpets so much that he lets them live on his back. They grab a firm hold on his back, and he does not pull them off.

Some Other Crabs

All crabs are not alike. There are many different kinds. They differ in shape, color, and habits. Some are not at all pretty, but others are very beautiful. Some crabs make houses in the sand, while others live in holes in the rocks. All are very special and fun to study.

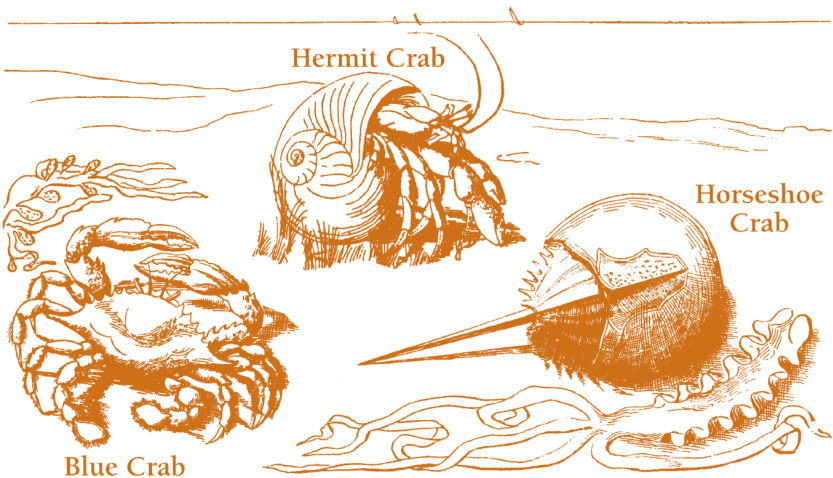
The **spider crab** has long, thin legs. The front of its exoskeleton, which is over its head, is not wide but comes to a sharp point. This point helps it dig its way into sand and mud.



The **horseshoe crab** has a chestnut color. Look at its picture at the bottom of the

page. Its exoskeleton is in the shape of a horse's hoof with a long tail that has sharp points on the edges. The tail is as hard as wood, and its edges are like a file. The horseshoe crab lives in the sand or mud. It chooses the muddy banks where rivers or streams run into the sea. It pushes its way into the mud with its big, round exoskeleton and scrapes the mud out with its many "feet." The horseshoe crab eats the worms that it finds in the sand and mud. Why are the worms down there? Like the horseshoe crab, they build a house in the mud. Some time I will tell you about these worms.

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Now and again, as the horseshoe crab goes along under the ground, it finds in its way a long, soft thing that looks good to eat. It is the long pipe, or tube, which a **clam** uses to take in its food. The horseshoe crab puts out its claw to get it. It can move its claw as quickly as a cat can jump or strike out its paw, but the clam is far quicker than the horseshoe crab and shuts its shell down on the crab's claw. Now the crab's claw is caught, like a rat in a trap! It waits to see if the clam will let go. No, it will not. Then the crab drops off its claw and goes away to hide and grow a new one.

In the picture at the bottom of page 16, do you see a crab in a shell made like a curl? That crab steals its house. It finds an empty shell and goes into it to live. It is odd to see this crab run with the shell it stole on its back. How does this crab live? It lives by fishing. In fact, all crabs hunt and fish. You already learned how the crab hunts on the sand for bugs

and flies and how it hunts for grubs and worms in the sand. Now it is time for me to tell you how the crab fishes. First, it gets into a good place to fish and pops out its eye-pegs to see all around it. Then, when things that the crab likes to eat float by, it strikes out with its big claw. It catches what it wants nearly every time. The great Creator gave crabs the ability to be good “fishermen.”

The Hermit Crab

Do you wish to hear more about the crab that steals its house? Why does it do that? Its back is long and soft, not hard like the backs of other crabs. If it cannot find a hard cover, it will die. Other crabs would bite or pinch it. So would many fish. It is



called the **hermit crab**. As the hermit crab grows too big for one shell, it finds another. It never leaves its shell until it knows that it is about to die. How does it know that? I cannot tell how; only God knows for sure. Even so, it comes out, lies down flat by its house, and dies. The hermit crab wants its house to live in, not to die in.

When the hermit crab needs to change its shell house, it hunts for one that will fit. Then the crab puts its long claw into the shell to feel if it is clean and empty. At times, the hermit finds another crab living in the shell it wants, so the two fight for it. Likewise, if some small creature lives in that shell, the crab pulls it out with its long claw. Then the hermit brings the new shell near and springs from the old shell into the new one, as you would spring from chair to chair.

On the end of its long, soft tail, the hermit crab has a hook. It twists its soft body into the new shell. Then it clasps its tail-

hook to a small, round post in the top of the curl of the shell. That holds the crab firmly in place. Its horny legs hang out in front; it uses them to run and carry the shell. It can also draw back into the shell and hide if there is danger.

One kind of hermit crab loves a small, pink sea creature that looks like a flower. The crab wants it to grow on its shell. Perhaps it helps the crab catch food or hides the door of the crab's shell. This sea creature can also build more shell on the edge of the one the crab lives in. This makes the shell larger, so the crab does not need to move as often. When it does move, the crab takes its friend along. It puts out its claw and lifts the sea creature off its old shell and sets it on the new one. Then the crab holds it there until it has made itself secure. Then, tail first, the crab slips into its new shell. The fine red, pink, and white frills of its friend hang like a **veil** over its door. They keep

fish and other foes away because these frills can sting.

Once I found a nice shell that was empty, so I thought. I kept it for eight or nine days in a box; then I laid it on a shelf. One day I heard, “Clack! Clack! Clack!” There was my shell running up and down the shelf!

In the South Seas some of these crabs do not live in sea shells; they live in coconut shells. They eat the meat of the nuts, and when it is all eaten, they look for another shell. Each night these crabs crawl into the water to get wet. They leave their eggs in the water to **hatch**.

The Crab's Enemies

Crabs have many enemies. Fish and birds eat them. Men eat some kinds of crabs. Crabs eat each other. With so many enemies, crabs would soon be all gone, if they did not lay so many eggs. Each year, a crab lays more eggs than you could

count. Crabs do not always have hard shells. When they first come from their eggs, they have long tails, four legs, and no claws. At this time, their bodies have thin covers over them, but they can swim well.

A little, pink crab, named “**pea crab**,” goes to live in the shell of the oyster. The oyster does not seem to mind it. You may see this little crab in your oyster soup. It turns orange colored when it is cooked. The **pinna**, or pea crab, has a very soft exoskeleton.



The **spider crab** has a brown “coat,” or exoskeleton, that is rough like sand. It has little thorns all over it. This spider crab cuts off fine seaweed with its little sharp claws and hangs it like ribbons on these thorns or hooks. Then it looks like a little green grove! Who can tell why it does that? Is it to hide?



Do you see the wide hind feet of the **blue crab** in this picture? Those are its “paddles,” or “oars.” They are its swimming “feet.” Its exoskeleton is wide and light. This crab can float on the waves like a boat, and it goes far out on the deep sea.

Sand crabs can dig into the sand very fast. They go in backwards. They slip out of sight like a flash, or they leave the tips of their heads and their eye-pegs out to look around. They do this almost every day. Their pale brown or sand-colored “coats,” or exoskeletons, are wide and round behind and come to a point in the front. Their heads are in the narrow part of their rough “coats.” They are swift runners. God protects sand crabs with their sandy color. When they are afraid,

they lie flat on the sand, so it is hard to see them. Even so, some birds have long, thin bills, which they use to pick a crab right out of its sand house.

The Uses of Crabs

How often does a crab get a new coat? Its coat does not wear out, but it gets too small. Then the crab “changes” it to get a larger one.

A baby crab grows fast. It seems to grow before your eyes. You grow fast, too. Your parents say it is hard to keep you in clothes. Your father may be able to wear his coat for many years, but you cannot wear the same coat you had last year. It is the same with a baby crab. When it is very young, it grows fast. It needs a new coat, or exoskeleton, very often. When the crab is older, it grows more slowly. Then it gets a new coat every spring. At last, it does not grow any more but keeps the same coat, year after year. The crab’s

exoskeleton gets very hard and thick and loses its bright color. Very often it is nearly covered with limpets, or small snails. They fasten their flat or pointed bodies to the crab's back and stay there.

Of what use are crabs? Did God create them for a reason? Yes, the great Creator made all things for a special reason. Sometimes we cannot find out their use, but we do know that crabs are good for food. Some people like to eat certain kinds of crabs—as well as fish, oysters, and other seafood. Birds also like to eat a great many crabs; some birds almost live on them. Many crabs are eaten by fish, too. There are many kinds of crabs so small that you could hardly see them. Fish feed on these small ones, and then men catch and eat the fish.

We also know that crabs help to keep the sea and the seashore clean. Crabs are greedy. They eat nearly all kinds of dead things that would spoil and make a bad



smell if left on the sand. Crabs eat dead fish and dead animals that are thrown into the sea. Do you ever see men going about to clean the streets? In the same way, crabs help to keep the sea and the shore clean. There are so many crabs that they are able to eat a lot of dead fish and animals and do it quickly. This is why they can clean away much of the dead stuff that lies along the shore.

Review

1. Where, and how, does Mr. Crab make his house?
2. Tell me about a crab's eyes.
3. Where is your skeleton? Where is Mr. Crab's "skeleton"? Will you tell me how Mr. Crab gets on his new "coat"?
4. Tell me some of the kinds of crabs that you have studied. What do crabs eat?
5. Why does one kind of crab steal a shell?
6. How do little crabs grow?
7. How did God create the crab that likes to swim in the deep sea?
8. What is a sea tide? How many tides are there each day?
9. When they are afraid, where do crabs hide? What animals catch and eat crabs?
10. Of what use are crabs?