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Chapter 2—The Creation

This chapter is based on Genesis 1 and 2.

“By the word of the Lord were the heavens made; and all the host of them by the breath of His mouth.” “For He spake, and it was;” “He commanded, and it stood fast.” Psalm 33:6, 9. He “laid the foundations of the earth, that it should not be removed forever.” Psalm 104:5.

As the earth came forth from the hand of its Maker, it was exceedingly beautiful. Its surface was diversified with mountains, hills, and plains, interspersed with noble rivers and lovely lakes; but the hills and mountains were not abrupt and rugged, abounding in terrific steeps and frightful chasms, as they now do; the sharp, ragged edges of earth's rocky framework were buried beneath the fruitful soil, which everywhere produced a luxuriant growth of verdure. There were no loathsome swamps or barren deserts. Graceful shrubs and delicate flowers greeted the eye at every turn. The heights were crowned with trees more majestic than any that now exist. The air, untainted by foul miasma, was clear and healthful. The entire landscape outvied in beauty the decorated grounds of the proudest palace. The angelic host viewed the scene with delight, and rejoiced at the wonderful works of God.

After the earth with its teeming animal and vegetable life had been called into existence, man, the crowning work of the Creator, and the one for whom the beautiful earth had been fitted up, was brought upon the stage of action. To him was given dominion over all that his eye could behold; for “God said, Let Us make man in Our image, after Our likeness: and let them have dominion over ...all the earth.... So God created man in His own image; ...male and female created He them.” Here is clearly set forth the origin of the human race; and the divine record is so plainly stated that there is no occasion for erroneous

conclusions. God created man in His own image. Here is no mystery. There is no ground for the supposition that man was evolved by slow degrees of development from the lower forms of animal or vegetable life. Such teaching lowers the great work of the Creator to the level of man's narrow, earthly conceptions. Men are so intent upon excluding God from the sovereignty of the universe that they degrade man and defraud him of the dignity of his origin. He who set the starry worlds on high and tinted with delicate skill the flowers of the field, who filled the earth and the heavens with the wonders of His power, when He came to crown His glorious work, to place one in the midst to stand as ruler of the fair earth, did not fail to create a being worthy of the hand that gave him life. The genealogy of our race, as given by inspiration, traces back its origin, not to a line of developing germs, mollusks, and quadrupeds, but to the great Creator. Though formed from the dust, Adam was “the son of God.”

He was placed, as God's representative, over the lower orders of being. They cannot understand or acknowledge the sovereignty of God, yet they were made capable of loving and

serving man. The psalmist says, "Thou madest him to have dominion over the works of Thy hands; Thou hast put all things under his feet: ... the beasts of the field; the fowl of the air, ... and whatsoever passeth through the paths of the seas." Psalm 8:6-8.

Man was to bear God's image, both in outward resemblance and in character. Christ alone is "the express image" (Hebrews 1:3) of the Father; but man was formed in the likeness of God. His nature was in harmony with the will of God. His mind was capable of comprehending divine things. His affections were pure; his appetites and passions were under the control of reason. He was holy and happy in bearing the image of God and in perfect obedience to His will.

As man came forth from the hand of his Creator, he was of lofty stature and perfect symmetry. His countenance bore the ruddy tint of health and glowed with the light of life and joy. Adam's height was much greater than that of men who now inhabit the earth. Eve was somewhat less in stature; yet her form was noble, and full of beauty. The sinless pair wore no artificial garments; they were clothed with a covering of light and glory, such as the angels wear. So long as they lived in obedience to God, this robe of light continued to enshroud them.

After the creation of Adam every living creature was brought before him to receive its name; he saw that to each had been given a companion, but among them "there was not found an help meet for him." Among all the creatures that God had made on the earth, there was not one equal to man. And God said, "It is not good that the man should be alone; I will make him an help meet for him." Man was not made to dwell in solitude; he was to be a social being. Without companionship the beautiful scenes and delightful employments of Eden would have failed to yield perfect happiness. Even communion with angels could not have satisfied his desire for sympathy and companionship. There was none of the same nature to love and to be loved.

God Himself gave Adam a companion. He provided "an help meet for him"—a helper corresponding to him—one who was fitted to be his companion, and who could be one with him in love and sympathy. Eve was created from a rib taken from the side of Adam, signifying that she was not to control him as the head, nor to be trampled under his feet as an inferior, but to stand by his side as an equal, to be loved and protected by him. A part of man, bone of his bone, and flesh of his flesh, she was his second self, showing the close union and the affectionate attachment that should exist in this relation. "For no man ever yet hated his own flesh; but nourisheth and cherisheth it." Ephesians 5:29. "Therefore shall a man leave his father and his mother, and shall cleave unto his wife; and they shall be one."

God celebrated the first marriage. Thus the institution has for its originator the Creator of the universe. "Marriage is honorable" (Hebrews 13:4); it was one of the first gifts of God to man, and it is one of the two institutions that, after the Fall, Adam brought with him beyond the gates of Paradise. When the divine principles are recognized and obeyed in this relation, marriage is a blessing; it guards the purity and happiness of the race, it provides for man's social needs, it elevates the physical, the intellectual, and the moral nature.

“And the Lord God planted a garden eastward in Eden; and there He put the man whom He had formed.” Everything that God had made was the perfection of beauty, and nothing seemed wanting that could contribute to the happiness of the holy pair;

yet the Creator gave them still another token of His love, by preparing a garden especially for their home. In this garden were trees of every variety, many of them laden with fragrant and delicious fruit. There were lovely vines, growing upright, yet presenting a most graceful appearance, with their branches drooping under their load of tempting fruit of the richest and most varied hues. It was the work of Adam and Eve to train the branches of the vine to form bowers, thus making for themselves a dwelling from living trees covered with foliage and fruit. There were fragrant flowers of every hue in rich profusion. In the midst of the garden stood the tree of life, surpassing in glory all other trees. Its fruit appeared like apples of gold and silver, and had the power to perpetuate life.

The creation was now complete. “The heavens and the earth were finished, and all the host of them.” “And God saw everything that He had made, and, behold, it was very good.” Eden bloomed on earth. Adam and Eve had free access to the tree of life. No taint of sin or shadow of death marred the fair creation. “The morning stars sang together, and all the sons of God shouted for joy.” Job 38:7.

The great Jehovah had laid the foundations of the earth; He had dressed the whole world in the garb of beauty and had filled it with things useful to man; He had created all the wonders of the land and of the sea. In six days the great work of creation had been accomplished. And God “rested on the seventh day from all His work which He had made. And God blessed the seventh day, and sanctified it: because that in it He had rested from all His work which God created and made.” God looked with satisfaction upon the work of His hands. All was perfect, worthy of its divine Author, and He rested, not as one weary, but as well pleased with the fruits of His wisdom and goodness and the manifestations of His glory.

After resting upon the seventh day, God sanctified it, or set it apart, as a day of rest for man. Following the example of the Creator, man was to rest upon this sacred day, that as he should look upon the heavens and the earth, he might reflect upon God's great work of creation; and that as he should behold the evidences of God's wisdom and goodness, his heart might be filled with love and reverence for his Maker.

In Eden, God set up the memorial of His work of creation, in placing His blessing upon the seventh day. The Sabbath was committed to Adam, the father and representative of the whole human family. Its observance was to be an act of grateful acknowledgment, on the part of all who should dwell upon the earth, that God was their Creator and their rightful Sovereign; that they were the work of His hands and the subjects of His authority. Thus the institution was wholly commemorative, and given to all mankind. There was nothing in it shadowy or of restricted application to any people.

God saw that a Sabbath was essential for man, even in Paradise. He needed to lay aside his own interests and pursuits for one day of the seven, that he might more fully contemplate the works of God and meditate upon His power and goodness. He needed a Sabbath to remind him more vividly of God and to awaken gratitude because all that he enjoyed and possessed came from the beneficent hand of the Creator.

God designs that the Sabbath shall direct the minds of men to the contemplation of His created works. Nature speaks to their senses, declaring that there is a living God, the Creator, the Supreme Ruler of all. "The heavens declare the glory of God; and the firmament showeth His handiwork. Day unto day uttereth speech, and night unto night showeth knowledge." Psalm 19:1, 2. The beauty that clothes the earth is a token of God's love. We may behold it in the everlasting hills, in the lofty trees, in the opening buds and the delicate flowers. All speak to us of God. The Sabbath, ever pointing to Him who made them all, bids men open the great book of nature and trace therein the wisdom, the power, and the love of the Creator.

Our first parents, though created innocent and holy, were not placed beyond the possibility of wrongdoing. God made them free moral agents, capable of appreciating the wisdom and benevolence of His character and the justice of His requirements, and with full liberty to yield or to withhold obedience. They were to enjoy communion with God and with holy angels; but before they could be rendered eternally secure, their loyalty must be tested. At the very beginning of man's existence a check was placed upon the desire for self-indulgence, the fatal passion that lay at the foundation of Satan's fall. The tree of knowledge, which stood near the tree of life in the midst of the garden, was

to be a test of the obedience, faith, and love of our parents. While permitted to eat freely of every other tree, they were forbidden to taste of this, on pain of death. They were also to be exposed to the temptations of Satan; but if they endured the trial, they would finally be placed beyond his power, to enjoy perpetual favor with God.

God placed man under law, as an indispensable condition of his very existence. He was a subject of the divine government, and there can be no government without law. God might have created man without the power to transgress His law; He might have withheld the hand of Adam from touching the forbidden fruit; but in that case man would have been, not a free moral agent, but a mere automaton. Without freedom of choice, his obedience would not have been voluntary, but forced. There could have been no development of character. Such a course would have been contrary to God's plan in dealing with the inhabitants of other worlds. It would have been unworthy of man as an intelligent being, and would have sustained Satan's charge of God's arbitrary rule.

God made man upright; He gave him noble traits of character, with no bias toward evil. He endowed him with high intellectual powers, and presented before him the strongest possible inducements to be true to his allegiance. Obedience, perfect and perpetual, was the condition of eternal happiness. On this condition he was to have access to the tree of life.

The home of our first parents was to be a pattern for other homes as their children should go forth to occupy the earth. That home, beautified by the hand of God Himself, was not a gorgeous palace. Men, in their pride, delight in magnificent and costly edifices and glory in the works of their own hands; but God placed Adam in a garden. This was his dwelling. The blue heavens were its dome; the earth, with its delicate flowers and carpet of living green, was its floor; and the leafy branches of the goodly trees were its canopy. Its walls were hung with the most magnificent adornings—the handiwork of the great Master Artist. In the surroundings of the holy pair was a lesson for all time—that true happiness is found, not in the indulgence of pride and luxury, but in communion with God through His created works. If men would give less attention to the artificial, and would cultivate greater simplicity, they would come far nearer to answering the

purpose of God in their creation. Pride and ambition are never satisfied, but those who are truly wise will find substantial and elevating pleasure in the sources of enjoyment that God has placed within the reach of all.

To the dwellers in Eden was committed the care of the garden, “to dress it and to keep it.” Their occupation was not wearisome, but pleasant and invigorating. God appointed labor as a blessing to man, to occupy his mind, to strengthen his body, and to develop his faculties. In mental and physical activity Adam found one of the highest pleasures of his holy existence. And when, as a result of his disobedience, he was driven from his beautiful home, and forced to struggle with a stubborn soil to gain his daily bread, that very labor, although widely different from his pleasant occupation in the garden, was a safeguard against temptation and a source of happiness. Those who regard work as a curse, attended though it be with weariness and pain, are cherishing an error. The rich often look down with contempt upon the working classes, but this is wholly at variance with God's purpose in creating man. What are the possessions of even the most wealthy in comparison with the heritage given to the lordly Adam? Yet Adam was not to be idle. Our Creator, who understands what is for man's happiness, appointed Adam his work. The true joy of life is found only by the working men and women. The angels are diligent workers; they are the ministers of God to the children of men. The Creator has prepared no place for the stagnating practice of indolence.

While they remained true to God, Adam and his companion were to bear rule over the earth. Unlimited control was given them over every living thing. The lion and the lamb sported peacefully around them or lay down together at their feet. The happy birds flitted about them without fear; and as their glad songs ascended to the praise of their Creator, Adam and Eve united with them in thanksgiving to the Father and the Son.

The holy pair were not only children under the fatherly care of God but students receiving instruction from the all-wise Creator. They were visited by angels, and were granted communion with their Maker, with no obscuring veil between. They were full of the vigor imparted by the tree of life, and their intellectual power was but little less than that of the angels. The mysteries of the visible universe—“the wondrous works of Him which is

perfect in knowledge" (Job 37:16)—afforded them an exhaustless source of instruction and delight. The laws and operations of nature, which have engaged men's study for six thousand years, were opened to their minds by the infinite Framer and Upholder of all. They held converse with leaf and flower and tree, gathering from each the secrets of its life. With every living creature, from the mighty leviathan that playeth among the waters to the insect mote that floats in the sunbeam, Adam was familiar. He had given to each its name, and he was acquainted with the nature and habits of all. God's glory in the heavens, the innumerable worlds in their orderly revolutions, "the balancings of the clouds," the mysteries of light and sound, of day and night—all were open to the study of our first parents. On every leaf of the forest or stone of the mountains, in every shining star, in earth and air and sky, God's name was written. The order and harmony of creation spoke to them of infinite wisdom and power. They were ever discovering some attraction that filled their hearts with deeper love and called forth fresh expressions of gratitude.

So long as they remained loyal to the divine law, their capacity to know, to enjoy, and to love would continually increase. They would be constantly gaining new treasures of knowledge, discovering fresh springs of happiness, and obtaining clearer and yet clearer conceptions of the immeasurable, unfailing love of God.

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Chapter 3—The Temptation and Fall

This chapter is based on Genesis 3.

No longer free to stir up rebellion in heaven, Satan's enmity against God found a new field in plotting the ruin of the human race. In the happiness and peace of the holy pair in Eden he beheld a vision of the bliss that to him was forever lost. Moved by envy, he determined to incite them to disobedience, and bring upon them the guilt and penalty of sin. He would change their love to distrust and their songs of praise to reproaches against their Maker. Thus he would not only plunge these innocent beings into the same misery which he was himself enduring, but would cast dishonor upon God, and cause grief in heaven.

Our first parents were not left without a warning of the danger that threatened them. Heavenly messengers opened to them the history of Satan's fall and his plots for their destruction, unfolding more fully the nature of the divine government, which the prince of evil was trying to overthrow. It was by disobedience to the just commands of God that Satan and his host had fallen. How important, then, that Adam and Eve should honor that law by which alone it was possible for order and equity to be maintained.

The law of God is as sacred as God Himself. It is a revelation of His will, a transcript of His character, the expression of divine love and wisdom. The harmony of creation depends upon the perfect conformity of all beings, of everything, animate and inanimate, to the law of the Creator. God has ordained laws for the government, not only of living beings, but of all the operations of nature. Everything is under fixed laws, which cannot be disregarded. But while everything in nature is governed by natural laws, man alone, of all that inhabits the earth, is amenable to moral law. To man, the crowning work of creation, God has given power to understand His requirements, to comprehend the justice and beneficence of His law, and its sacred claims upon him; and of man unswerving obedience is required.

Like the angels, the dwellers in Eden had been placed upon probation; their happy estate could be retained only on condition of fidelity to the Creator's law. They could obey and live, or disobey and perish. God had made them the recipients of rich blessings; but should they disregard His will, He who spared not the angels that sinned, could not spare them; transgression would forfeit His gifts and bring upon them misery and ruin.

The angels warned them to be on their guard against the devices of Satan, for his efforts to ensnare them would be unwearied. While they were obedient to God the evil one could not harm them; for, if need be, every angel in heaven would be sent to their help. If they steadfastly repelled his first insinuations, they would be as secure as the heavenly messengers. But should they once yield to temptation, their nature would become so depraved that in themselves they would have no power and no disposition to resist Satan.

The tree of knowledge had been made a test of their obedience and their love to God. The Lord had seen fit to lay upon them but one prohibition as to the use of all that was in the garden; but if they should disregard His will in this particular, they would incur the guilt of transgression. Satan was not to follow them with continual temptations; he could have access to them only at the forbidden tree. Should they attempt to investigate its nature, they would be exposed to his wiles. They were admonished to give careful heed to the warning which God had sent them and to be content with the instruction which He had seen fit to impart.

In order to accomplish his work unperceived, Satan chose to employ as his medium the serpent—a disguise well adapted for his purpose of deception. The serpent was then one of the wisest and most beautiful creatures on the earth. It had wings, and while flying through the air presented an appearance of dazzling brightness, having the color and brilliancy of burnished gold. Resting in the rich-laden branches of the forbidden tree and regaling itself with the delicious fruit, it was an object to arrest the attention and delight the eye of the beholder. Thus in the garden of peace lurked the destroyer, watching for his prey.

The angels had cautioned Eve to beware of separating herself from her husband while occupied in their daily labor in the garden; with him she would be in less danger from temptation than if she were alone. But absorbed in her pleasing task, she

unconsciously wandered from his side. On perceiving that she was alone, she felt an apprehension of danger, but dismissed her fears, deciding that she had sufficient wisdom and strength to discern evil and to withstand it. Unmindful of the angels' caution, she soon found herself gazing with mingled curiosity and admiration upon the forbidden tree. The fruit was very beautiful, and she questioned with herself why God had withheld it from them. Now was the tempter's opportunity. As if he were able to discern the workings of her mind, he addressed her: "Yea, hath God said, Ye shall not eat of every tree of the garden?" Eve was surprised and startled as she thus seemed to hear the echo of her thoughts. But the serpent continued, in a musical voice, with subtle praise of her surpassing loveliness; and his words were not displeasing. Instead of fleeing from the spot she lingered wonderingly to hear a serpent speak. Had she been addressed by a being like the angels, her fears would have been excited; but she had no thought that the fascinating serpent could become the medium of the fallen foe.

To the tempter's ensnaring question she replied: "We may eat of the fruit of the trees of the garden: but of the fruit of the tree which is in the midst of the garden, God hath said, Ye shall not eat of it, neither shall ye touch it, lest ye die. And the serpent said unto the woman, Ye shall not surely die: for God doth know that in the day ye eat thereof, then your eyes shall be opened, and ye shall be as gods, knowing good and evil."

By partaking of this tree, he declared, they would attain to a more exalted sphere of existence and enter a broader field of knowledge. He himself had eaten of the forbidden fruit, and as a result had acquired the power of speech. And he insinuated that the Lord jealously desired to withhold it from them, lest they should be exalted to equality with Himself. It was because of its wonderful properties, imparting wisdom and power, that He had prohibited them from tasting

or even touching it. The tempter intimated that the divine warning was not to be actually fulfilled; it was designed merely to intimidate them. How could it be possible for them to die? Had they not eaten of the tree of life? God had been seeking to prevent them from reaching a nobler development and finding greater happiness.

Such has been Satan's work from the days of Adam to the present, and he has pursued it with great success. He tempts men to distrust God's love and to doubt His wisdom. He is constantly

seeking to excite a spirit of irreverent curiosity, a restless, inquisitive desire to penetrate the secrets of divine wisdom and power. In their efforts to search out what God has been pleased to withhold, multitudes overlook the truths which He has revealed, and which are essential to salvation. Satan tempts men to disobedience by leading them to believe they are entering a wonderful field of knowledge. But this is all a deception. Elated with their ideas of progression, they are, by trampling on God's requirements, setting their feet in the path that leads to degradation and death.

Satan represented to the holy pair that they would be gainers by breaking the law of God. Do we not today hear similar reasoning? Many talk of the narrowness of those who obey God's commandments, while they themselves claim to have broader ideas and to enjoy greater liberty. What is this but an echo of the voice from Eden, "In the day ye eat thereof" —transgress the divine requirement—"ye shall be as gods"? Satan claimed to have received great good by eating of the forbidden fruit, but he did not let it appear that by transgression he had become an outcast from heaven. Though he had found sin to result in infinite loss, he concealed his own misery in order to draw others into the same position. So now the transgressor seeks to disguise his true character; he may claim to be holy; but his exalted profession only makes him the more dangerous as a deceiver. He is on the side of Satan, trampling upon the law of God, and leading others to do the same, to their eternal ruin.

Eve really believed the words of Satan, but her belief did not save her from the penalty of sin. She disbelieved the words of God, and this was what led to her fall. In the judgment men will not be condemned because they conscientiously believed a lie, but because they did not believe the truth, because they neglected the opportunity of learning what is truth. Notwithstanding the sophistry of Satan to the contrary, it is always disastrous to disobey God. We must set our hearts to know what is truth. All the lessons which God has caused to be placed on record in His word are for our warning and instruction. They are given to save us from deception. Their neglect will result in ruin to ourselves. Whatever contradicts God's word, we may be sure proceeds from Satan.

The serpent plucked the fruit of the forbidden tree and placed it in the hands of the half-reluctant Eve. Then he reminded her

of her own words, that God had forbidden them to touch it, lest they die. She would receive no more harm from eating the fruit, he declared, than from touching it. Perceiving no evil results from what she had done, Eve grew bolder. When she "saw that the tree was good for food, and

that it was pleasant to the eyes, and a tree to be desired to make one wise, she took of the fruit thereof, and did eat." It was grateful to the taste, and as she ate, she seemed to feel a vivifying power, and imagined herself entering upon a higher state of existence. Without a fear she plucked and ate. And now, having herself transgressed, she became the agent of Satan in working the ruin of her husband. In a state of strange, unnatural excitement, with her hands filled with the forbidden fruit, she sought his presence, and related all that had occurred.

An expression of sadness came over the face of Adam. He appeared astonished and alarmed. To the words of Eve he replied that this must be the foe against whom they had been warned; and by the divine sentence she must die. In answer she urged him to eat, repeating the words of the serpent, that they should not surely die. She reasoned that this must be true, for she felt no evidence of God's displeasure, but on the contrary realized a delicious, exhilarating influence, thrilling every faculty with new life, such, she imagined, as inspired the heavenly messengers.

Adam understood that his companion had transgressed the command of God, disregarded the only prohibition laid upon them as a test of their fidelity and love. There was a terrible struggle in his mind. He mourned that he had permitted Eve to wander from his side. But now the deed was done; he must be separated from her whose society had been his joy. How could he have it thus? Adam had enjoyed the companionship of God and of holy angels. He had looked upon the glory of the Creator. He understood the high destiny opened to the human race should they remain faithful to God. Yet all these blessings were lost sight of in the fear of losing that one gift which in his eyes outvalued every other. Love, gratitude, loyalty to the Creator—all were overborne by love to Eve. She was a part of himself, and he could not endure the thought of separation. He did not realize that the same Infinite Power who had from the dust of the earth created him, a living, beautiful form, and had in love given him a companion, could supply her place. He resolved to share her fate; if she must die, he would die with her. After all, he

reasoned, might not the words of the wise serpent be true? Eve was before him, as beautiful and apparently as innocent as before this act of disobedience. She expressed greater love for him than before. No sign of death appeared in her, and he decided to brave the consequences. He seized the fruit and quickly ate.

After his transgression Adam at first imagined himself entering upon a higher state of existence. But soon the thought of his sin filled him with terror. The air, which had hitherto been of a mild and uniform temperature, seemed to chill the guilty pair. The love and peace which had been theirs was gone, and in its place they felt a sense of sin, a dread of the future, a nakedness of soul. The robe of light which had enshrouded them, now disappeared, and to supply its place they endeavored to fashion for themselves a covering; for they could not, while unclothed, meet the eye of God and holy angels.

They now began to see the true character of their sin. Adam reproached his companion for her folly in leaving his side and permitting herself to be deceived by the serpent; but they both flattered themselves that He who had given them so many evidences of His love, would pardon

this one transgression, or that they would not be subjected to so dire a punishment as they had feared.

Satan exulted in his success. He had tempted the woman to distrust God's love, to doubt His wisdom, and to transgress His law, and through her he had caused the overthrow of Adam.

But the great Lawgiver was about to make known to Adam and Eve the consequences of their transgression. The divine presence was manifested in the garden. In their innocence and holiness they had joyfully welcomed the approach of their Creator; but now they fled in terror, and sought to hide in the deepest recesses of the garden. But "the Lord God called unto Adam, and said unto him, Where art thou? And he said, I heard Thy voice in the garden, and I was afraid, because I was naked; and I hid myself. And He said, Who told thee that thou wast naked? Hast thou eaten of the tree, whereof I commanded thee that thou shouldest not eat?"

Adam could neither deny nor excuse his sin; but instead of manifesting penitence, he endeavored to cast the blame upon his wife, and thus upon God Himself: "The woman whom *Thou gavest* to be with me, she gave me of the tree, and I did eat." He who, from love to Eve, had deliberately chosen to forfeit the

approval of God, his home in Paradise, and an eternal life of joy, could now, after his fall, endeavor to make his companion, and even the Creator Himself, responsible for the transgression. So terrible is the power of sin.

When the woman was asked, "What is this that thou hast done?" she answered, "The serpent beguiled me, and I did eat." "Why didst Thou create the serpent? Why didst Thou suffer him to enter Eden?"—these were the questions implied in her excuse for her sin. Thus, like Adam, she charged God with the responsibility of their fall. The spirit of self-justification originated in the father of lies; it was indulged by our first parents as soon as they yielded to the influence of Satan, and has been exhibited by all the sons and daughters of Adam. Instead of humbly confessing their sins, they try to shield themselves by casting the blame upon others, upon circumstances, or upon God—making even His blessings an occasion of murmuring against Him.

The Lord then passed sentence upon the serpent: "Because thou hast done this, thou art cursed above all cattle, and above every beast of the field; upon thy belly shalt thou go, and dust shalt thou eat all the days of thy life." Since it had been employed as Satan's medium, the serpent was to share the visitation of divine judgment. From the most beautiful and admired of the creatures of the field, it was to become the most groveling and detested of them all, feared and hated by both man and beast. The words next addressed to the serpent applied directly to Satan himself, pointing forward to his ultimate defeat and destruction: "I will put enmity between thee and the woman, and between thy seed and her seed; it shall bruise thy head, and thou shalt bruise his heel."

Eve was told of the sorrow and pain that must henceforth be her portion. And the Lord said, "Thy desire shall be to thy husband, and he shall rule over thee." In the creation God had made

her the equal of Adam. Had they remained obedient to God—in harmony with His great law of love—they would ever have been in harmony with each other; but sin had brought discord, and now their union could be maintained and harmony preserved only by submission on the part of the one or the other. Eve had been the first in transgression; and she had fallen into temptation by separating from her companion, contrary to the divine direction. It was by her solicitation that Adam sinned, and she was now placed in subjection to her husband. Had the principles

enjoined in the law of God been cherished by the fallen race, this sentence, though growing out of the results of sin, would have proved a blessing to them; but man's abuse of the supremacy thus given him has too often rendered the lot of woman very bitter and made her life a burden.

Eve had been perfectly happy by her husband's side in her Eden home; but, like restless modern Eves, she was flattered with the hope of entering a higher sphere than that which God had assigned her. In attempting to rise above her original position, she fell far below it. A similar result will be reached by all who are unwilling to take up cheerfully their life duties in accordance with God's plan. In their efforts to reach positions for which He has not fitted them, many are leaving vacant the place where they might be a blessing. In their desire for a higher sphere, many have sacrificed true womanly dignity and nobility of character, and have left undone the very work that Heaven appointed them.

To Adam the Lord declared: "Because thou hast hearkened unto the voice of thy wife, and hast eaten of the tree, of which I commanded thee, saying, Thou shalt not eat of it: cursed is the ground for thy sake; in sorrow shalt thou eat of it all the days of thy life; thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field; in the sweat of thy face shalt thou eat bread, till thou return unto the ground; for out of it wast thou taken: for dust thou art, and unto dust shalt thou return."

It was not the will of God that the sinless pair should know aught of evil. He had freely given them the good, and had withheld the evil. But, contrary to His command, they had eaten of the forbidden tree, and now they would continue to eat of it—they would have the knowledge of evil—all the days of their life. From that time the race would be afflicted by Satan's temptations. Instead of the happy labor heretofore appointed them, anxiety and toil were to be their lot. They would be subject to disappointment, grief, and pain, and finally to death.

Under the curse of sin all nature was to witness to man of the character and results of rebellion against God. When God made man He made him rule over the earth and all living creatures. So long as Adam remained loyal to Heaven, all nature was in subjection to him. But when he rebelled against the divine law, the inferior creatures were in rebellion against his rule. Thus the

Lord, in His great mercy, would show men the sacredness of His law, and lead them, by their own experience, to see the danger of setting it aside, even in the slightest degree.

And the life of toil and care which was henceforth to be man's lot was appointed in love. It was a discipline rendered needful by his sin, to place a check upon the indulgence of appetite and

passion, to develop habits of self-control. It was a part of God's great plan of man's recovery from the ruin and degradation of sin.

The warning given to our first parents—"In the day that thou eatest thereof thou shalt surely die" (Genesis 2:17)—did not imply that they were to die on the very day when they partook of the forbidden fruit. But on that day the irrevocable sentence would be pronounced.

Immortality was promised them on condition of obedience; by transgression they would forfeit eternal life. That very day they would be doomed to death.

In order to possess an endless existence, man must continue to partake of the tree of life. Deprived of this, his vitality would gradually diminish until life should become extinct. It was Satan's plan that Adam and Eve should by disobedience incur God's displeasure; and then, if they failed to obtain forgiveness, he hoped that they would eat of the tree of life, and thus perpetuate an existence of sin and misery. But after man's fall, holy angels were immediately commissioned to guard the tree of life. Around these angels flashed beams of light having the appearance of a glittering sword. None of the family of Adam were permitted to pass the barrier to partake of the life-giving fruit; hence there is not an immortal sinner.

The tide of woe that flowed from the transgression of our first parents is regarded by many as too awful a consequence for so small a sin, and they impeach the wisdom and justice of God in His dealings with man. But if they would look more deeply into this question, they might discern their error. God created man after His own likeness, free from sin. The earth was to be peopled with beings only a little lower than the angels; but their obedience must be tested; for God would not permit the world to be filled with those who would disregard His law. Yet, in His great mercy, He appointed Adam no severe test. And the very lightness of the prohibition made the sin exceedingly great. If Adam could not bear the smallest of tests, he could not have

endured a greater trial had he been entrusted with higher responsibilities.

Had some great test been appointed Adam, then those whose hearts incline to evil would have excused themselves by saying, "This is a trivial matter, and God is not so particular about little things." And there would be continual transgression in things looked upon as small, and which pass unrebuked among men. But the Lord has made it evident that sin in any degree is offensive to Him.

To Eve it seemed a small thing to disobey God by tasting the fruit of the forbidden tree, and to tempt her husband also to transgress; but their sin opened the floodgates of woe upon the world. Who can know, in the moment of temptation, the terrible consequences that will result from one wrong step?

Many who teach that the law of God is not binding upon man, urge that it is impossible for him to obey its precepts. But if this were true, why did Adam suffer the penalty of transgression? The sin of our first parents brought guilt and sorrow upon the world, and had it not been for the goodness and mercy of God, would have plunged the race into hopeless despair. Let none

deceive themselves. "The wages of sin is death." Romans 6:23. The law of God can no more be transgressed with impunity now than when sentence was pronounced upon the father of mankind.

After their sin Adam and Eve were no longer to dwell in Eden. They earnestly entreated that they might remain in the home of their innocence and joy. They confessed that they had forfeited all right to that happy abode, but pledged themselves for the future to yield strict obedience to God. But they were told that their nature had become depraved by sin; they had lessened their strength to resist evil and had opened the way for Satan to gain more ready access to them. In their innocence they had yielded to temptation; and now, in a state of conscious guilt, they would have less power to maintain their integrity.

In humility and unutterable sadness they bade farewell to their beautiful home and went forth to dwell upon the earth, where rested the curse of sin. The atmosphere, once so mild and uniform in temperature, was now subject to marked changes, and the Lord mercifully provided them with a garment of skins as a protection from the extremes of heat and cold.

As they witnessed in drooping flower and falling leaf the first signs of decay, Adam and his companion mourned more deeply than men now mourn over their dead. The death of the frail, delicate flowers was indeed a cause of sorrow; but when the goodly trees cast off their leaves, the scene brought vividly to mind the stern fact that death is the portion of every living thing.

The Garden of Eden remained upon the earth long after man had become an outcast from its pleasant paths. The fallen race were long permitted to gaze upon the home of innocence, their entrance barred only by the watching angels. At the cherubim-guarded gate of Paradise the divine glory was revealed. Hither came Adam and his sons to worship God. Here they renewed their vows of obedience to that law the transgression of which had banished them from Eden. When the tide of iniquity overspread the world, and the wickedness of men determined their destruction by a flood of waters, the hand that had planted Eden withdrew it from the earth. But in the final restitution, when there shall be "a new heaven and a new earth" (Revelation 21:1), it is to be restored more gloriously adorned than at the beginning.

Then they that have kept God's commandments shall breathe in immortal vigor beneath the tree of life; and through unending ages the inhabitants of sinless worlds shall behold, in that garden of delight, a sample of the perfect work of God's creation, untouched by the curse of sin—a sample of what the whole earth would have become, had man but fulfilled the Creator's glorious plan.



Deer



Octopi



Snowshoe Hare



Leaf insect



Leafy Sea Dragon

Thorn bugs





Hummingbird Moth



Humming Bird



King Snake



Corel Snake



Viceroy Butterfly



Monarch Butterfly



Fawn



Tiger



Zebra



4. kit fox



Blackbuck



snowshoe hare



Tiger



Leaf insect

Penguins



6. During World War II the threat from Japan cause many key industries to be camouflaged. Here is a 26-acre Boeing Aircraft complex located in Seattle, WA before camouflage:



Here is the same facility (full functioning) after camouflage

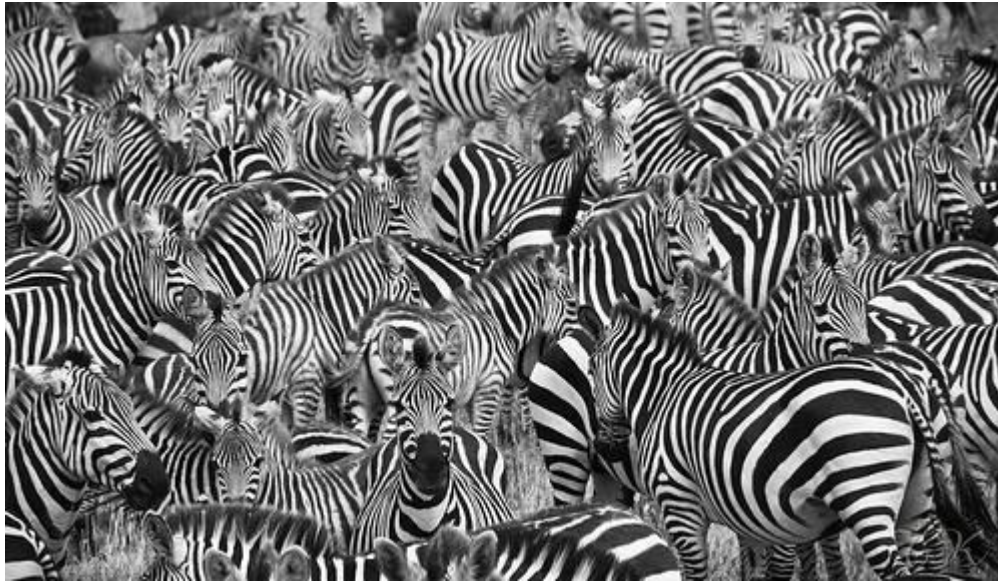




Car Manufacturers will often camouflage vehicles while testing in the real world to hide details of new features from the public.



Telephone companies will often camouflage cell towers:



To humans, a zebra's stripes stick out like a sore thumb, so it's hard to imagine that the stripes act as camouflage. Zoologists believe stripes offer zebras protection from predators in a couple of different ways.

The first is as simple pattern-camouflage, much like the type the military uses in its fatigue design-. The wavy lines of a zebra blend in with the wavy lines of the tall grass around it. It doesn't matter that the zebra's stripes are black and white and the lines of the grass are yellow, brown or green, because the zebra's main predator, the lion, is colorblind. The pattern of the camouflage is much more important than its color, when hiding from these predators. If a zebra is standing still in matching surroundings, a lion may overlook it completely.

This benefit may help an individual zebra in some situations, but the more significant means of protection has to do with zebra herds. Zebras usually travel in large groups, in which they stay very close to one another. Even with their camouflage pattern, it's highly unlikely a large gathering of zebras would be able to escape a lion's notice, but their stripes help them use this large size to their advantage. When all the zebras keep together as a big group, the pattern of each zebra's stripes blends in with the stripes of the zebras around it. This is confusing to the lion, who sees a large, moving, striped mass instead of many individual zebras. The lion has trouble picking out any one zebra, and so it doesn't have a very good plan of attack. It's hard for the lion to even recognize which way each zebra is moving: Imagine the difference in pursuing one animal and charging into an amorphous blob of animals moving every which way. The lion's inability to distinguish zebras also makes it more difficult for it to target and track weaker zebras in the herd.

So do zebra stripes confuse zebras as much as they confuse lions? Oddly enough, while making zebras indistinguishable to other animals, zebra stripes actually help zebras recognize one another. Stripe patterns are like zebra fingerprints: Every zebra has a slightly different arrangement. Zoologists believe this is how zebras distinguish who's who in a zebra herd. This certainly has significant benefits. A zebra mare and her foal can keep track of each other in the large herd, for example, and a zebra can very quickly distinguish its own herd from another. This also helps human researchers, because it enables them to track particular zebras in the wild.

Each zebra has its own unique pattern of distinctive stripes, just as humans have their own unique pattern of fingerprints. Zebras stick together in herds. Within a herd, zebras tend to stay together in smaller family groups. Families are generally made up of a male, several females, and their young.

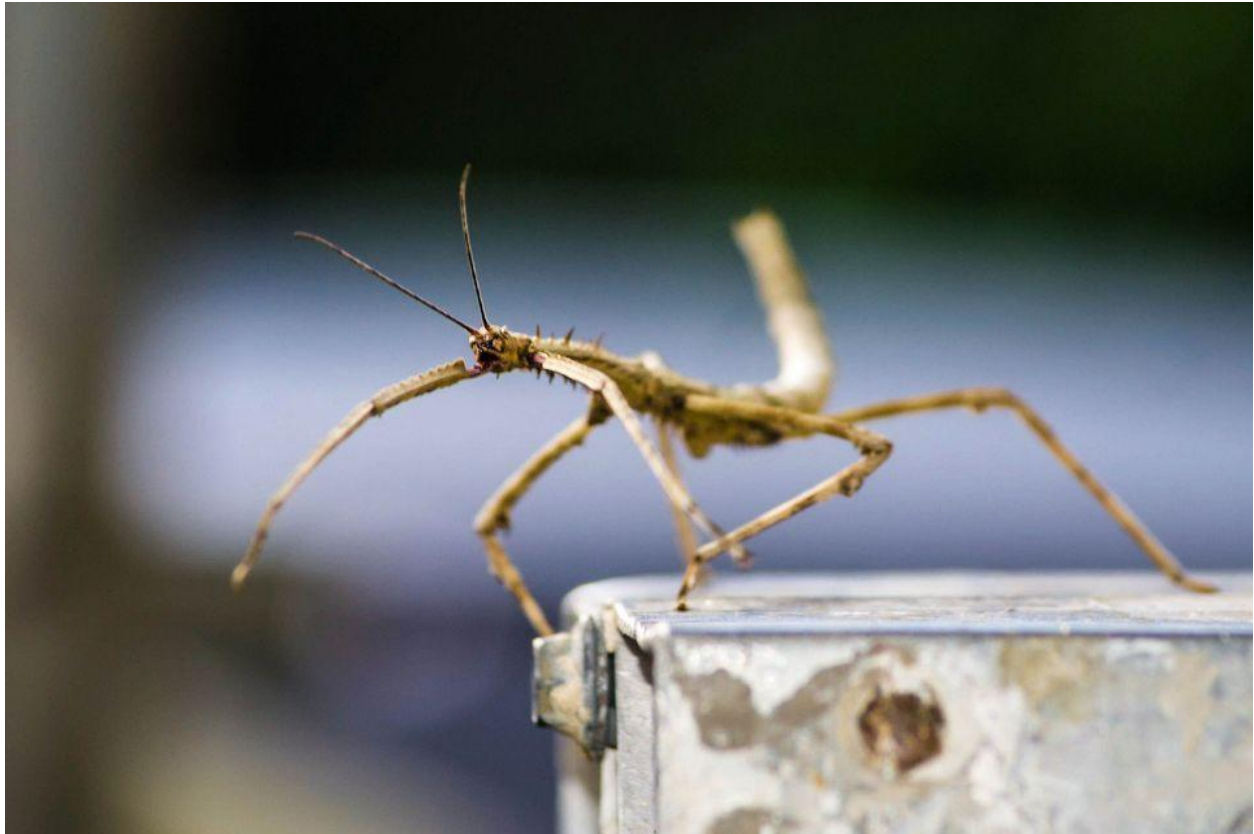
As a zebra grazes, it uses its sharper front teeth to bite the grass, and then uses its duller back teeth to crush and grind. A zebra's teeth keep growing for its entire life, because constant grazing and chewing wears them down.

Zebras are constantly on the move to find fresh grass and water. Sometimes they gather in huge herds of thousands as they migrate to better feeding grounds. They often travel in mixed herds with other grazers and browsers, such as wildebeest.

Zebras groom one another. If you see two zebras standing close to each other and it looks like they're biting each other, don't worry. They're pulling loose hairs off each other as they groom. Grooming also feels good to a zebra—it's like having an itch scratched.

While most zebras are Least Endangered, Grevy's Zebra is classified as Endangered.





As its name suggests, the stick insect resembles the twigs among which it lives, providing it with one of the most efficient natural camouflages on Earth. It and the equally inconspicuous leaf insect comprise the Phasmida order, of which there are approximately 3,000 species.

Stick insect species, often called walking sticks, range in size from the tiny, half-inch-long (11.6-millimeter-long) *Timema cristinae* of North America, to the formidable 13-inch-long (328-millimeter-long) *Phobaeticus kirbyi* of Borneo. This giant measures over 21 inches (55 centimeters) with its legs outstretched, making it one of the world's longest insects. Females are normally larger than males.

Phasmids generally mimic their surroundings in color, normally green or brown, although some species are brilliantly colored and others conspicuously striped. Many stick insects have wings, some spectacularly beautiful, while others resemble little more than a stump. A number of species have spines and tubercles on their bodies.

Found predominantly in the tropics and subtropics—although several species live in temperate regions—stick insects thrive in forests and grasslands, where they feed on leaves. Mainly nocturnal creatures, they spend much of their day motionless, hidden under plants.

Many stick insects feign death to thwart predators, and some will shed the occasional limb to escape an enemy's grasp. Others swipe at predators with their spine-covered legs, while one North American species, *Anisomorpha buprestoides*, emits a putrid-smelling fluid.

Little is known about stick insects, making it difficult to declare the vulnerability of their status in the wild. The pet trade presents a potential threat, along with the popular practice of framing their carcasses, like butterflies.

LIFE SPAN

1 to 2 years

YOUNG

Incubation period: 3 to 18 months

Age of maturity: 3 to 12 months, depending on species

SIZE

Length: Most are 1 to 12 inches (2.5 to 30 centimeters), depending on species; males are typically much smaller than females.

Stick insects, as their name implies, are insects that have taken camouflage and imitation to the extreme by developing the appearance of a stick, leaf, or twig. Typically, these insects are shades of brown, although some may be green, black, gray, or blue. When camouflage is not enough, some stick insects use active forms of defense to handle predators. For example, the species *Eurycantha calcarata* can release an awful-smelling substance as a deterrent. Other species have brightly colored wings that are invisible when folded against their body; when they feel threatened, they flash open their wings, then immediately drop to the ground and again hide their wings. The predator is often confused as it searches for a brightly colored insect but sees only a pile of drab, brown sticks on the ground!

Other defenses are easier to spot, as with the Peruvian fire stick. This species releases a milky white substance that is an irritant to predators. As a result, they have the memorable red, black, and yellow colors of a distasteful—or disagreeable—insect.

One of the most interesting things about stick insects is their ability to reproduce parthenogenetically. This is a form of asexual reproduction where the unfertilized females produce eggs that hatch into females. If a male fertilizes the egg, it has a fifty-fifty chance of turning out male. If no males are around, the line continues with females only.

You've probably realized by now that stick insects have developed adaptations to fool predators. Clever ways to lay eggs are also included in their bag of tricks. Female stick insects use two main methods of laying eggs: dropping them on the ground or placing them in a hard-to-reach place. Some stick insect species drop one egg per day during their daily travels. These eggs are commonly small and resemble seeds. By dispersing her eggs far and wide, the female prevents a predator from lunging on a cluster of her eggs.

Other females lay their eggs in places that are hard for predators to find. For example, some stick insects lay eggs in the soil, in hollow parts of plants, or glued to bark or the underside of leaves. Species that lay

their eggs underneath leaves tend to hatch faster than species that lay eggs elsewhere, as the eggs need to hatch before the leaf falls off the tree and exposes the eggs!

Most stick insect eggs are covered by a hardened shell or capsule with a node called a capitulum on one end. The capsule of some species contains fats and other goodies that lure ants. The ants bring the capsule underground into their nest, remove the capitulum, and feed on the nutrients it contains. After they are done eating, the ants toss what's left, which includes the stick insect egg, in their nest garbage dump area. The egg incubates in the safety of the ant nest, out of sight of predators. A few months later, the all-but-forgotten hatchling makes its way out of the ant garbage dump!

No matter how their egg is laid, stick insect hatchlings, called nymphs, hatch from the egg as miniature versions of adults. They then go through successive molts to eventually reach adult size. This process is called incomplete metamorphosis: egg, nymph, and adult. Molting happens when the old exoskeleton is shed, and the larger body that had grown inside it expands and hardens into a new one. The time between molts is called an instar.





Kingsnakes are medium-size nonvenomous snakes that kill by constriction. They are one of the most common snakes in North America. They are called kingsnakes because they sometimes eat other snakes, as does the king cobra. Kingsnakes are popular among pet owners. Milk snakes are a type of kingsnake.

Kingsnakes are members of the family Colubridae and the subfamily Colubrinae. Colubrid snakes are a large family of nonvenomous snakes found around the world, including North America. Kingsnakes are members of the genus *Lampropeltis*. In Greek, this means "shiny shields," according to Anapsid.org. The name is appropriate for the genus, which is known for its well-defined, glossy scales.

In recent years, the classification of kingsnakes has been shaken up somewhat. Alan Savitzky, a professor of biological sciences at Utah State University and snake biology specialist, credits the upheaval to advances in molecular evolutionary studies. Whereas scientists used to determine species and subspecies classifications by examining whether snakes could interbreed and produce fertile offspring, they can now analyze DNA to determine how closely related snakes are. With that data, scientists can now classify snakes into groups by looking at if they share an evolutionary path.

Because of these new data collection methods, a team of researchers argued in a 2009 paper published in the journal *Zootaxa* that several snakes that are classified as subspecies of the common kingsnake (*Lampropeltis getula*) — black kingsnakes, eastern kingsnakes, speckled kingsnakes, Sonora kingsnakes and California kingsnakes — should be considered separate species, said Savitzky. He also noted that a 2013 paper in the journal *Systematic Biology* posited that the scarlet kingsnake, previously

considered a milk snake, is actually its own species. Some publications have adopted the proposal; others still refer to these snakes as subspecies of kingsnake.

Physical characteristics and distribution

Most species of kingsnake have vibrant patterns on their skins with vivid contrasting colors. The patterns, especially bands and speckles, break up the snake's body outline so it is less visible to predators like birds of prey, mammals like foxes and coyotes and other snakes, according to the San Diego Zoo.

Their coloring can be understood by their geographic location, according to Savitzky. For example, the farther west one goes in the eastern kingsnake's range, the more the snakes' coloring resembles the black kingsnake, which lives in Tennessee.

According to the Smithsonian National Zoological Park, they have smooth scales, a single anal plate, round pupils like most nonvenomous snakes, and a spoon-shaped head with a rounded jaw. They typically range from 2 to 6 feet (0.6 to 1.8 meters), depending on the species.

The following is a description of some common kingsnake species' appearances and ranges.

Eastern kingsnake, also called common kingsnake
(*Lampropeltis getula*)

These creatures are sometimes called "chain snakes" or "chain kings" because their distinctive markings can resemble a chain linked across their bodies, said Savitzky. They have shiny black scales with white or yellowish chain-like bands that cross their backs and connect on the sides. According to the Savannah River Ecology Laboratory, eastern kingsnakes on the coast generally have wide bands while those in the eastern mountains have very thin bands. They may be nearly black.

Eastern kingsnakes are found from southern New Jersey to north Florida and west to the Appalachians and southeastern Alabama, according to the Smithsonian National Zoological Park.

Biology: The scarlet kingsnake (*Lampropeltis elapsoides*) is a colubrid snake that is native to the southeastern and eastern part of the continental United States. These snakes have a striking and easily recognizable color pattern consisting of alternating red, black and white or yellow bands. The red bands are the largest and comprise most of the snake's color. The snout of the scarlet kingsnake is usually red. A very small snake relative to others in the kingsnake group, scarlet kingsnakes only reach a maximum size of a bit over a meter in length. More typically scarlet kingsnakes are between 40 and 50 centimeters in length. Scarlet kingsnakes are long and slender, like other members of the kingsnake grouping.

This snake is famous for its resemblance to the much feared and deadly coral snake, which inhabits many of the same areas as the scarlet kingsnake. However, unlike the coral snake the scarlet kingsnake does not produce venom and is completely harmless to humans. The scarlet kingsnake likely evolved its resemblance to the coral kingsnake because doing so conferred a survival advantage from having potential predators avoid rather than attack the snake. The best way to distinguish a scarlet kingsnake from a coral snake is to note the differences in the color patterns between the two snakes. Coral snakes have a color pattern in which the yellow banding touches the red banding. Scarlet kingsnakes are different because the black banding touches the red banding but the yellow or white banding only touches black banding. A popular rhyme helps to keep this distinction in mind: "red on black, you're

okay jack; red on yellow, you're a dead fellow." Because the two snakes are so easily confused, if you have any doubt whatsoever as to whether a snake is a harmless scarlet kingsnake or a deadly coral kingsnake, it is best to keep plenty of distance and avoid the snake entirely. To avoid trouble, read more about the Snake Rhyme Poem, and information about the Coral Snake Look Alike.

It should be noted that scarlet kingsnakes are capable of breeding with other subspecies in the same genus, and therefore some of the descriptions given above might not apply to all specimens.

Habitat: The region where scarlet kingsnakes are known to reside consists of most of the states in the eastern portion of the United States, but especially in the southeastern states like Florida, Georgia, Alabama, South Carolina, and North Carolina. However, they can occasionally be found farther north towards the mid-Atlantic region. The scarlet kingsnake's preferred habitat is under loose leaf debris or under the rotting bark of pine trees. That is why most sightings occur under felled trees or backyards in suburban areas where humans have encroached on the natural habitat of the scarlet kingsnake.

Behaviour: The scarlet kingsnake is fossorial. This means that it prefers to spend most of its time underground, out of the site of potential predators and away from other dangers. The scarlet kingsnake is also nocturnal like many other snakes, meaning that it is most active at night. Nighttime is when scarlet kingsnakes are most likely to come out from their hiding places or burrows and be seen crossing roads or slithering into a suburban neighborhood. Night is also the time during which the scarlet kingsnake prefers to hunt. Another factor making the scarlet kingsnake a rare find is that it is very shy. If a scarlet kingsnake detects a human or another large animal coming its way it will do its best to remain hidden. Scarlet kingsnakes do not pose a serious danger to humans. Unlike the coral snakes that they resemble they do not produce any venom. The snakes would prefer to avoid humans entirely and choose to avoid a confrontation. If confronted and threatened by a human the scarlet kingsnake will most likely try to flee rather than put up a fight.

Diet: The diet of the scarlet kingsnake consists mainly of other small reptiles, including frogs, toads, lizards, and other small snakes. Perhaps the largest portion of their prey comes in the form of the skink, which is a type of lizard that somewhat resembles a rather plump snake with disproportionately small legs for its rotund body.

Reproductive: These snakes typically breed in springtime from March to June. Scarlet kingsnakes are oviparous, meaning that the mothers lay eggs rather than giving birth to live young that hatched within the mother's body. The eggs hatch a couple of months after the mother lays them. Newly hatched scarlet kingsnakes are small, averaging around fifteen centimeters in length. However, they look almost identical to adult scarlet kingsnakes except the yellow portion of the banding tends to be more white.





Octopuses are sea animals famous for their rounded bodies, bulging eyes, and eight long arms. They live in all the world's oceans but are especially abundant in warm, tropical waters. Octopuses, like their cousin, the squid, are often considered "monsters of the deep," though some species, or types, occupy relatively shallow waters.

Most octopuses stay along the ocean's floor, although some species are pelagic, which means they live near the water's surface. Other octopus species live in deep, dark waters, rising from below at dawn and dusk to search for food. Crabs, shrimps, and lobsters rank among their favorite foods, though some can attack larger prey, like sharks. Octopuses typically drop down on their prey from above and, using powerful suctions that line their arms, pull the animal into their mouth. The octopus performs its famous backward swim by blasting water through a muscular tube on the body called a siphon. Octopuses also crawl along the ocean's floor, tucking their arms into small openings to search for food. Seals, whales, and large fish prey on octopuses.

If threatened, octopuses shoot an inky fluid that darkens the water, confusing the aggressor. The octopus can also change to gray, brown, pink, blue, or green to blend in with its surroundings. Octopuses may also change color as a way to communicate with other octopuses. Octopuses are solitary creatures that live alone in dens built from rocks, which the octopus moves into place using its powerful arms. Octopuses sometimes even fashion a rock "door" for their den that pulls closed when the octopus is safely inside.

Type: Invertebrates

Diet: Carnivores

Average life span in The Wild: 1 to 2 years

Size: 12 to 36 in

Weight: 6.6 to 22 lbs

Size relative to a 6-ft (2-m) man:



The common octopus would be unique for its appearance alone, with its massive bulbous head, large eyes, and eight distinctive arms. But by far the most striking characteristic of the octopus is the wide array of techniques it uses to avoid or thwart attackers.

Defensive Adaptations

Its first—and most amazing—line of defense is its ability to hide in plain sight. Using a network of pigment cells and specialized muscles in its skin, the common octopus can almost instantaneously match the colors, patterns, and even textures of its surroundings. Predators such as sharks, eels, and dolphins swim by without even noticing it.

When discovered, an octopus will release a cloud of black ink to obscure its attacker's view, giving it time to swim away. The ink even contains a substance that dulls a predator's sense of smell, making the fleeing octopus harder to track. Fast swimmers, they can jet forward by expelling water through their mantles. And their soft bodies can squeeze into impossibly small cracks and crevices where predators can't follow.

If all else fails, an octopus can lose an arm to escape a predator's grasp and regrow it later with no permanent damage. They also have beaklike jaws that can deliver a nasty bite, and venomous saliva, used mainly for subduing prey.

Considered the most intelligent of all invertebrates, the common octopus is found in the tropical and temperate waters of the world's oceans. They can grow to about 4.3 feet (1.3 meters) in length and weigh up to 22 pounds (10 kilograms), although averages are much smaller. They prey on crabs, crayfish, and mollusks, and will sometimes use their ink to disorient their victims before attacking.



Second:frame 0:00

0:08 (270 msec)

2:02 (2,070 msec)







Concealing coloration:

Concealing coloration:

Concealing coloration:

Concealing coloration:

Disguise:

Disguise:

Disguise:

Disguise:

Mimicry:

Mimicry:

Mimicry:

Mimicry:

Disruptive coloration:

Disruptive coloration:

Disruptive coloration:

Disruptive coloration: