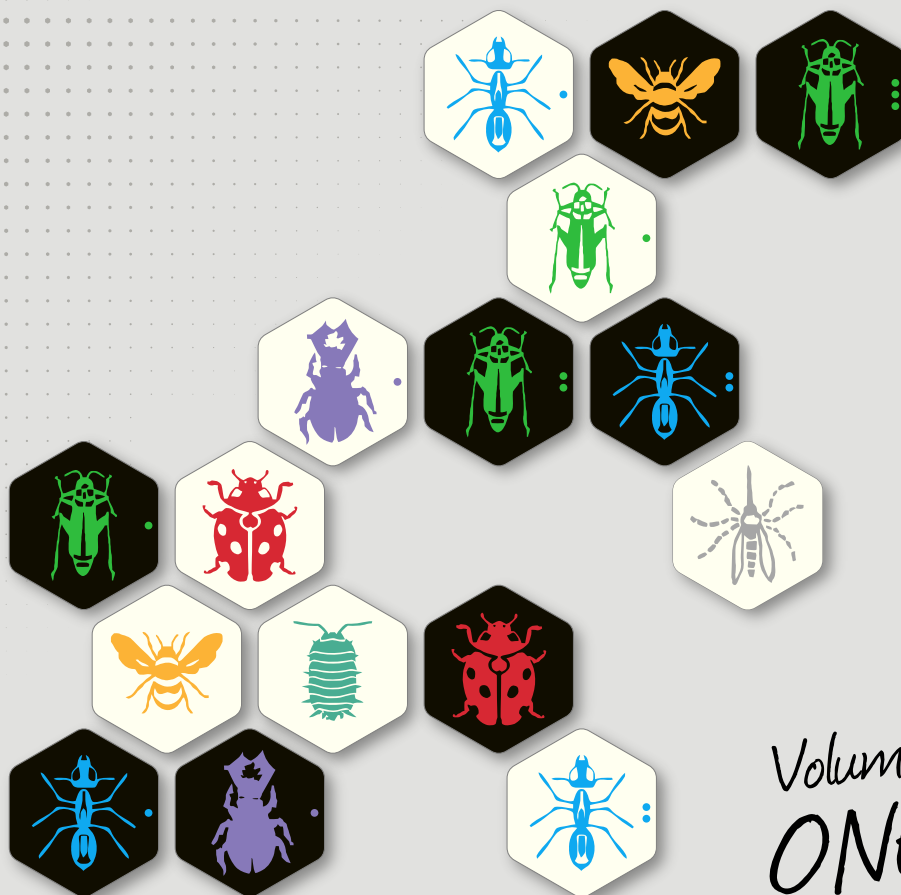


WAVE[®]

PUZZLES



Volume
ONE

Enrique Sedano • Jonas Kronander • Christian Sperling

Document version: 2021-4-3@14:28

Hive® is a registered trademark of Gen42 Games Ltd., London, United Kingdom.
All Hive® related imaginery and visuals are used with permission.

Puzzles by Loizz, The_Entomologist, ForgGotten, Gandac, Claudiulordache, djibouss,
lhailanen, and Frasco reproduced with the permission of the authors.

This document is freely distributed and not to be sold in any form.

Copyright © Enrique Sedano, Jonas Kronander, Christian Sperling, 2021.

Contents

Introduction	iii - ix
Foreword	iii
Introduction	iv
Acknowledgements	v
How to use this book	vi
Notation	viii
Puzzles	1 - 60
Easy	1
Intermediate	18
Expert	36
Master	57
Hints	61
Solutions	71
References	95
About the authors	99

Foreword

The first set of Hive I owned was the pocket version gifted to me in 2014. It sat on a shelf gathering dust for three years until a good friend of mine became my mentor. He opened my eyes to the beauty of the game and helped me to become a decent base game player. With that first achievement under my belt as foundation I delved into the more complex layers of the game by adding all three expansions.

Almost 1000 games later, I am still fascinated by Hive and it keeps surprising me unlike any other game before. I had been tinkering for a while with the idea of putting together a compilation of puzzles, but I never invested the amount of time needed to bring it to fruition. In November 2020, more than one and a half years after I created the first rough draft, I encountered another puzzle in a social media group about Hive. I had a wonderful time cracking it and admired its elegant solution. The thought of it slowly getting buried under hundreds of new chat messages, fading into oblivion and doomed to never being unearthed again was the proverbial straw that broke the camel's back. I could not let this happen and got to work.

A few days later, I talked with fellow Hive player Jonas Kronander about my aspirations to publish a book comprised of Hive brain teasers. It turned out that he had been collecting links to puzzles for some time as well. Naturally, it made sense to join forces and collaborate with him. A couple of weeks went by as we plowed our way through the puzzles. It became clear our little project would benefit greatly from Christian Sperling's expertise both in Hive and graphic design. We convinced him to jump aboard and continued the venture as an astonishingly efficient trio by sharing our progress, discussing layouts and resolving issues almost on a daily basis for months.

I now proudly look at our first puzzle volume and it is so much more than what I could have done just by myself. Jonas and Christian have contributed an incredible amount of drive, passion and care for detail leading to the final result that has exceeded all of my expectations. I could not be happier with the book and the fellows I have had the pleasure to team up with.

Enrique Sedano

Introduction

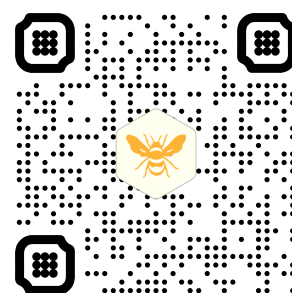
The best way to win is to put your enemy in a position where, no matter what they do, you have a way forward.

The quote above by Enrique was initially proposed as the hint for one of the puzzles in this book. After reflecting on the statement we quickly realised that the hint provided wasn't specific enough. It rather conveys the core idea of any efficient strategy in Hive and most other abstract strategy games.

Forcing your opponent into a situation where they are not able to defend sufficiently is the only path to an irrefutable victory. This becomes evident when reviewing games between top level Hive players. To observe how masters do it is one thing, to put it into practise in your own games is another. The good news is: reaching these situations and spotting sequences leading to an inevitable win is an attainable skill you can learn. Solving Hive puzzles that typically present a tricky endgame position will help you to develop that skill and to keep a sharp mind. Furthermore, it is a great challenge that might drive you crazy at times until you finally manage to visualise the solution and you will be left with the rewarding feeling of satisfaction and accomplishment.

For several years the Hive community has created intriguing and elaborate puzzles. Early in the 2010s image13, the 2013 Hive Online World Tournament Champion, pioneered this work by posting several puzzles of ranging difficulty in a popular internet forum about board games. Lately, with an expanding player base and an increasing number of online meeting points for Hive players, we have seen an influx of new interesting puzzles. However, many of them didn't reach a widespread audience and in the more active channels they were soon relegated to the archives, only reachable through the search feature. This volume is our attempt to preserve those puzzles, to give them the stage they deserve, and to honour the great contributions of their authors to the Hive community. We hope you will enjoy the content of this book as much as we had fun creating it.

Even though significant effort has been put into proofreading and checking the solutions, we acknowledge the possibility of undetected typos that might have snuck in. Correspondingly, we won't be surprised if alternative solutions for the puzzles will be found. If you detect a significant error in our hints and solutions or demonstrate beyond doubt that a puzzle can be solved quicker than suggested, please let us know. We will award you with the unofficial title of "Hive Puzzle Master" and add you to the list of people who have contributed to this book. You can access said list via the QR code.



Acknowledgements

First of all, we would like to thank the supportive and friendly online Hive community. Without you, this compilation would not exist. A big thank you goes to the authors of all the puzzles reproduced here. Your work is not only the bulk of book's contents, but also a source of inspiration. We much appreciate the authors of the enlightening books and articles written on Hive strategy which paved the way to success for so many players. Of course, we also like to thank John Yianni and Gen42 Games for one of the best games ever created.

We thank The_Entomologist, for his invaluable position editor [link], a very helpful tool extensively used by the community for game analysis and by us to generate the illustrations for all the puzzles in this book.

A special shout-out to the BoardGameGeek users lcg74160 and MyOtheHedgeFox for saving the original pictures of image13's puzzles and posting them as a compilation on BoardGameGeek.

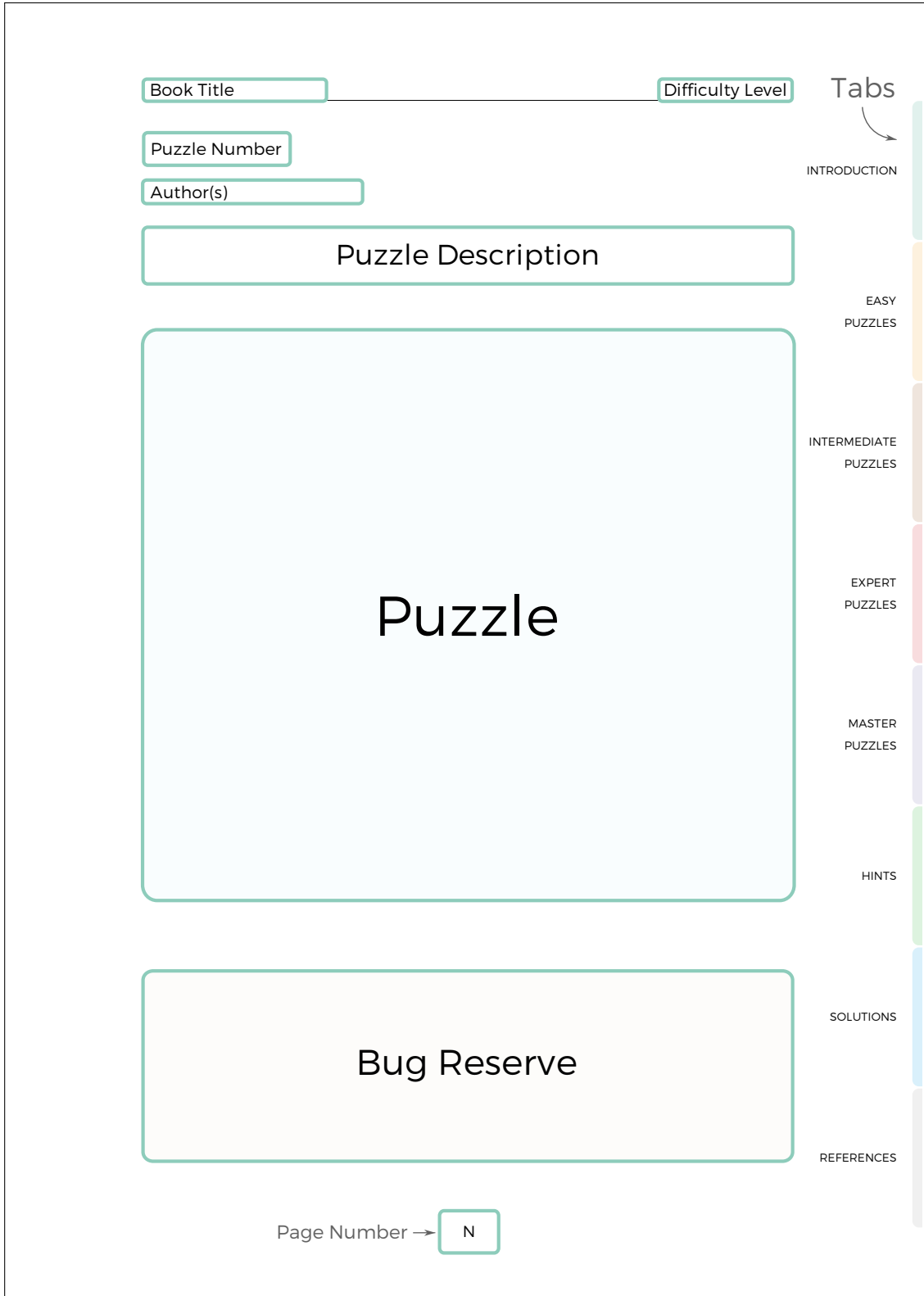
We like to credit Patrik Berggren (HappyKiwi) for his help during the design of Puzzle #60 as well as Christian Galeas (Quodlibet) for testing it and validating the solution.

We are grateful to Randy Ingersoll (rangersoll) and Cody Kunka (Kunkasaurus) for their reviews and detailed feedback contributing to the improvement of this book.

Last but not least, we like to extend our gratitude to our families and friends for putting up with us despite our obsession for Hive. Without your support the work to complete this compilation of puzzles would certainly have been a much bumpier road.

How to use this book

The main body of this book is divided into three sections: **Puzzles**, **Hints**, and **Solutions**.



The 60 **Puzzles** in the book are sorted by increasing difficulty. They are all presented in the same consistent structure, outlined in the figure on the previous page. Each puzzle occupies a single page. After the puzzle number and the author(s) name, a description of the puzzle's objective is provided. The Hive pieces fill up the central space of the page as a clickable element that will take you to an editable version of the puzzle in the Entomology position editor.

Below the puzzle you find the reserves for both players and the page number which is identical with the puzzle number. Running along the right edge of the page, a coloured tab indicates the difficulty of the puzzle.

The version of Hive used in the puzzle is specified in the lower right corner of the reserves box. Only the pieces shown on the page should be used to solve the puzzle.

The **Hints** section offers assistance if you ever get stuck in your attempt to crack a puzzle. In most cases, you are given one or two sentences containing clues about how to solve the puzzle.

In order to check if the solution you found is correct, the **Solutions** section lists the intended sequence(s) for each puzzle. A short explanation or some additional notes may also be found there.

Notation

In the solutions section of this book we use the notation convention that has become the *de facto* standard in the Hive community and which originally was introduced at boardspace.net.

Pieces

To identify each piece, they are assigned a unique name. This name is made of two or three characters, each of these representing:

- The color of the piece, in lowercase: **w** for White, **b** for Black.
- The type of piece, in uppercase.

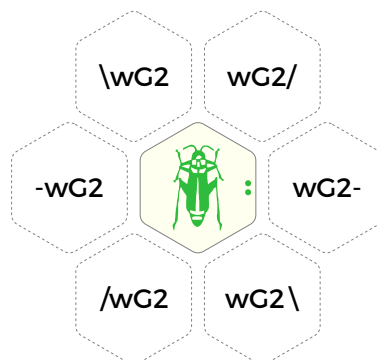
A for Ant	M for Mosquito
B for Beetle	P for Pillbug
G for Grasshopper	Q for Queen Bee
L for Ladybug	S for Spider

- For pieces with multiple copies, a number identifying them.

For example, **wA1** is the first White Ant added to the hive, and **bG3** is the third Black Grasshopper to enter the hive.

Moves

A move is indicated by the name of the piece that moves, followed by its destination position. Since there is no board in Hive, the destination position uses adjacent pieces as reference. To do this, we use three different symbols (/, \ and –). The destination position is described as the piece the moving bug attaches to, either preceded or followed by /, \ or – to indicate the relative position of the moving piece with reference to the piece it attaches. The line stretching out from the piece name points to the destination of the piece that is moving to, or spawning at, that location. In the following diagram we show all six possible positions around the White Grasshopper 2.



In case the movement was a Beetle climbing on top of another piece, the destination is only the name of the piece that is being covered.

Some examples are:

- **bA3 /wQ** : The Black Ant 3 moves to the location directly south-west of the White Queen.
- **wB1 wG2** : The White Beetle 1 climbs atop the White Grasshopper 2.

When a Pillbug warps another piece, the piece being moved is preceded by the Pillbug warping it and a colon. For example:

- **wP:bG1 \bL** : The White Pillbug warps the Black Grasshopper 1 north-west of the Black Ladybug.

In the solutions, the two moves in each turn are separated by a comma representing first the move by White and then the move by Black. When a player has no legal moves and is forced to pass, this is indicated in the solutions explicitly with *pass* as the move.

Finally, in some instances the move performed by one of the players in a given turn may be irrelevant (for example, if nothing can be done to stop a final move that fills the last kill spot around a Queen). For those cases, we replace the name of a piece and/or the destination with *s. For example:

- **w** ****** : Any legal move by White.
- **bG2 ****** : The Black Grasshopper 2 does a legal move, no matter which one.
- **b** bG2—** : Any Black bug spawns to the east of the Black Grasshopper 2.

When this notation is used, the only moves that we do not consider to be included are those that would be detrimental to the player indicating it. For example, releasing the pin on an opponent's piece that could immediately finish the game, or filling one's own final kill spot.

Turns

We follow a precise naming convention for counting players' actions. We refer to a **move** to indicate the action taken by either the White or the Black player, and to **turn** when indicating a pair of moves, one by each color. Many of the puzzles begin with the Black player's move. In these cases, this first move is counted as a full turn, assuming White just moved before the beginning of the puzzle.

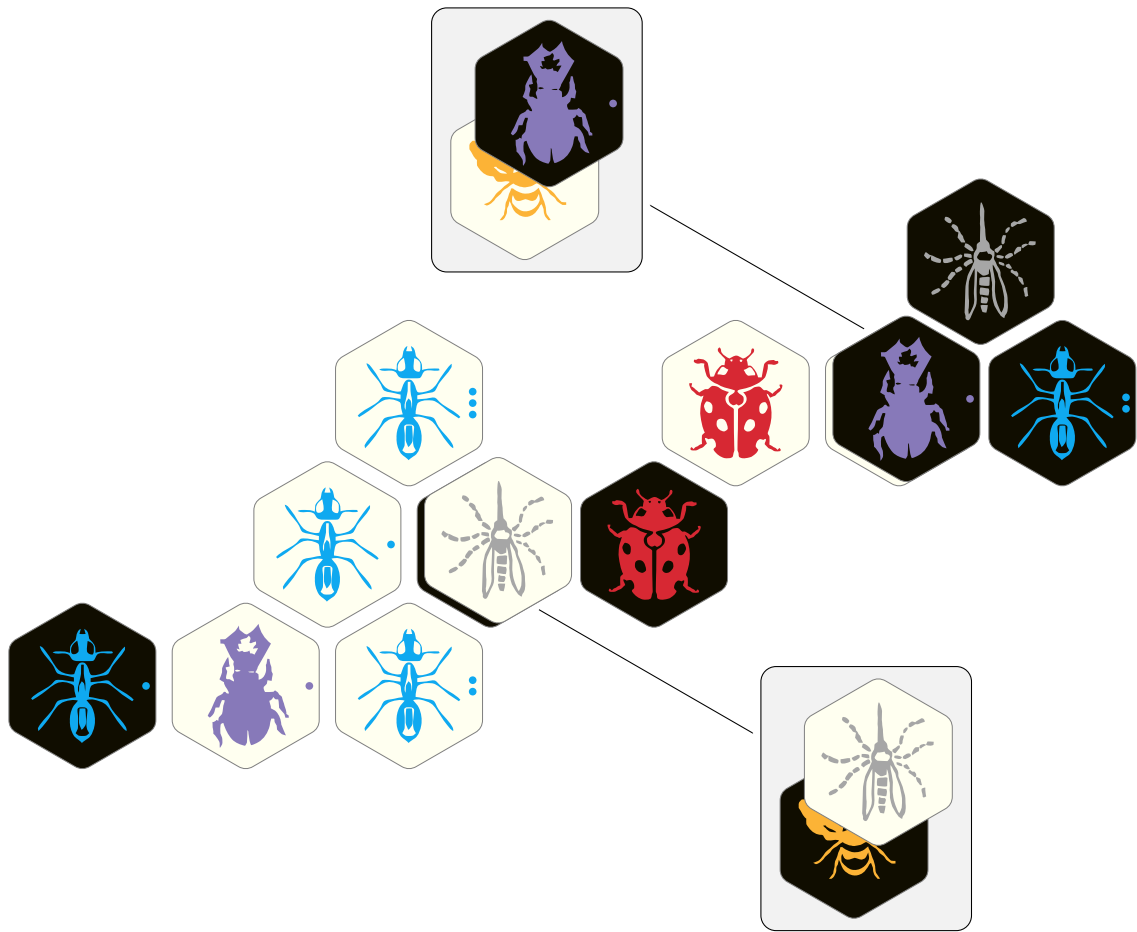
Hive Lexicon

Throughout the book we use Hive-specific terms such as **kill spot**, **gate**, **swamping**, etc. If you are unfamiliar with the terminology, there are different resources you can find accurate definitions, such as Randy Ingersoll's YouTube Hive Lexicon series or Joe Schultz's book "The Canon Of Hive: Groundwork".

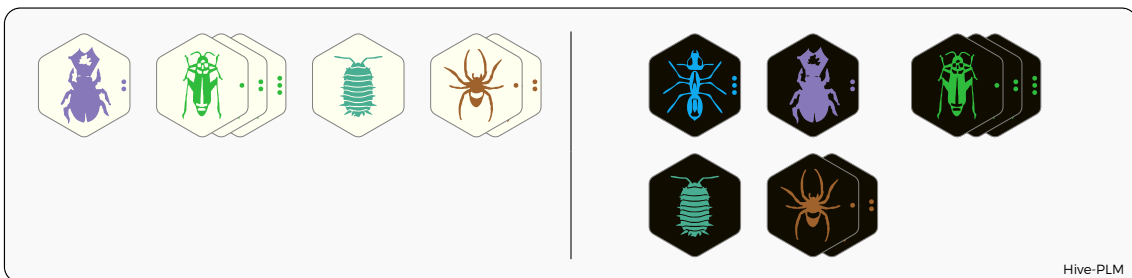
Puzzle #1

by Loizz

White moves next. Find a sequence for White to win in 4 turns.



RESERVE

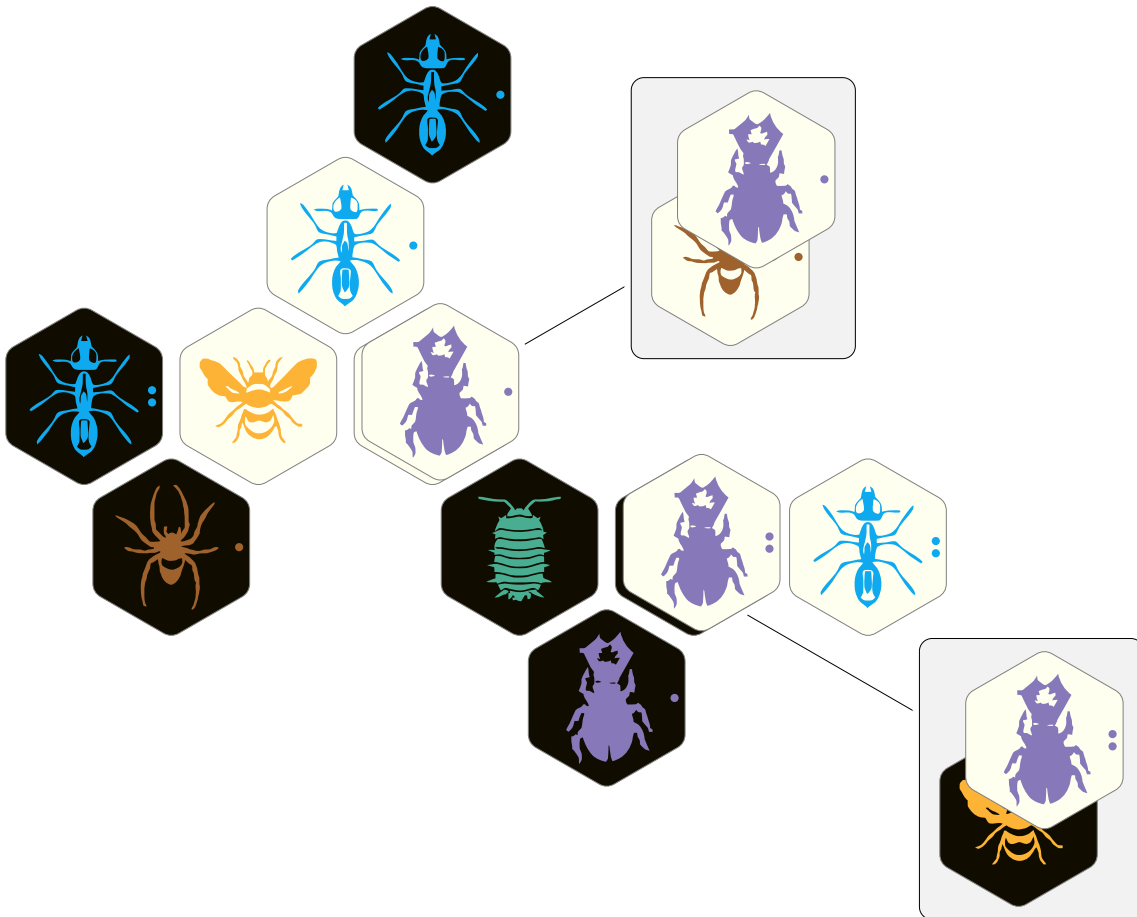


Hive-PLM

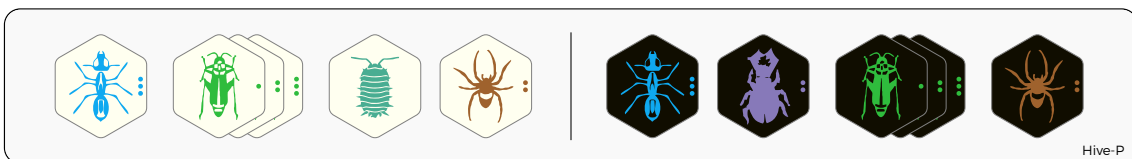
Puzzle #2

by Loizz

Black moves next. Can you find how Black wins in 3 turns?



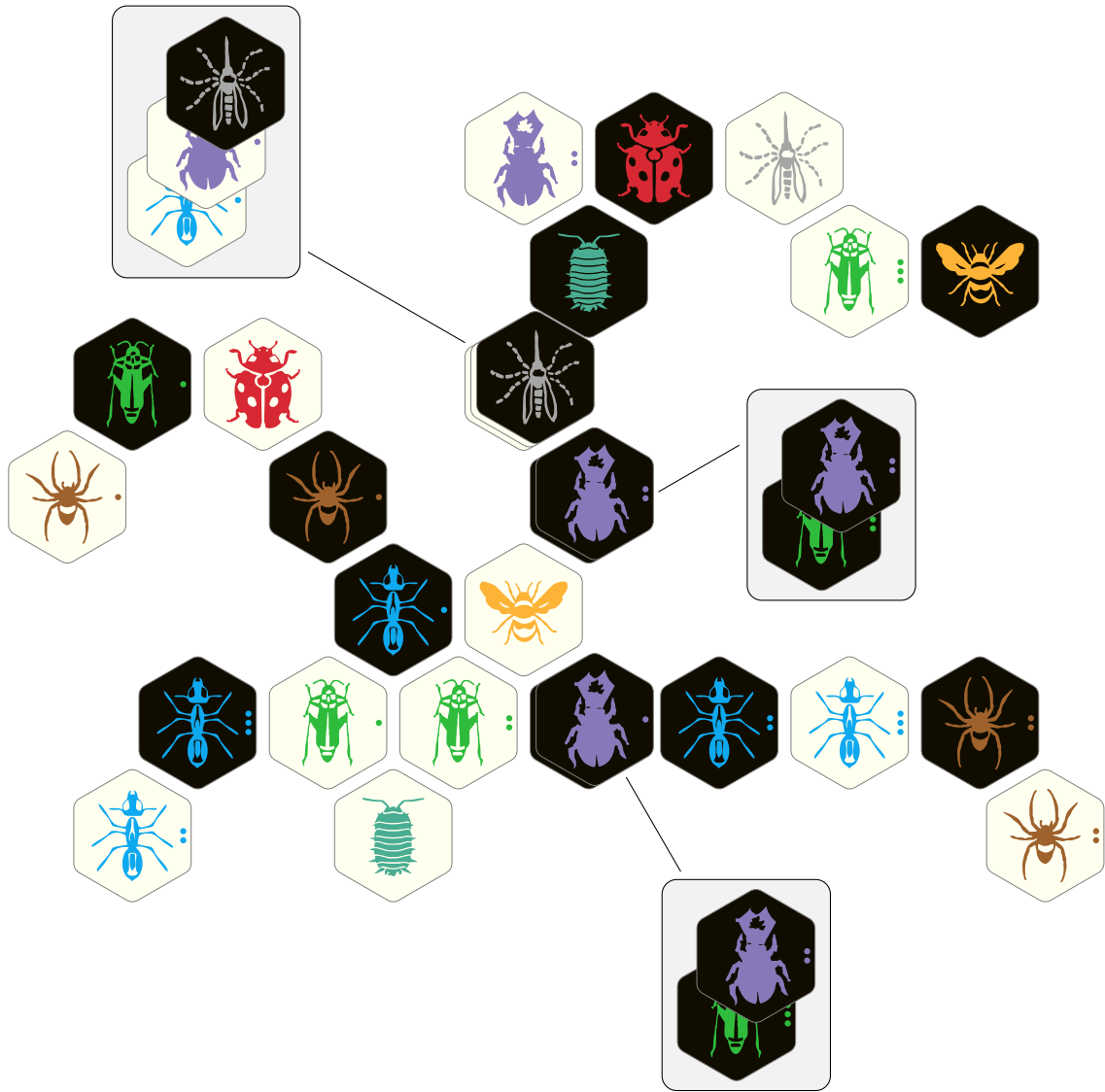
RESERVE



Puzzle #3

by Jonask, eSedano and Eucalyx

Black moves next. Can you find the winning sequence in 3 turns for Black?

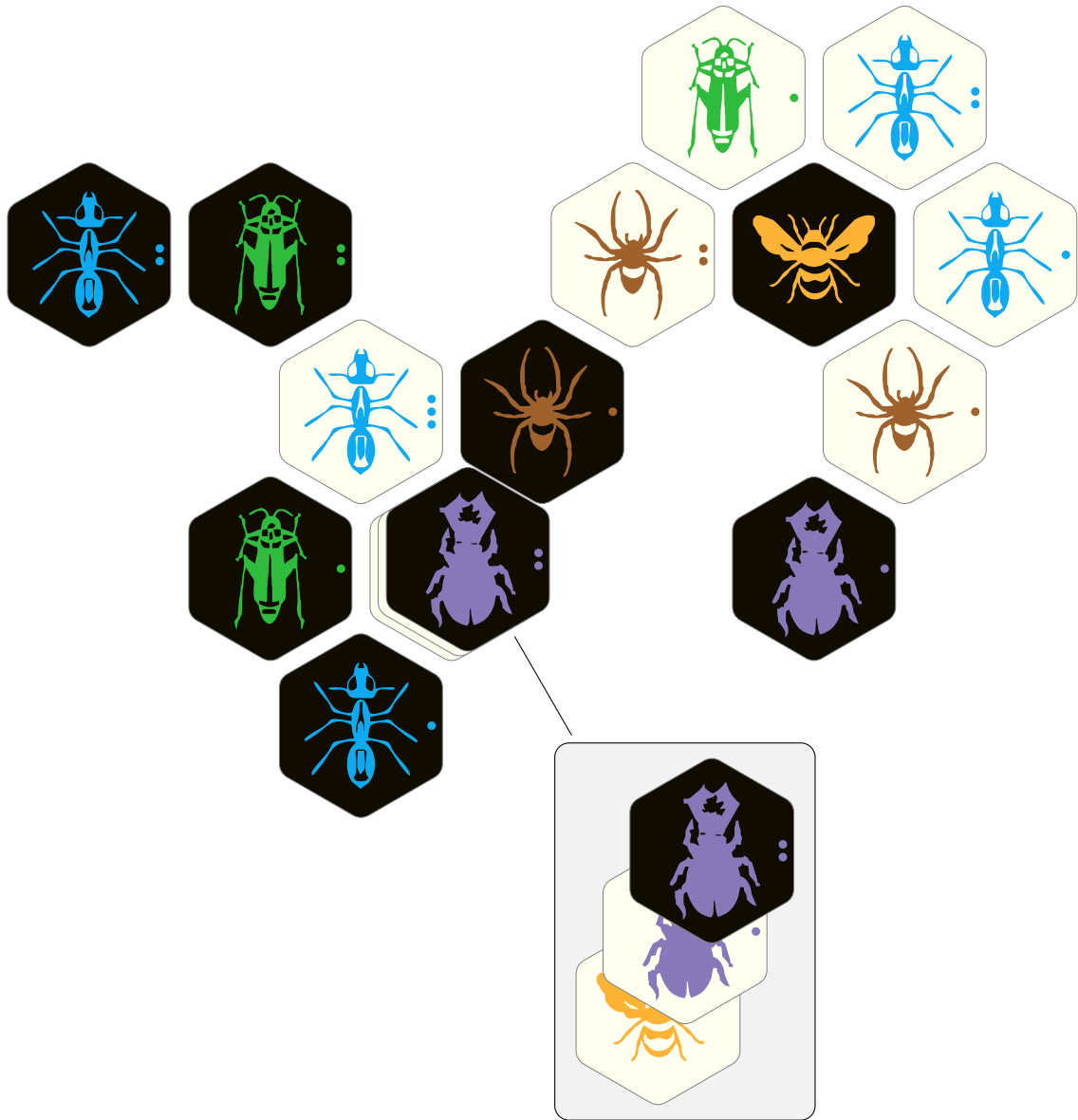


RESERVE

Puzzle #4

by image13

White moves next. Find the shortest sequence for White to win.



RESERVE

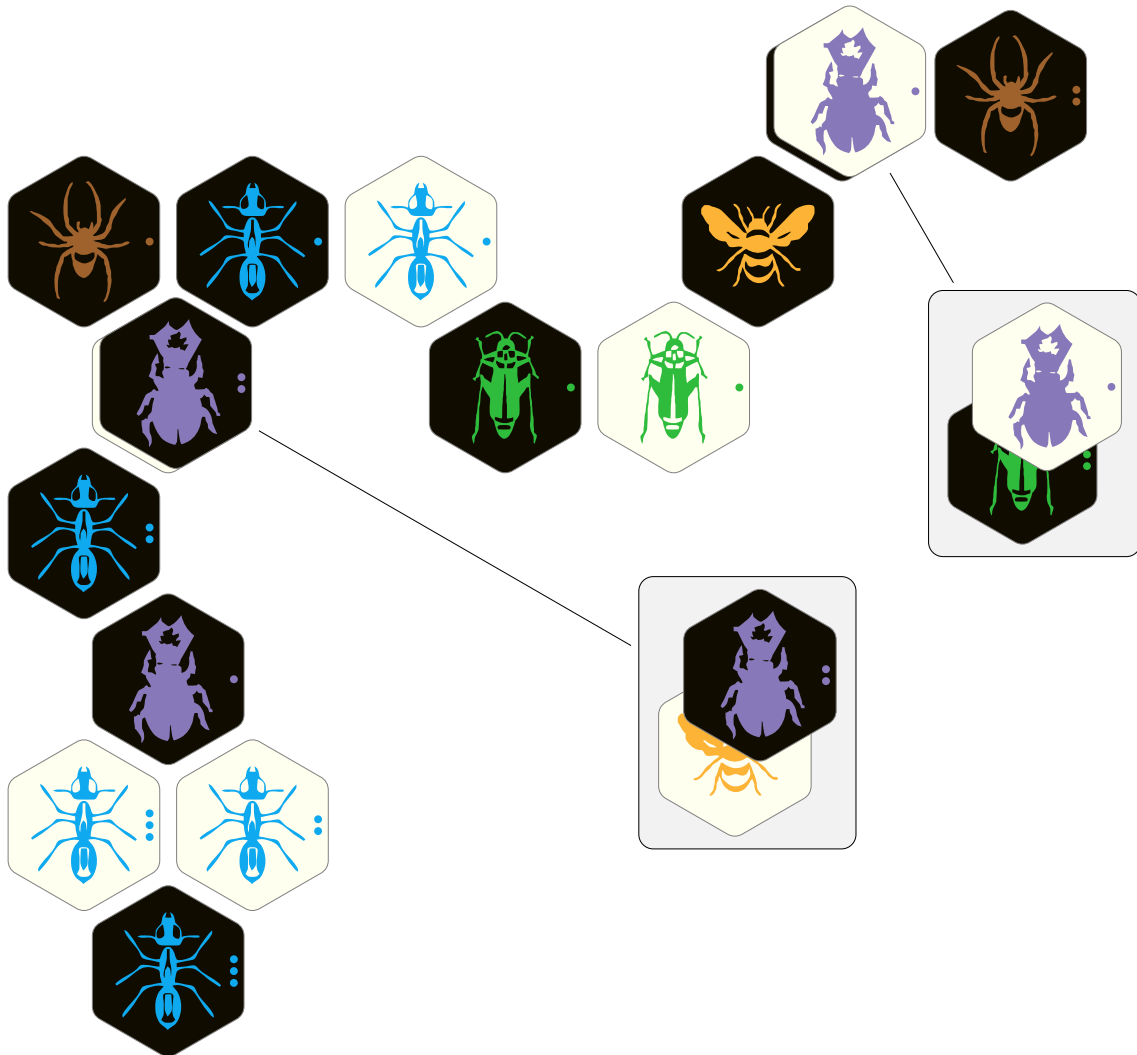


Hive

Puzzle #5

by image13

Black moves next. Find a sequence for Black to win in 3 turns.



RESERVE

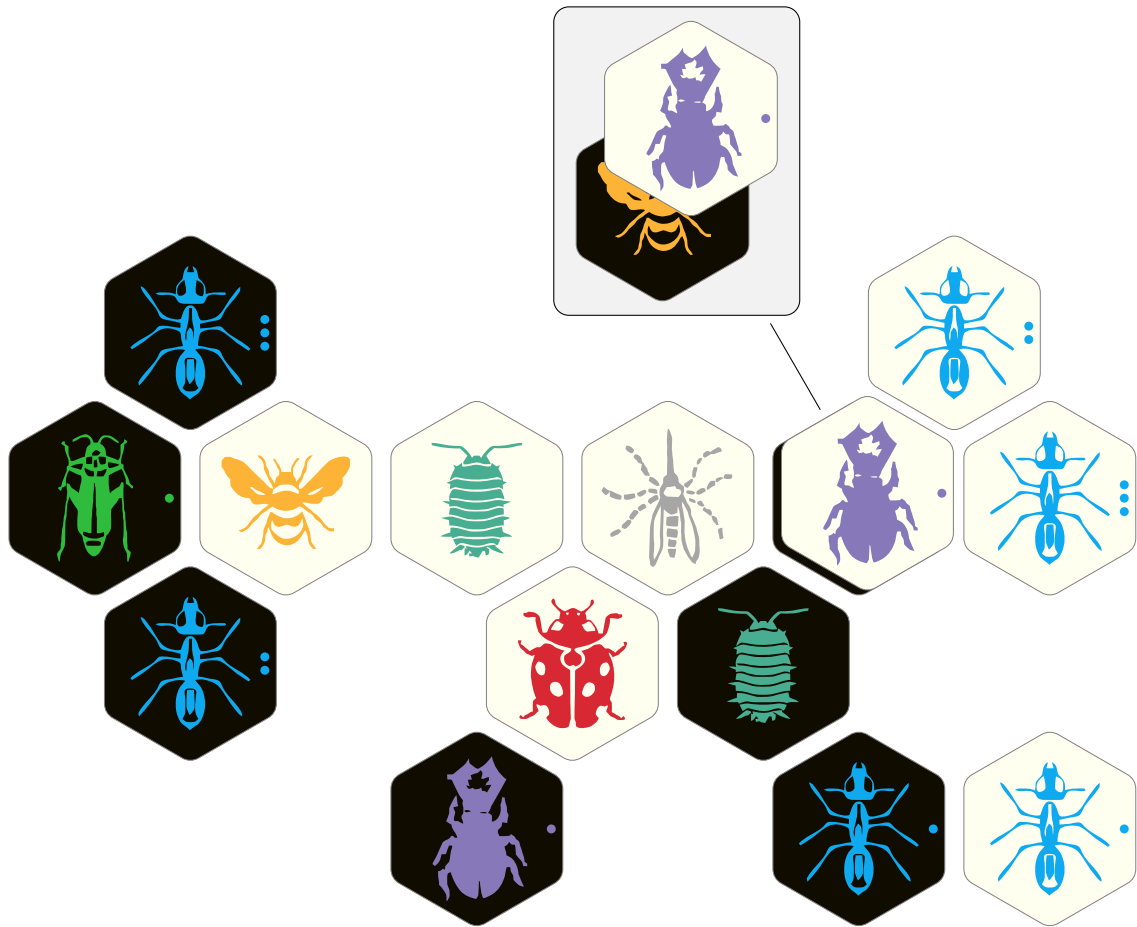


Hive

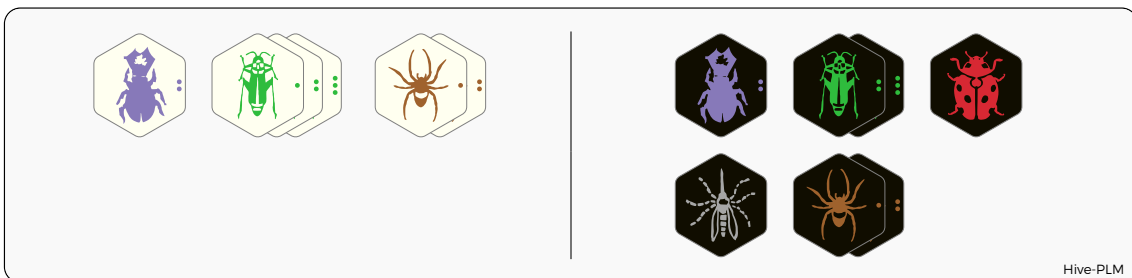
Puzzle #6

by Jonask

White moves next. Who wins and how?



RESERVE

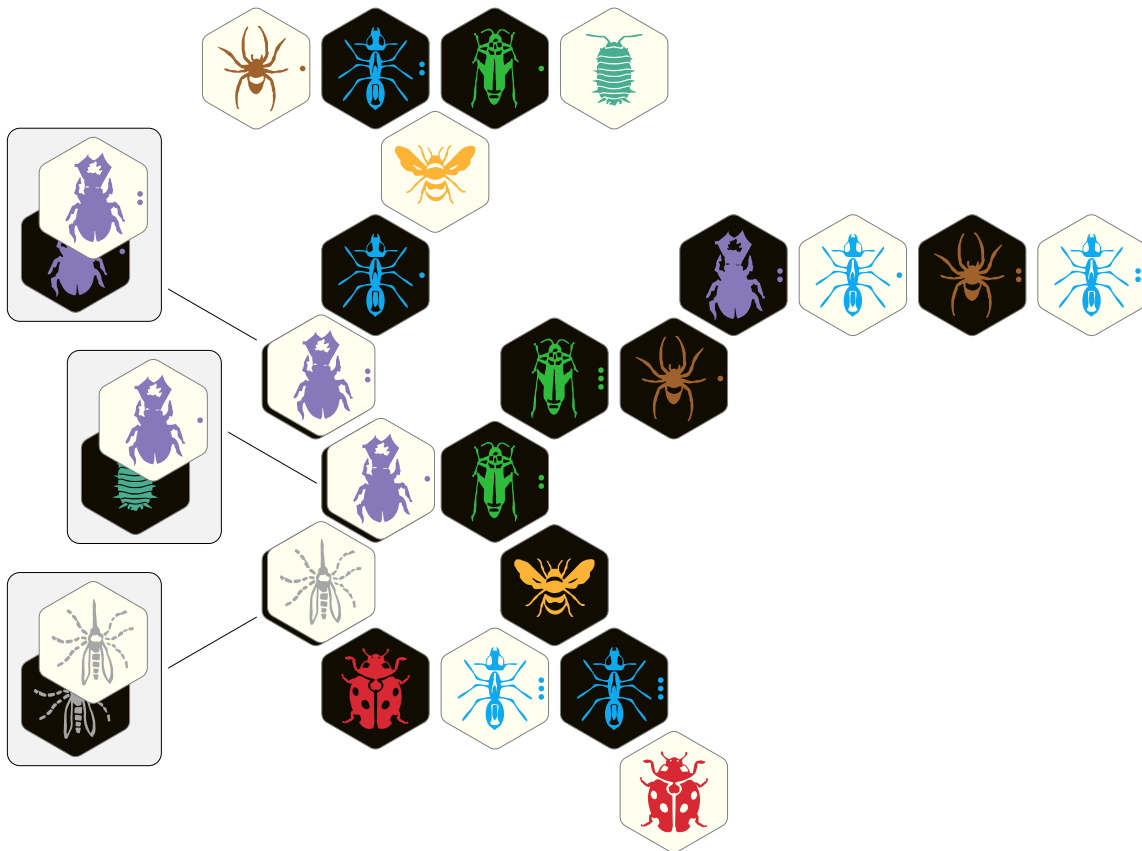


Hive-PLM

Puzzle #7

by Jonask

White moves next. Find a sequence for White to win in 4 moves.



RESERVE

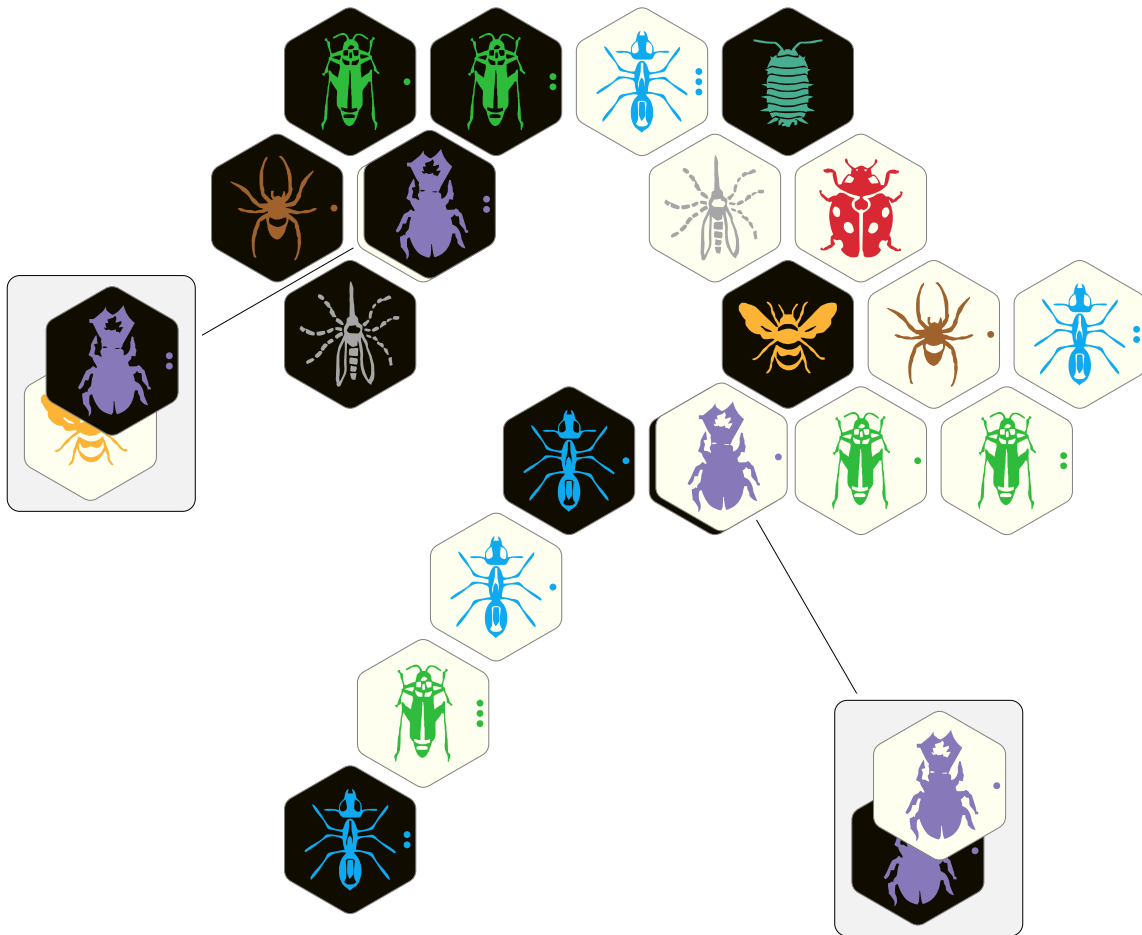


Hive-PLM

Puzzle #8

by The_Entomologist

Black moves next. The White Ladybug moved last. Who wins and in how many turns?



RESERVE

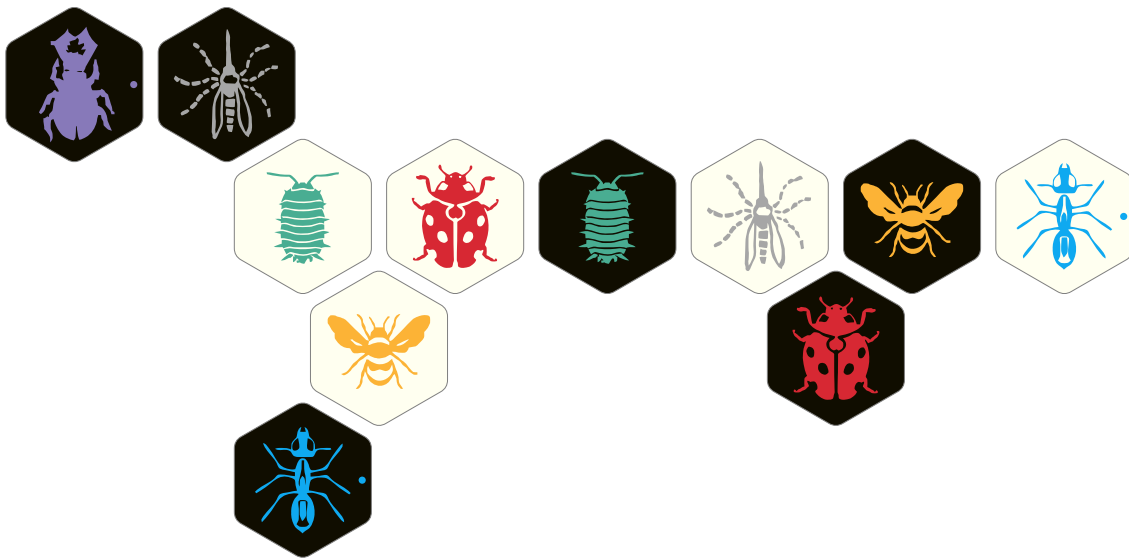


Hive-PLM

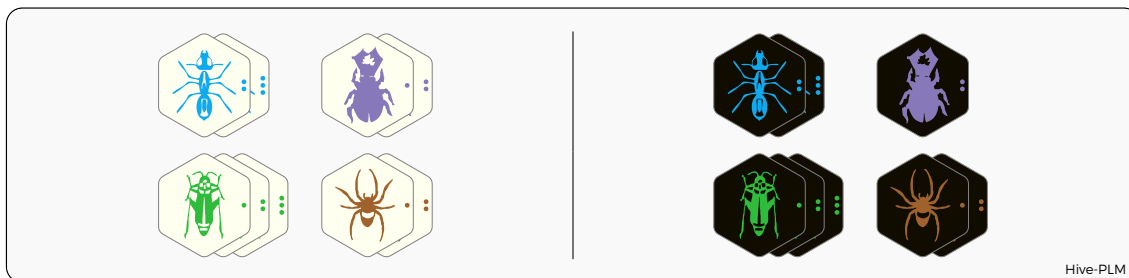
Puzzle #9

by **ForgGotten**

Black moves next. How can Black win? In how many turns?



RESERVE

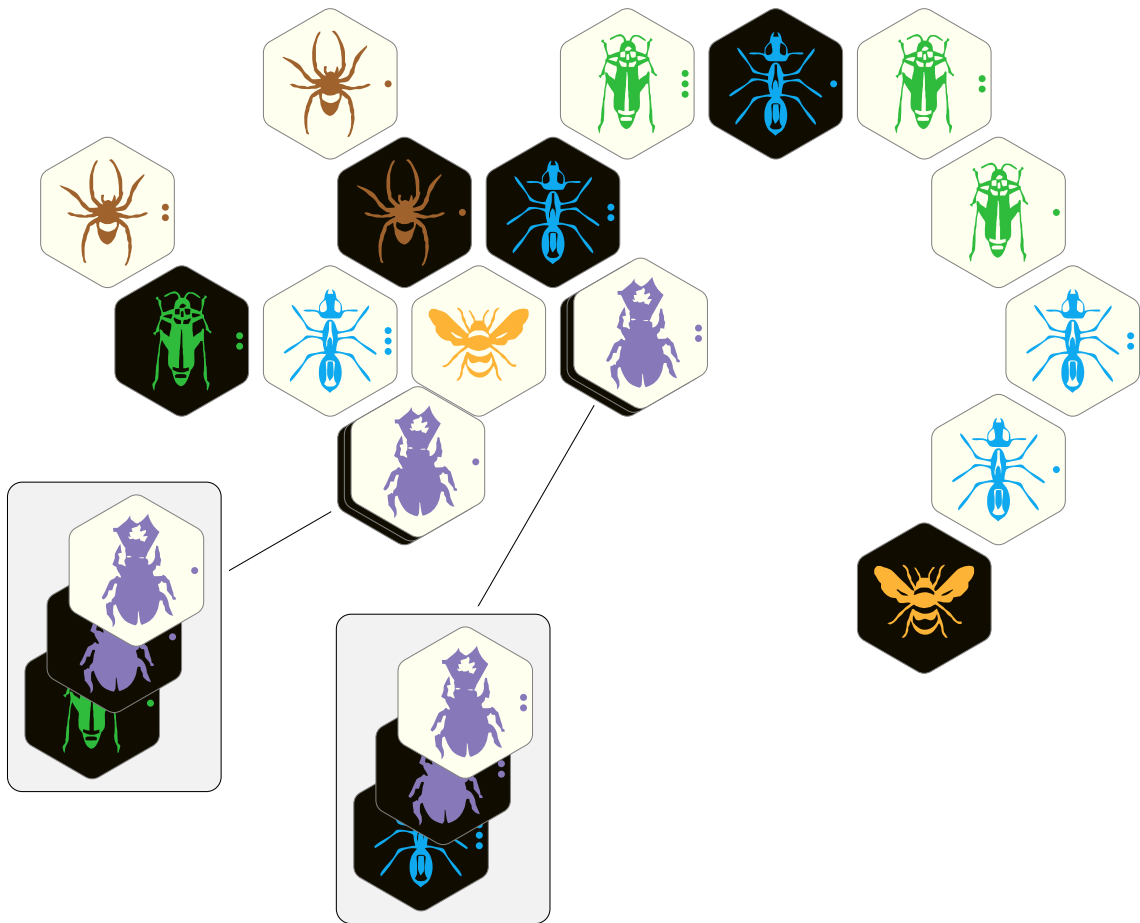


Hive-PLM

Puzzle #10

by Eucalyx

Black moves next. Find a sequence for Black to win in 3 turns.



RESERVE

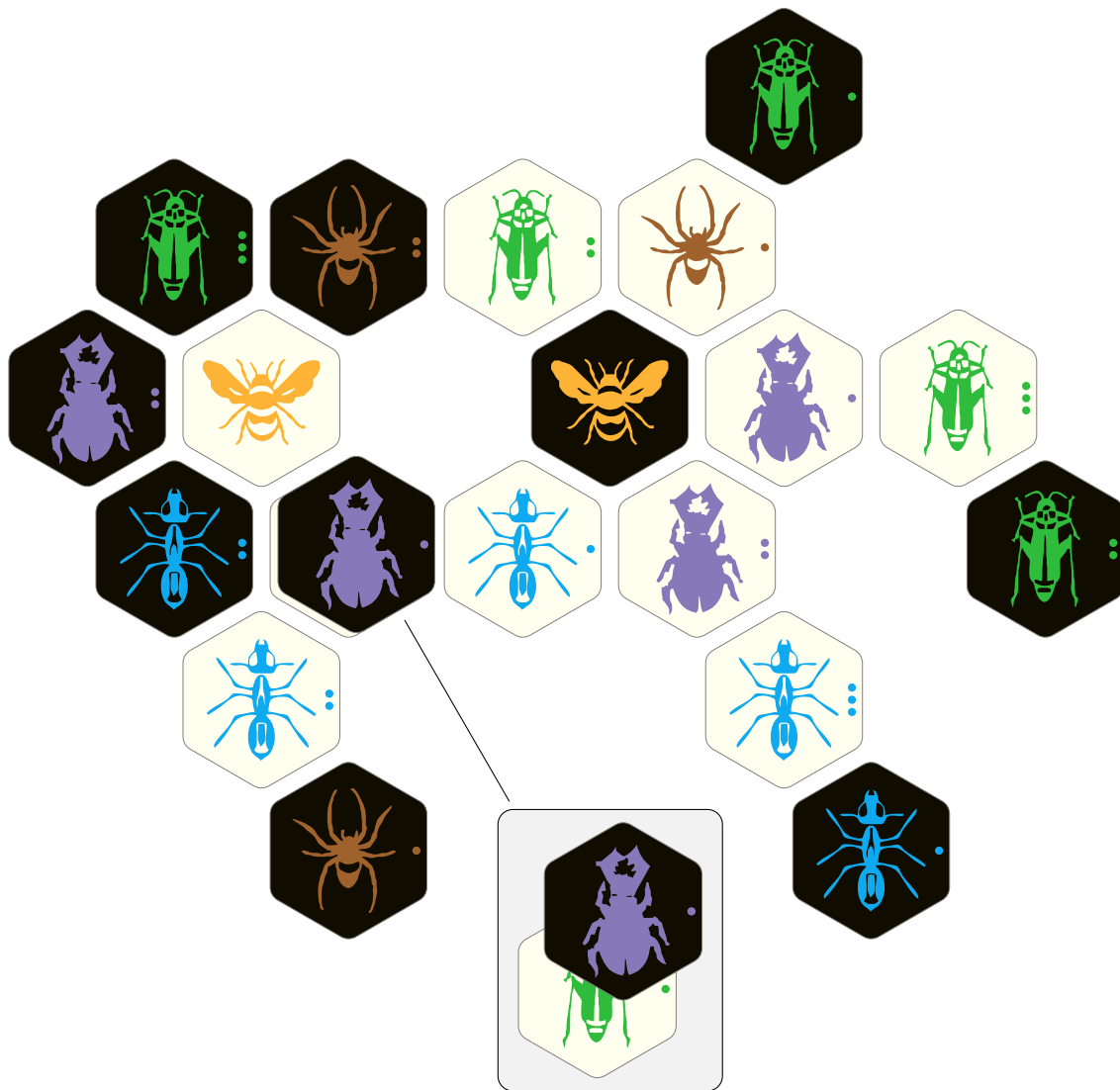


Hive

Puzzle #11

by eSedano¹

Black moves next. Can Black avoid a draw and win the game? How?



RESERVE

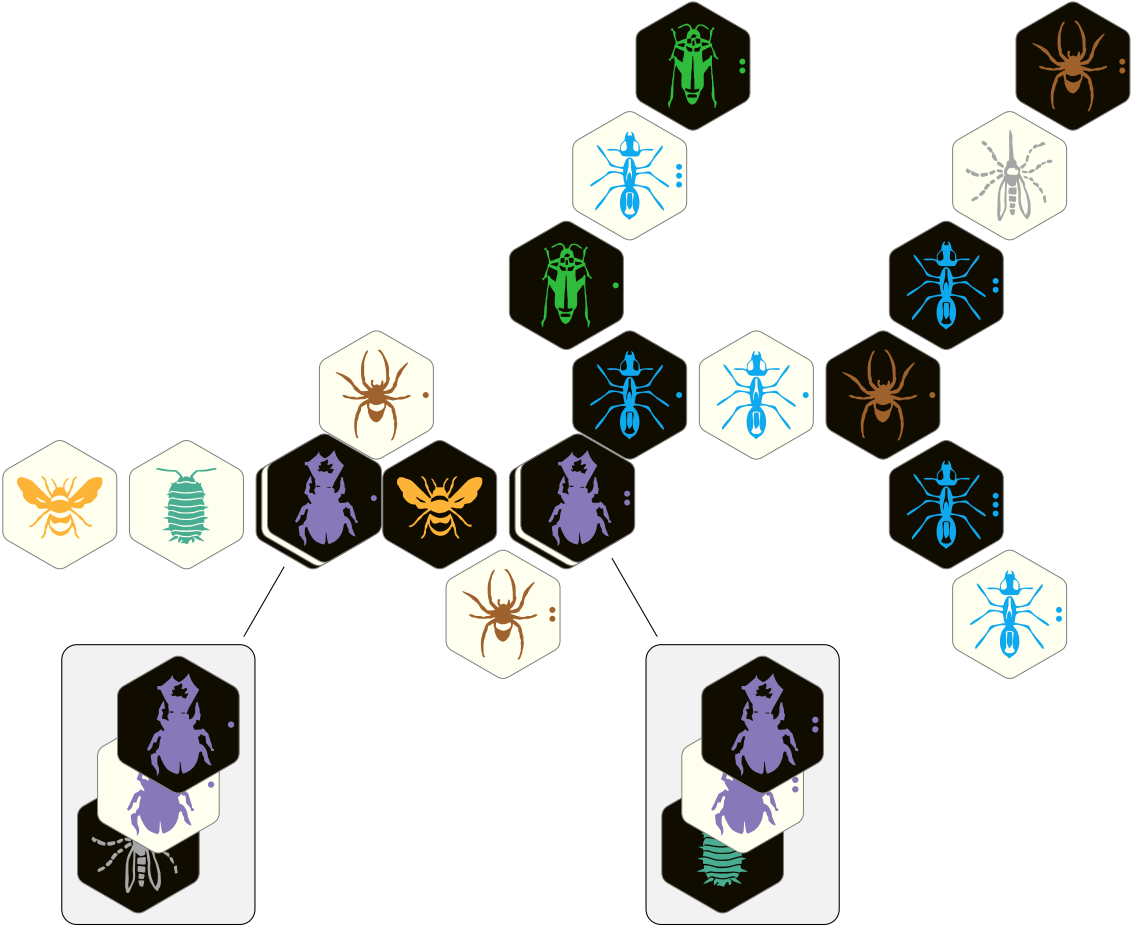


¹The idea and most of the layout for this puzzle comes from the YouTube video "Bugzwang" by Randy Ingersoll on his channel Play Hive like a Champion.

Puzzle #12

by Loizz

White moves next. Find the winning sequence for White.



RESERVE

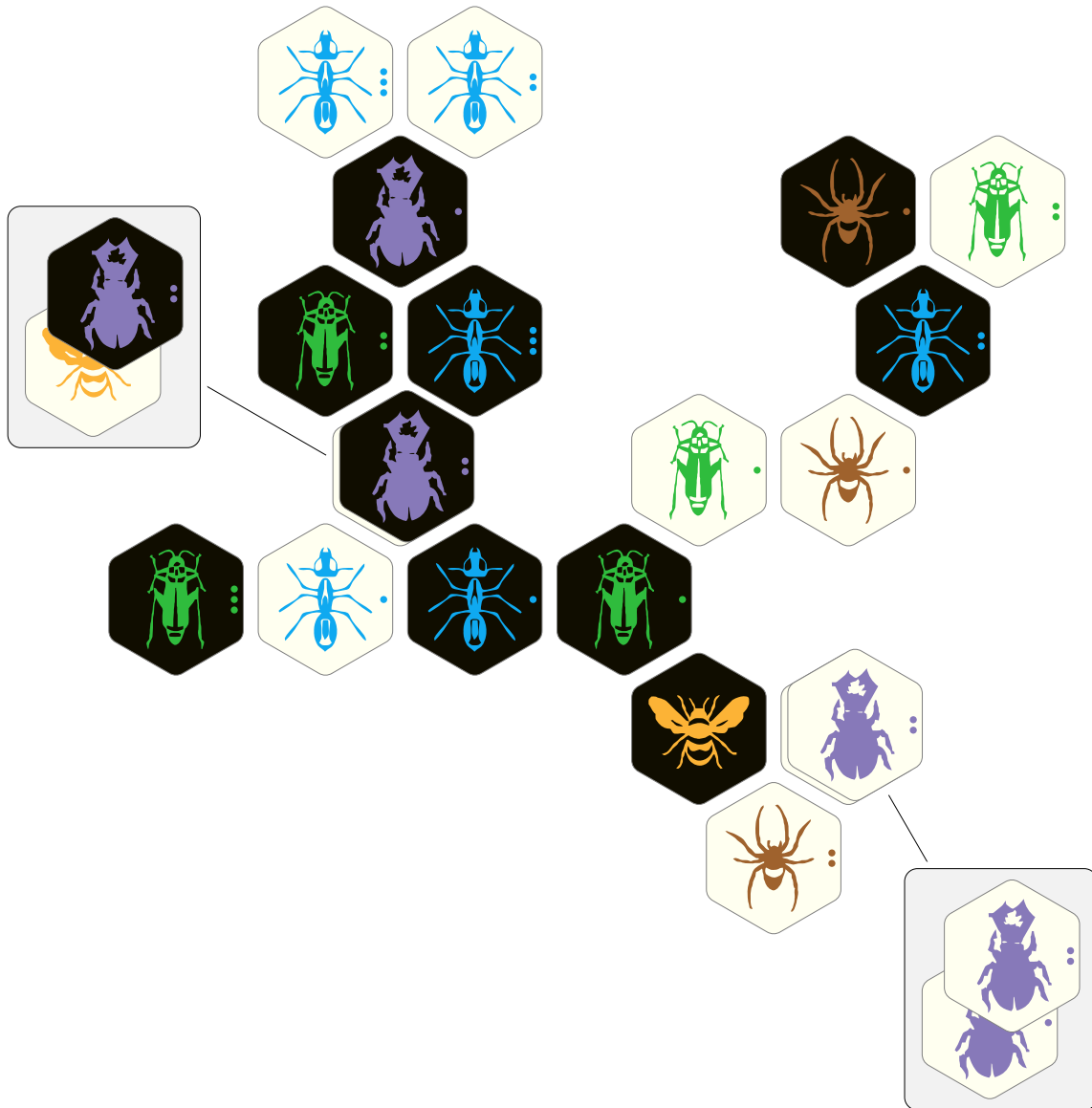
The reserve area contains four insect pieces. On the left, there is a stack of three green beetle pieces. To its right is a single red beetle piece. A vertical line separates these from the pieces on the right. On the right side of the line, there is a green beetle piece and a red beetle piece.

Hive-PLM

Puzzle #13

by image13

Black moves next. Find a sequence for Black to win in 4 turns.



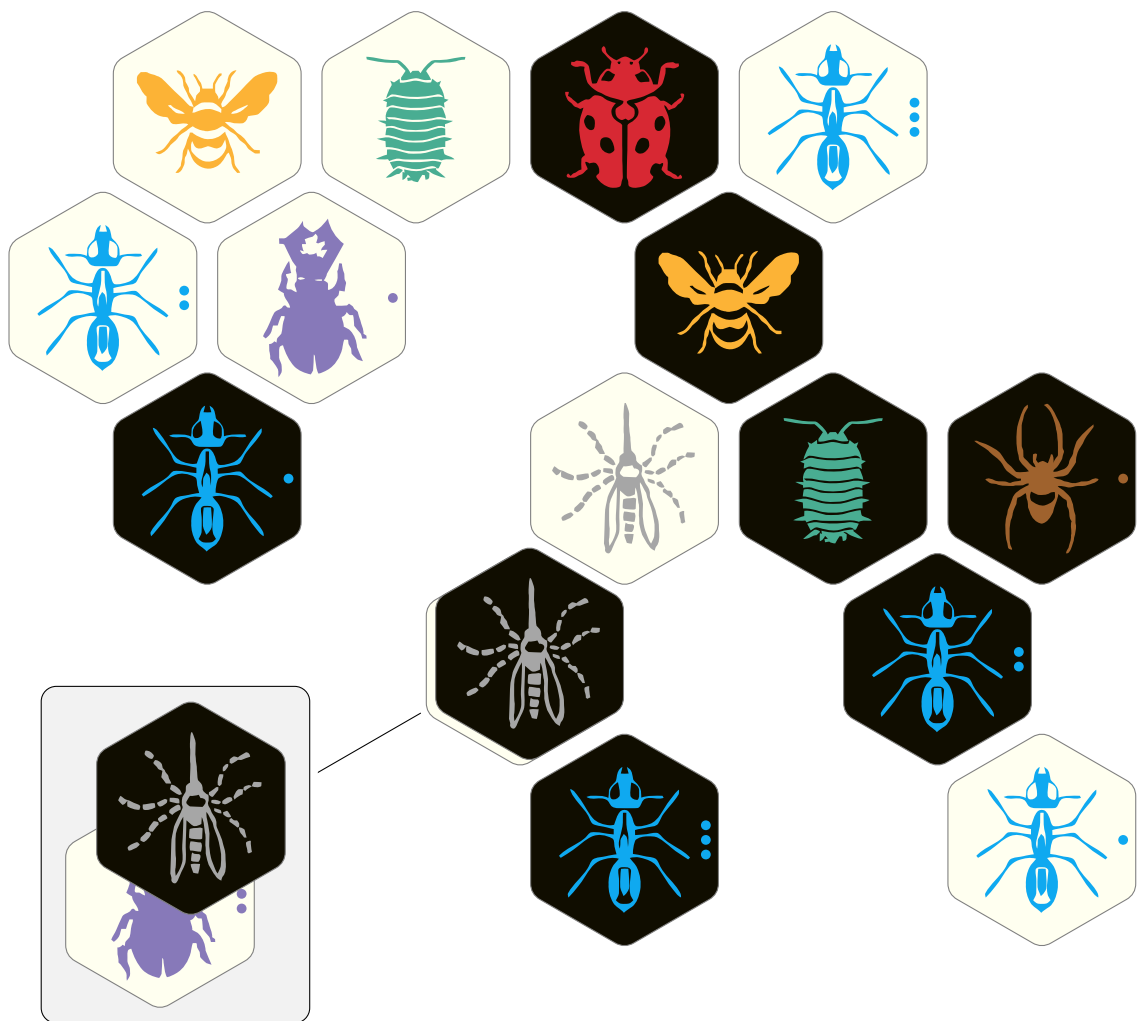
RESERVE



Puzzle #14

by Gandac

White moves next. Who wins and how?



RESERVE

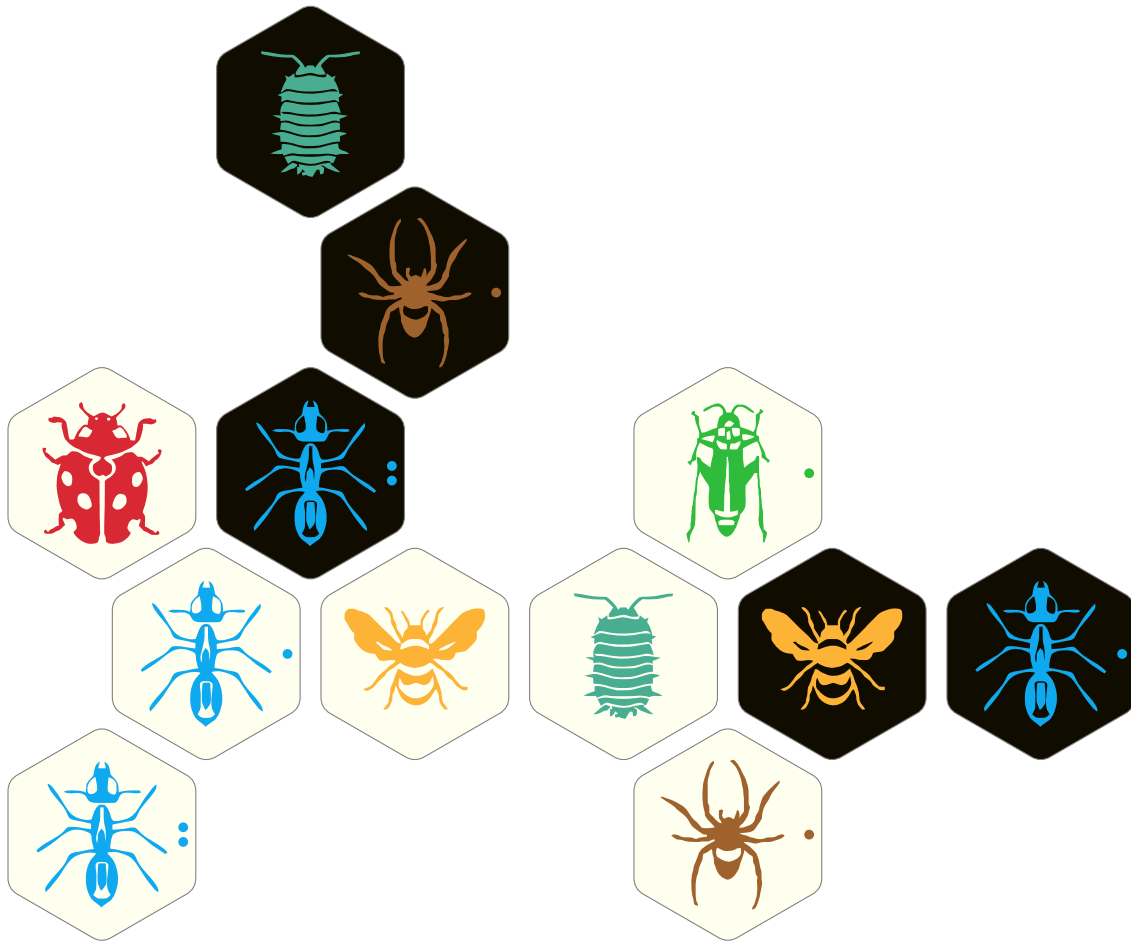


Hive-PLM

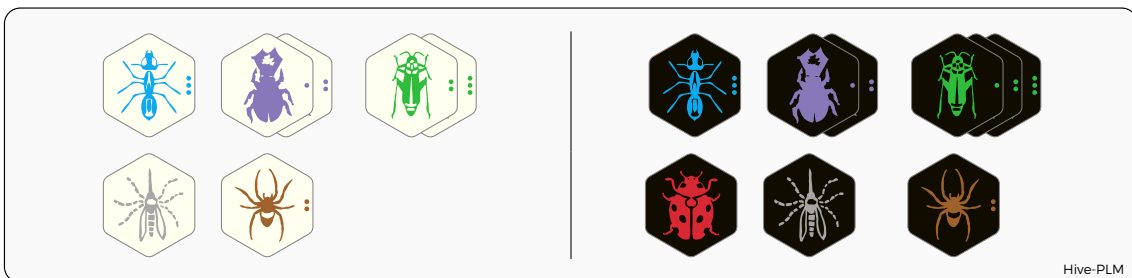
Puzzle #15

by Eucalyx

White moves next. Find a sequence for White to win in 3 turns.



RESERVE

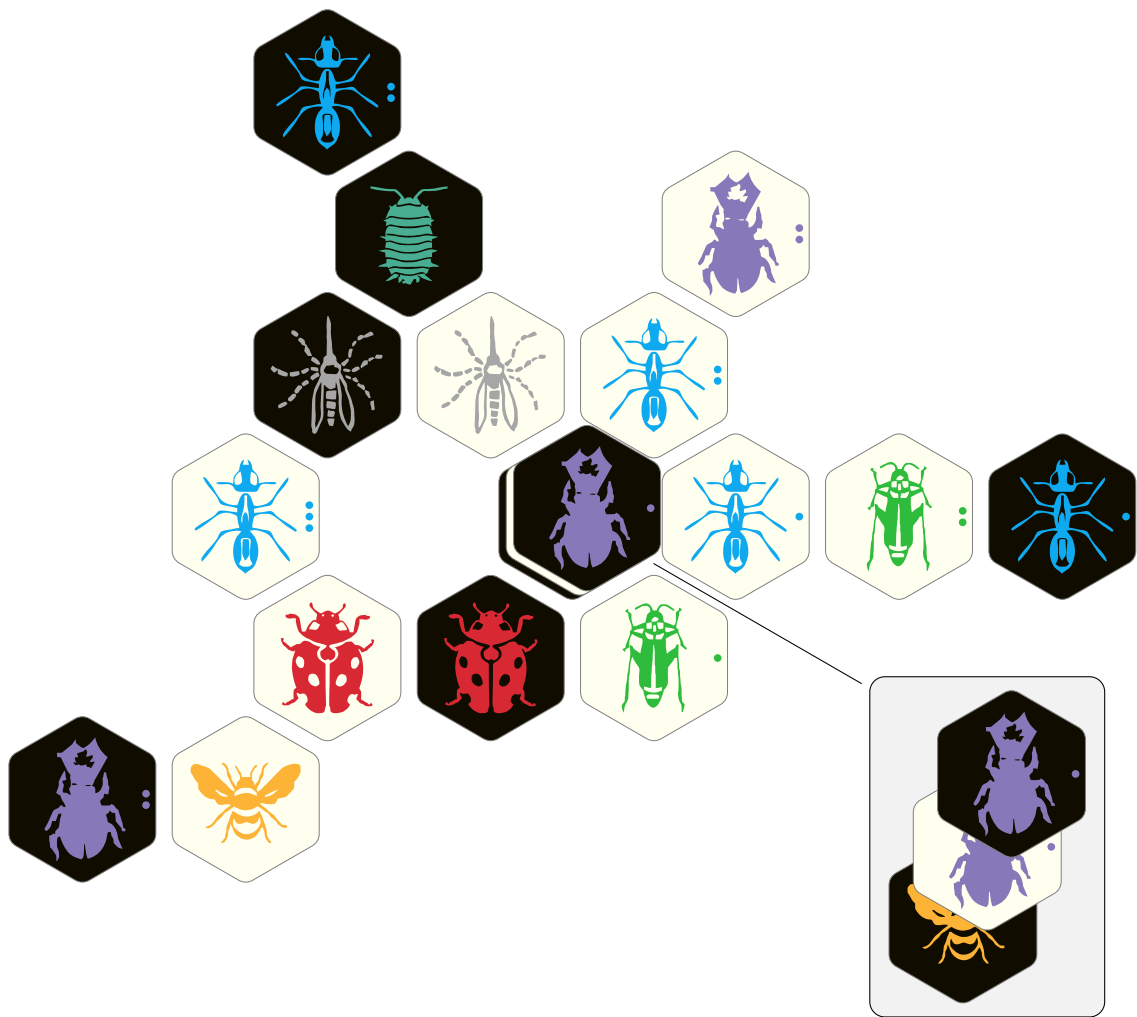


Hive-PLM

Puzzle #16

by ForGotten

White moves next. The Black Mosquito just moved. How can White pull off a victory?



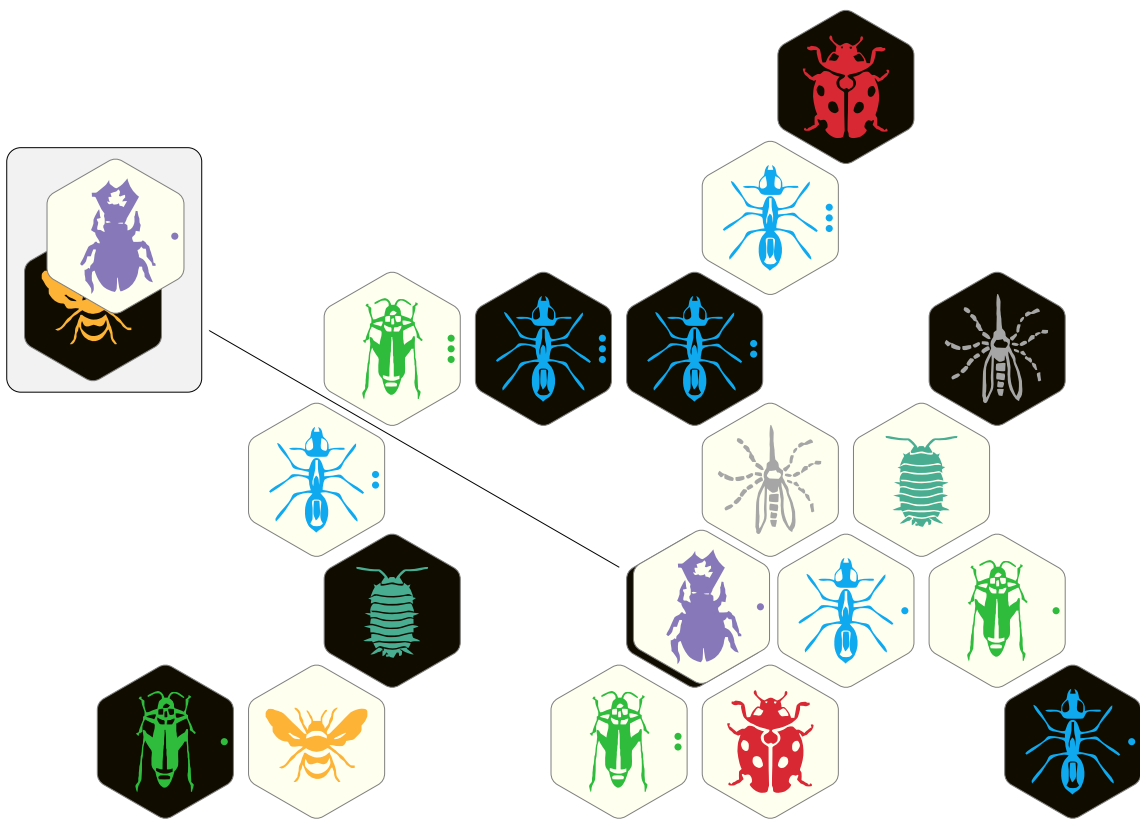
RESERVE



Puzzle #17

by eSedano

White moves next. The Black Mosquito just moved. Find the forced White win in 4 turns.



RESERVE

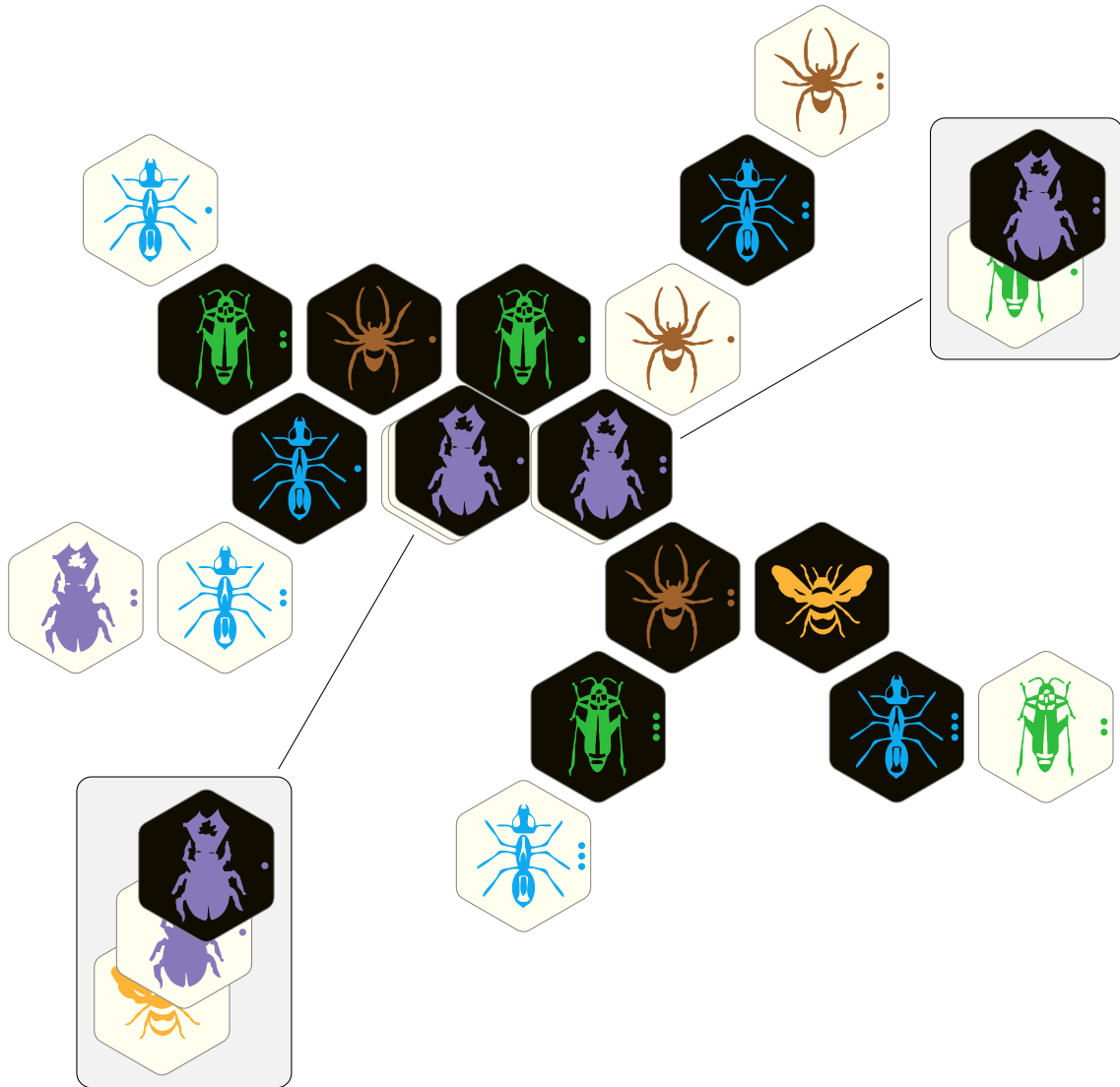


Hive-PLM

Puzzle #18

by image13

Black moves next. Find a sequence for Black to win in 4 turns.



RESERVE

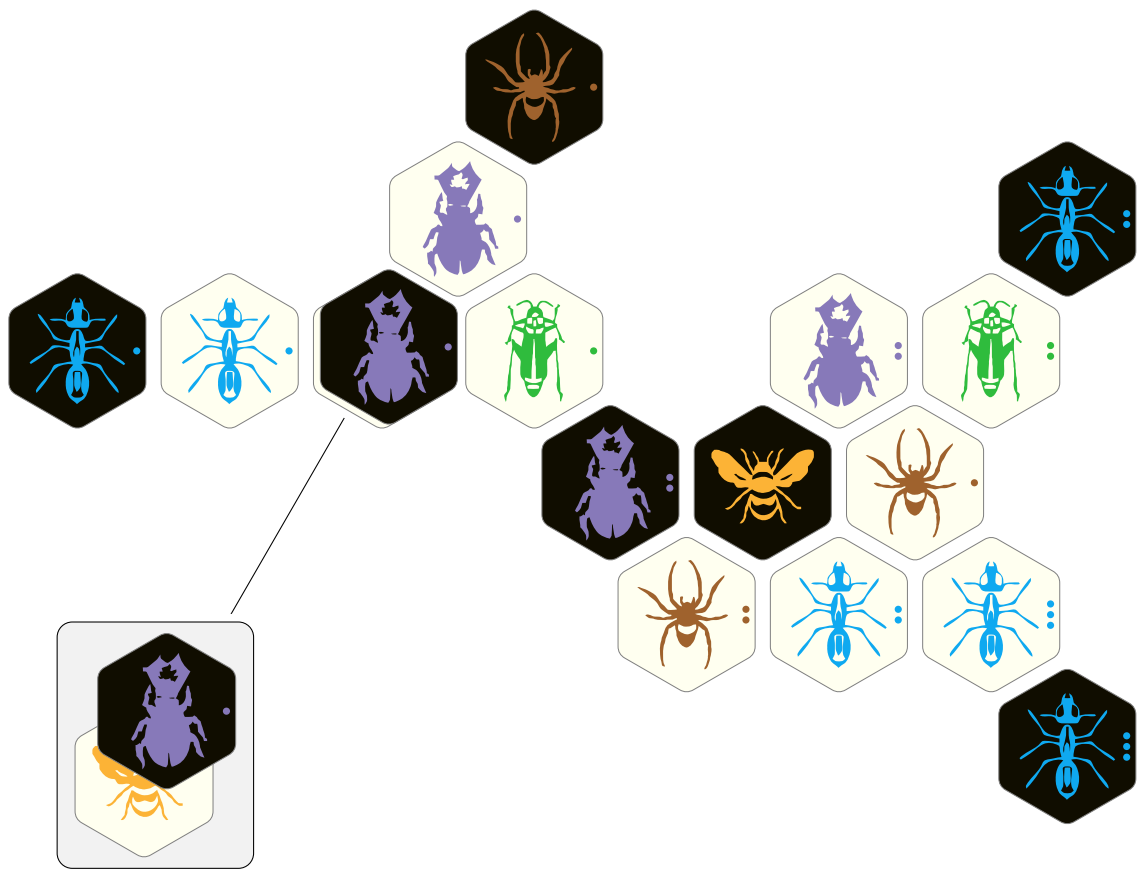


Hive

Puzzle #19

by image13

White moves next. Find a sequence for White to win in 4 turns.



RESERVE

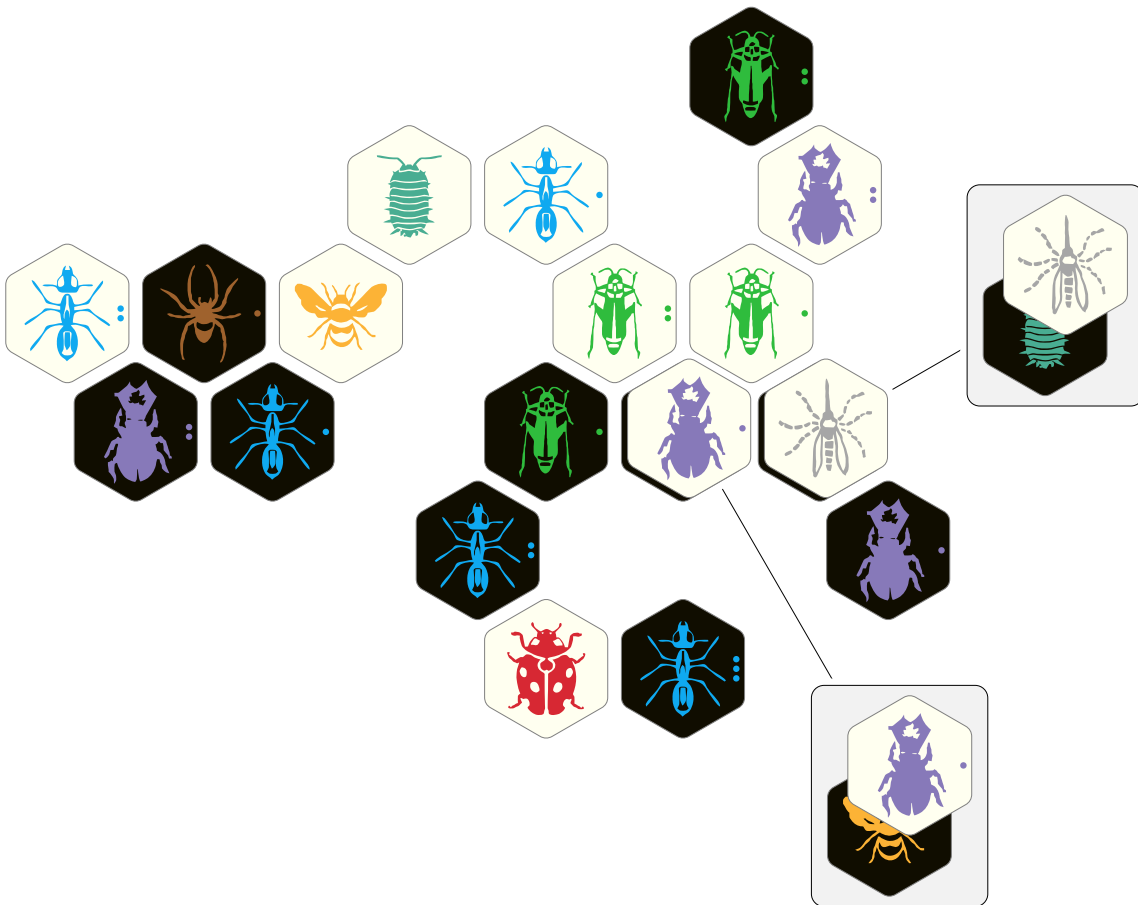


Hive

Puzzle #20

by Jonask

White moves next. Find a sequence for White to win in 3 turns.



RESERVE

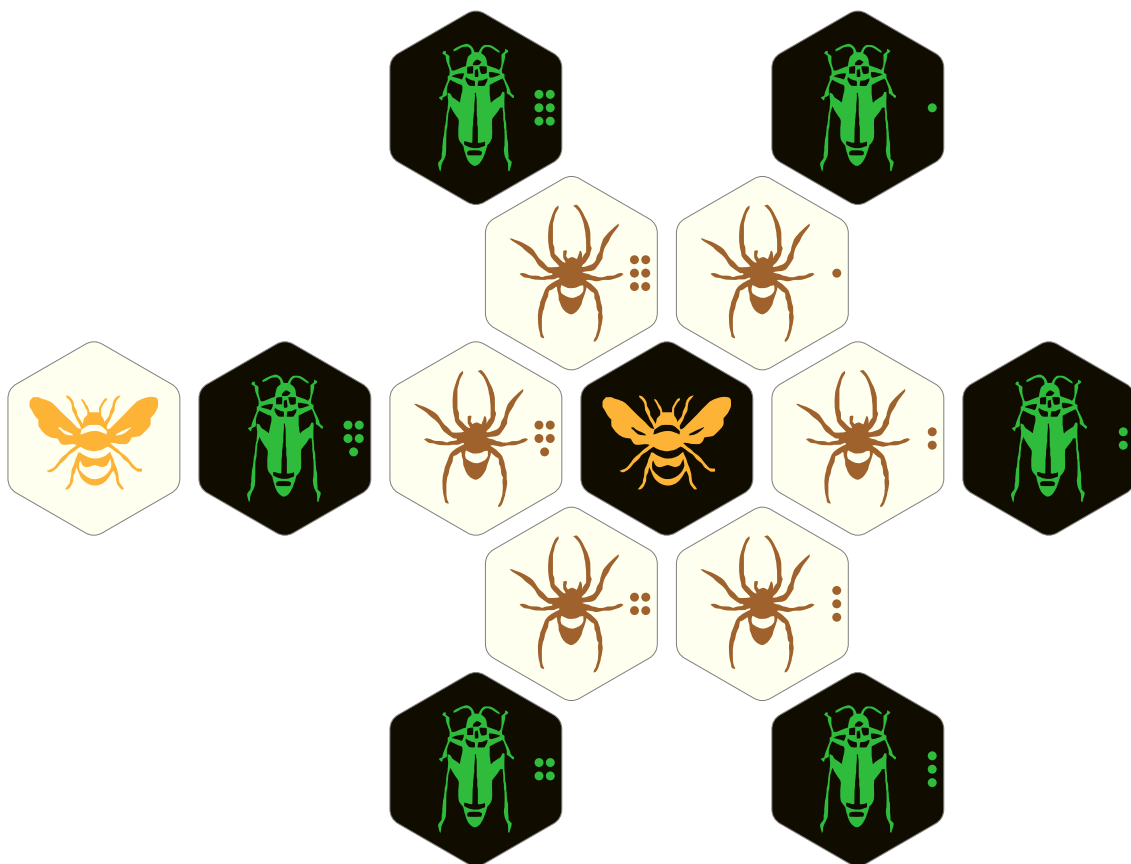


Hive-PLM

Puzzle #21

by image13

Move 5 Spiders surrounding the Black Queen within the least number of moves possible. Of course, one bug will stay connected with the Black Queen and the hive. Black and White collaborate in this puzzle but the Black Queen cannot move.



RESERVE

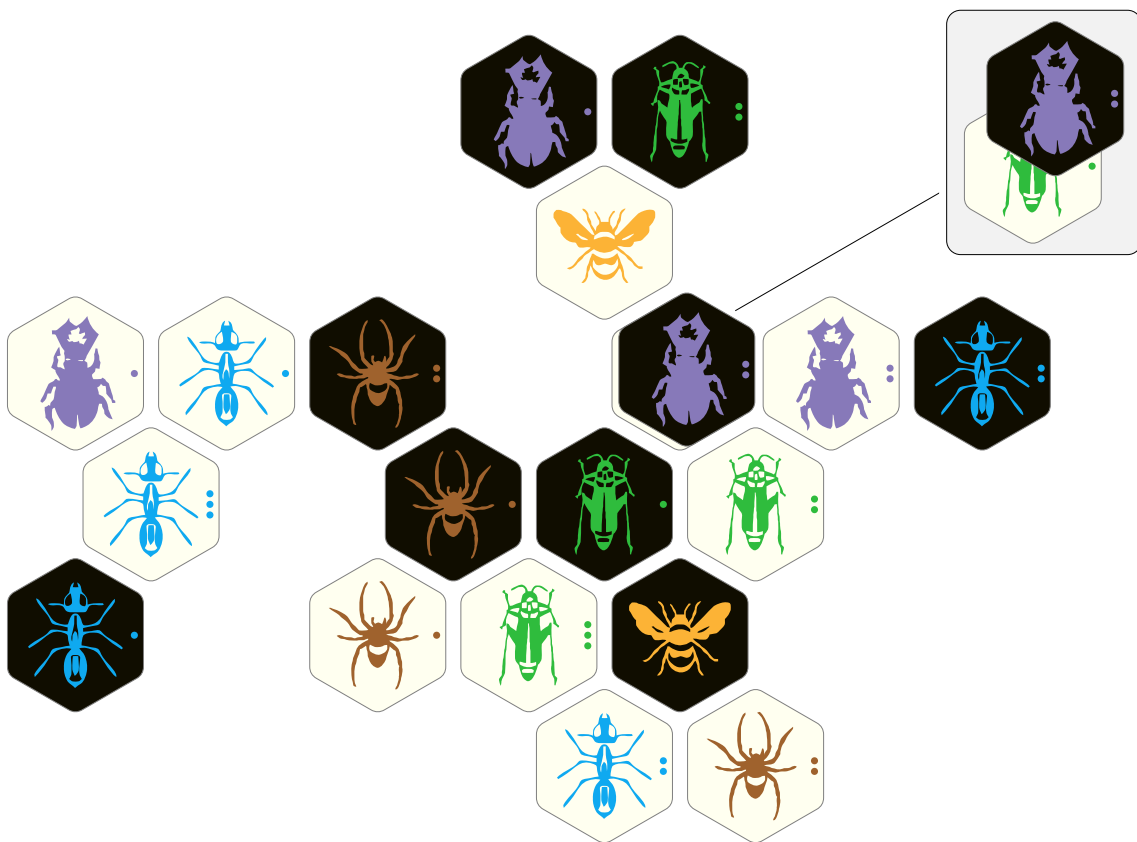


²Hive Ultimate: any possible combination and number of pieces.

Puzzle #22

by The_Entomologist

Black moves next. Who wins and in how many turns?



RESERVE

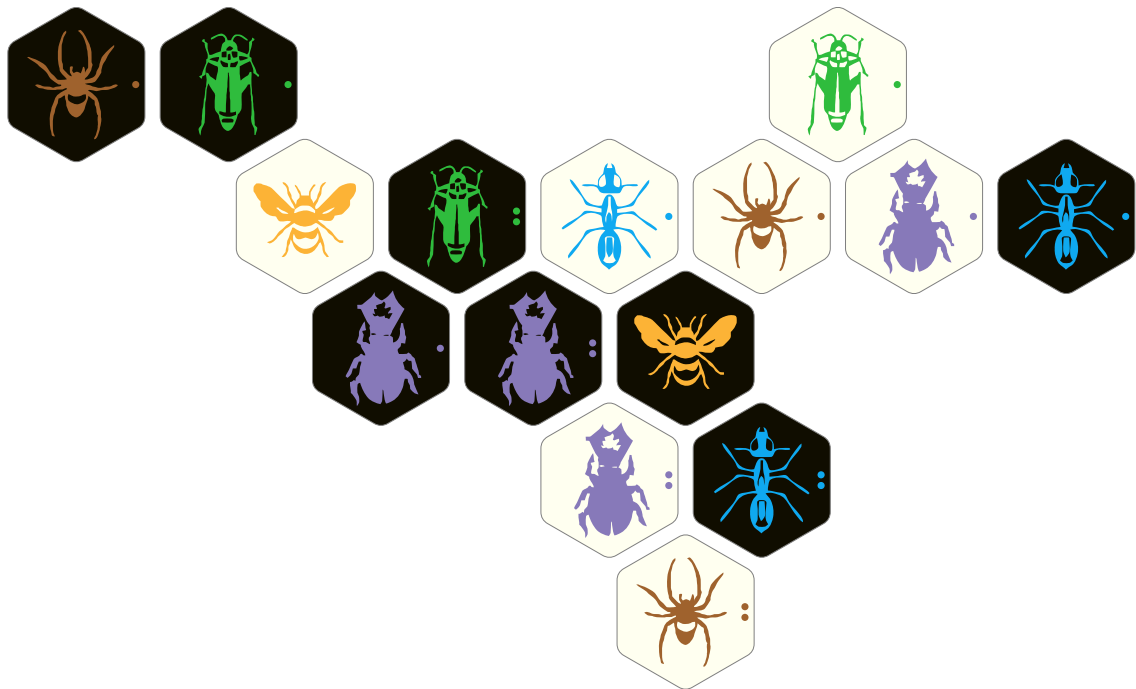


Hive

Puzzle #23

by The_Entomologist

Black moves next. Who wins and in how many turns?



RESERVE

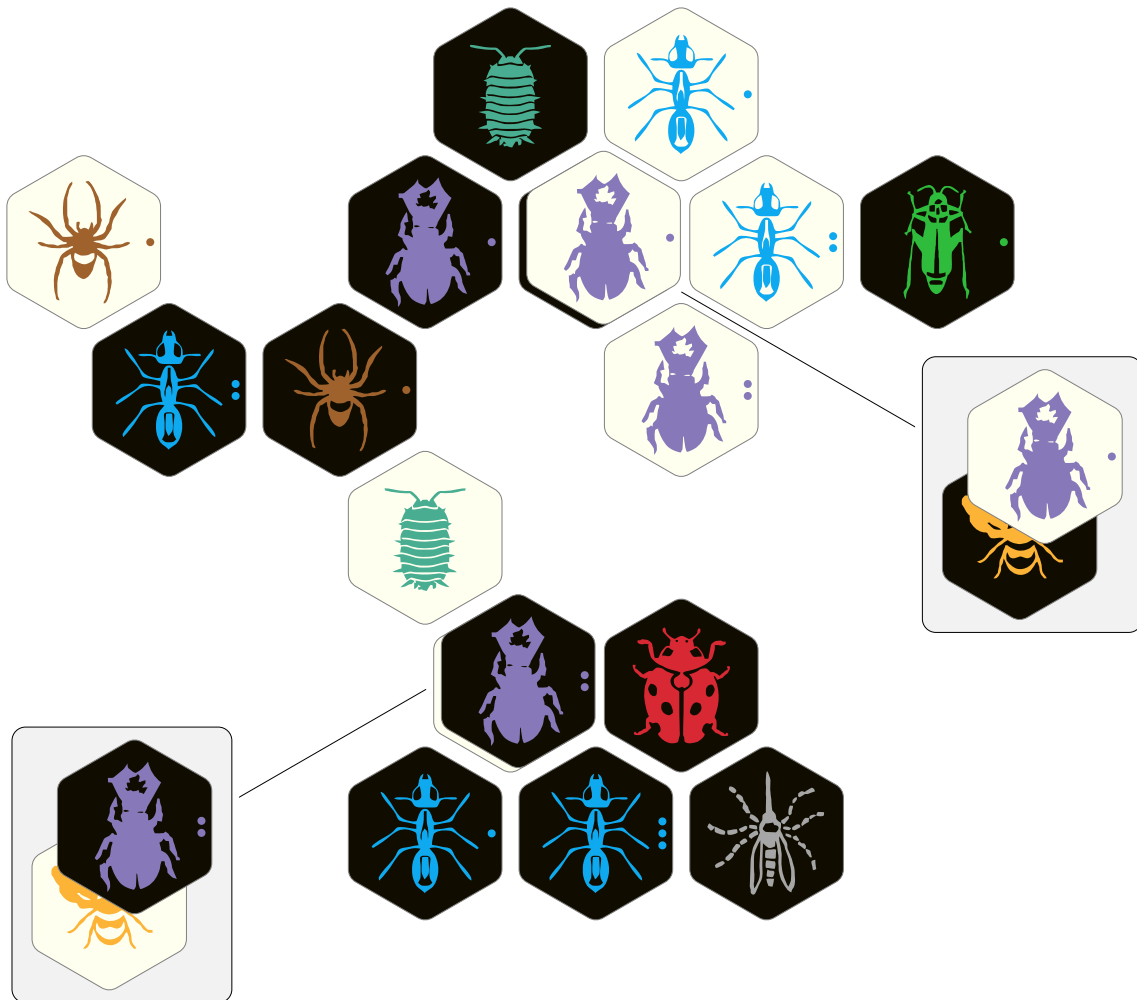


Hive

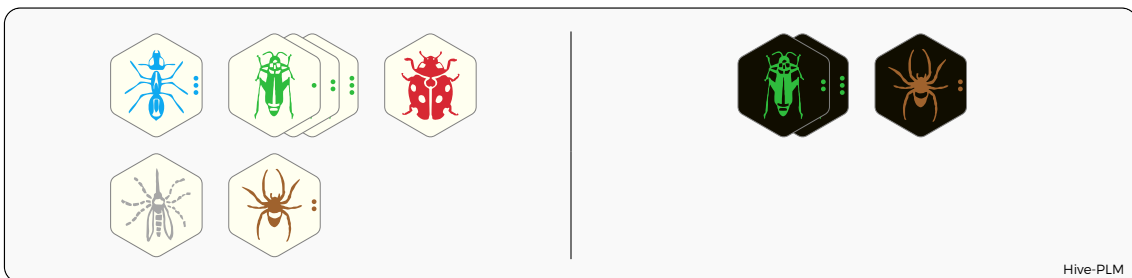
Puzzle #24

by The_Entomologist

Black moves next. The White Ant 1 moved last. Who wins and in how many turns? There are two equally long solutions, can you find them both?



RESERVE

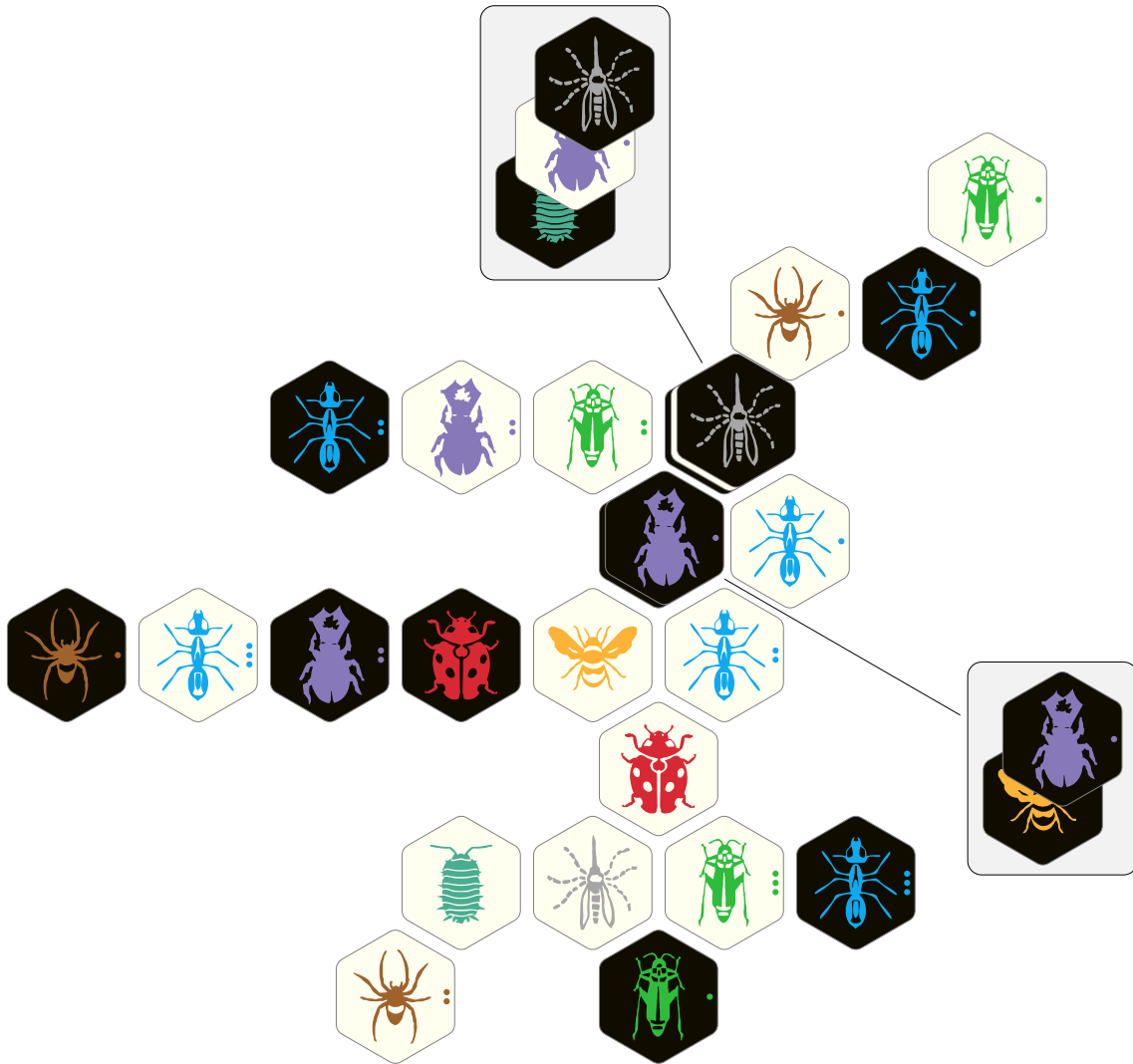


Hive-PLM

Puzzle #25

by Loizz

White moves next. Who wins and how? There are two equally long solutions, can you find them both?



RESERVE

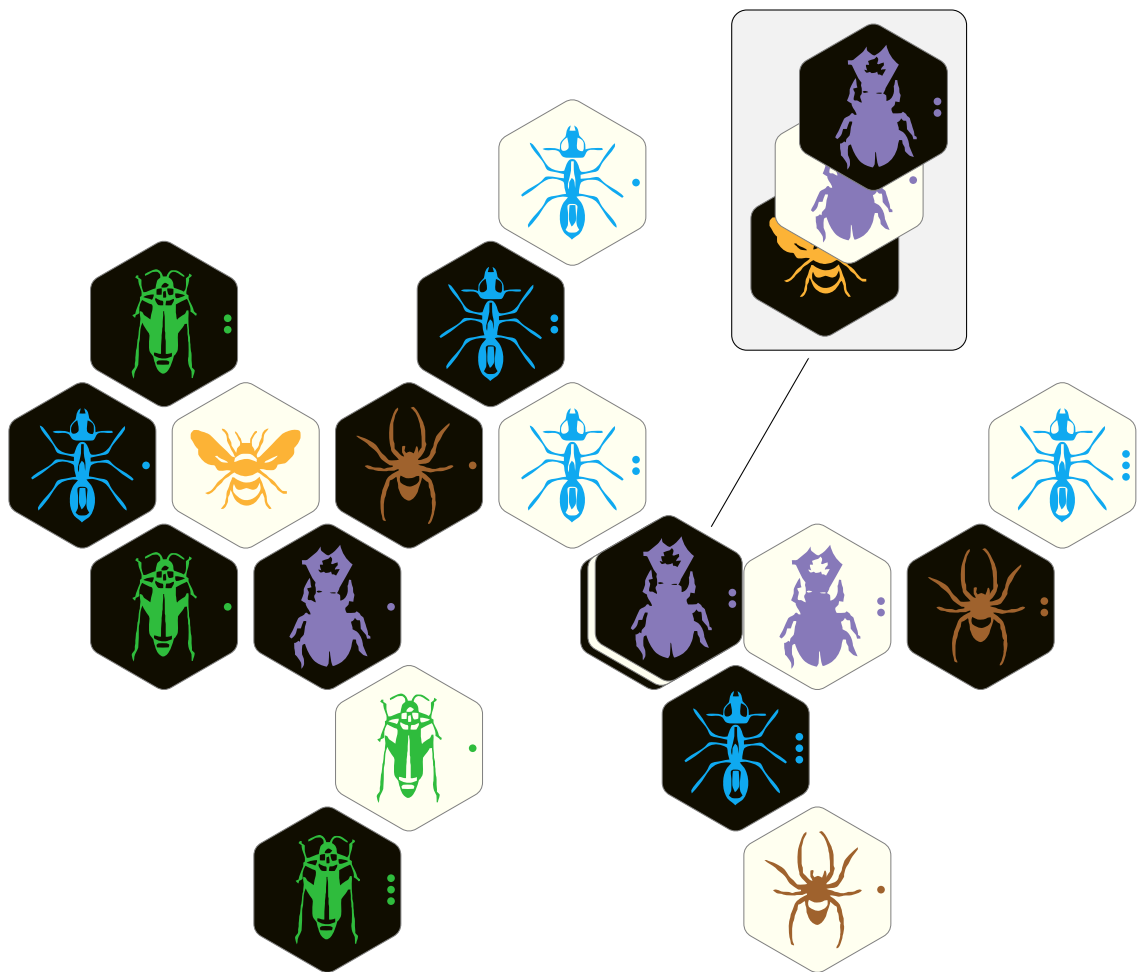



Hive-PLM

Puzzle #26

by image13

Black moves next. Find a sequence for Black to win in 4 turns.



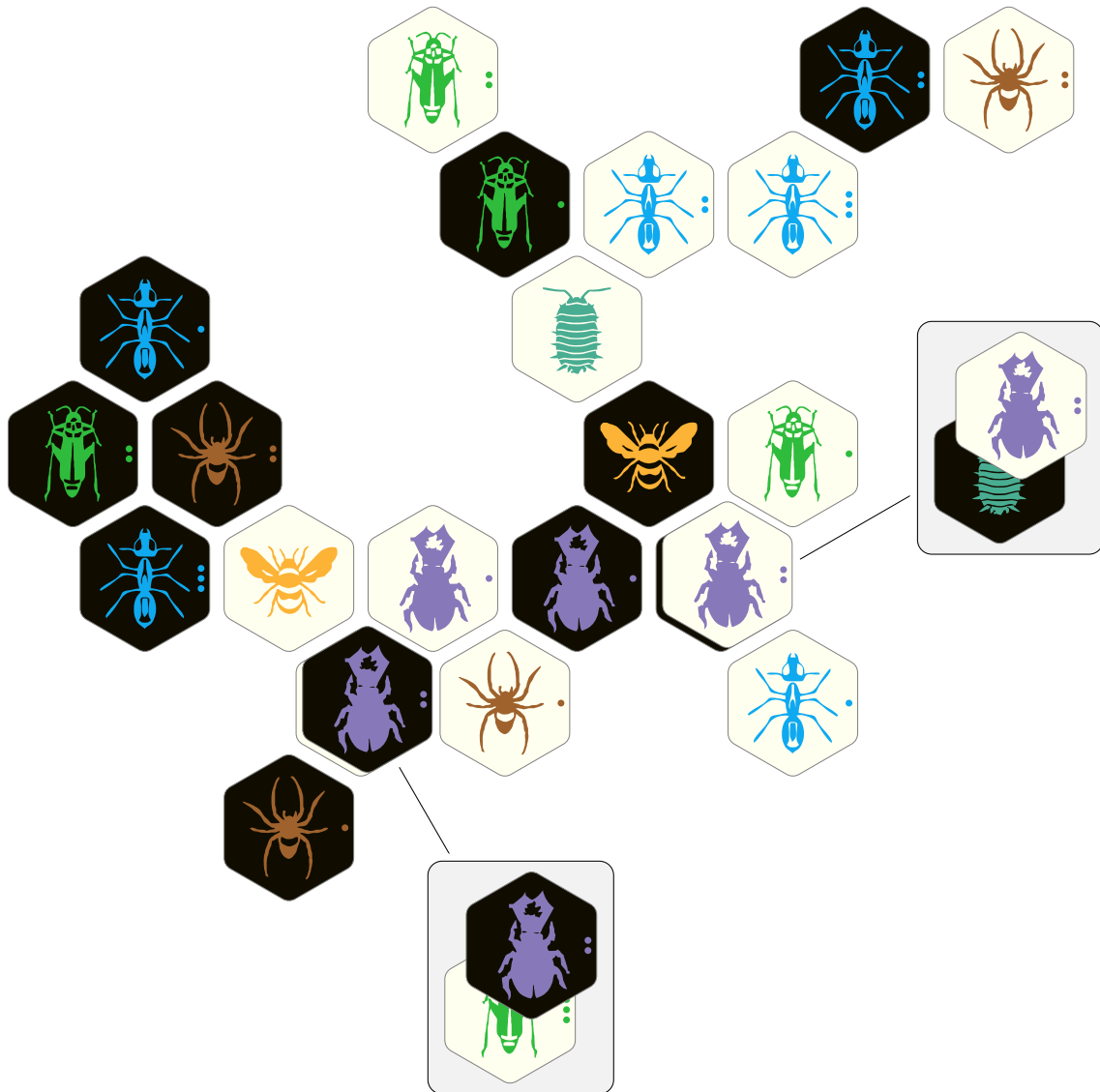
RESERVE



Puzzle #27

by image13

White moves next. Find a sequence for White to win in 4 turns.



RESERVE

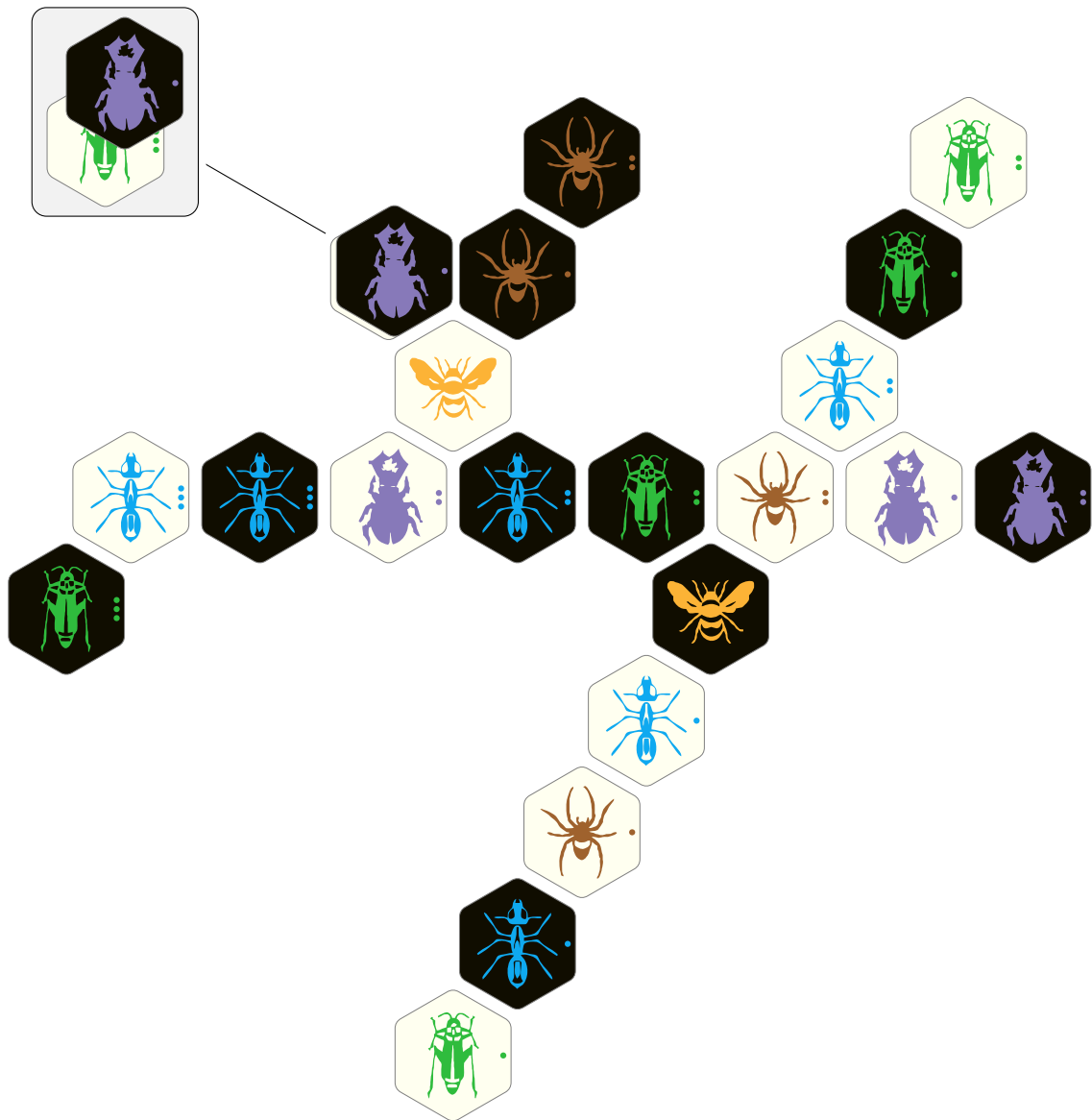


Hive-P

Puzzle #28

by image13

Black moves next. How can Black win the game and how many turns are necessary?



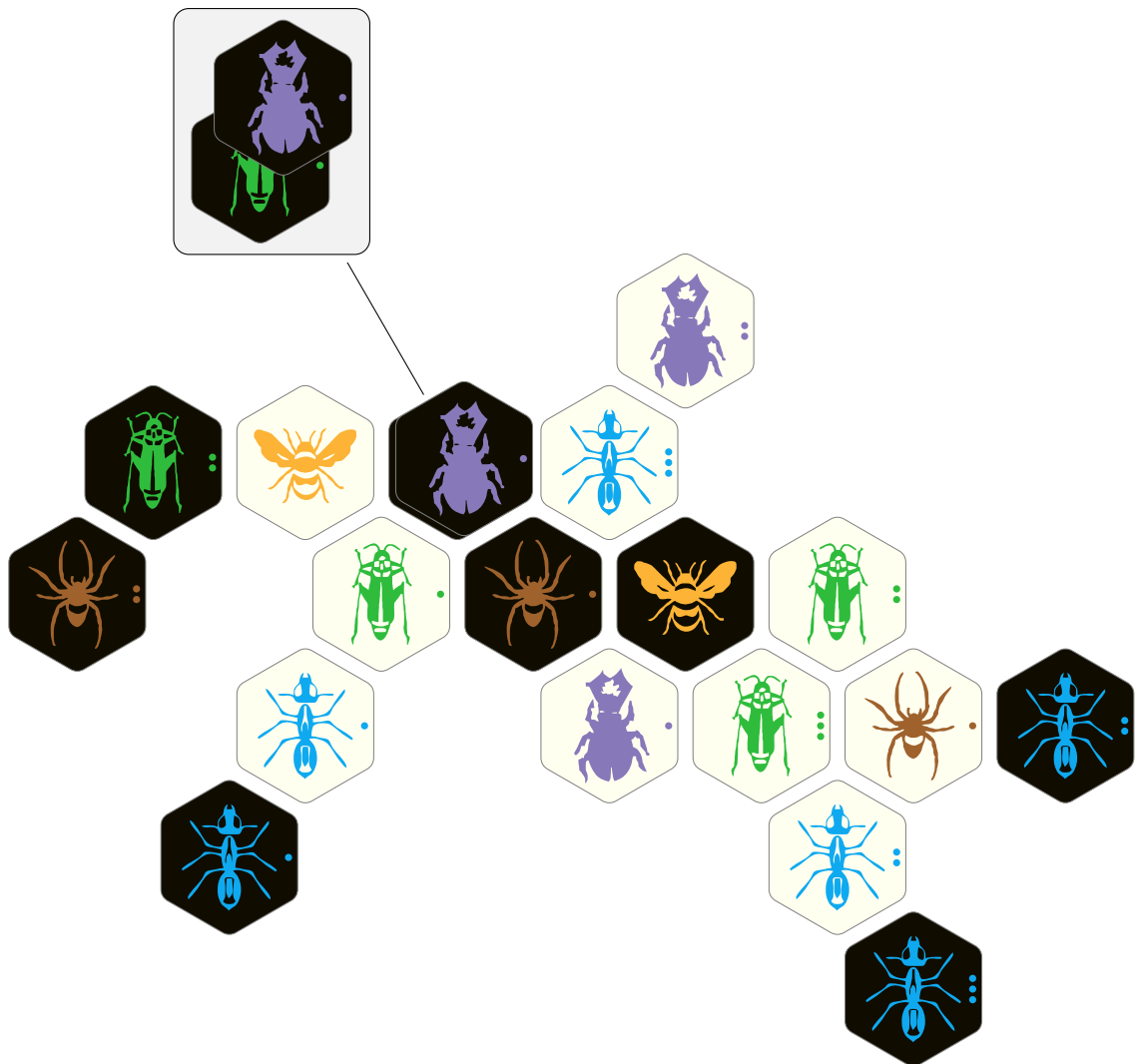
RESERVE

Hive

Puzzle #29

by The_Entomologist

Black moves next. Who wins and in how many turns?



RESERVE

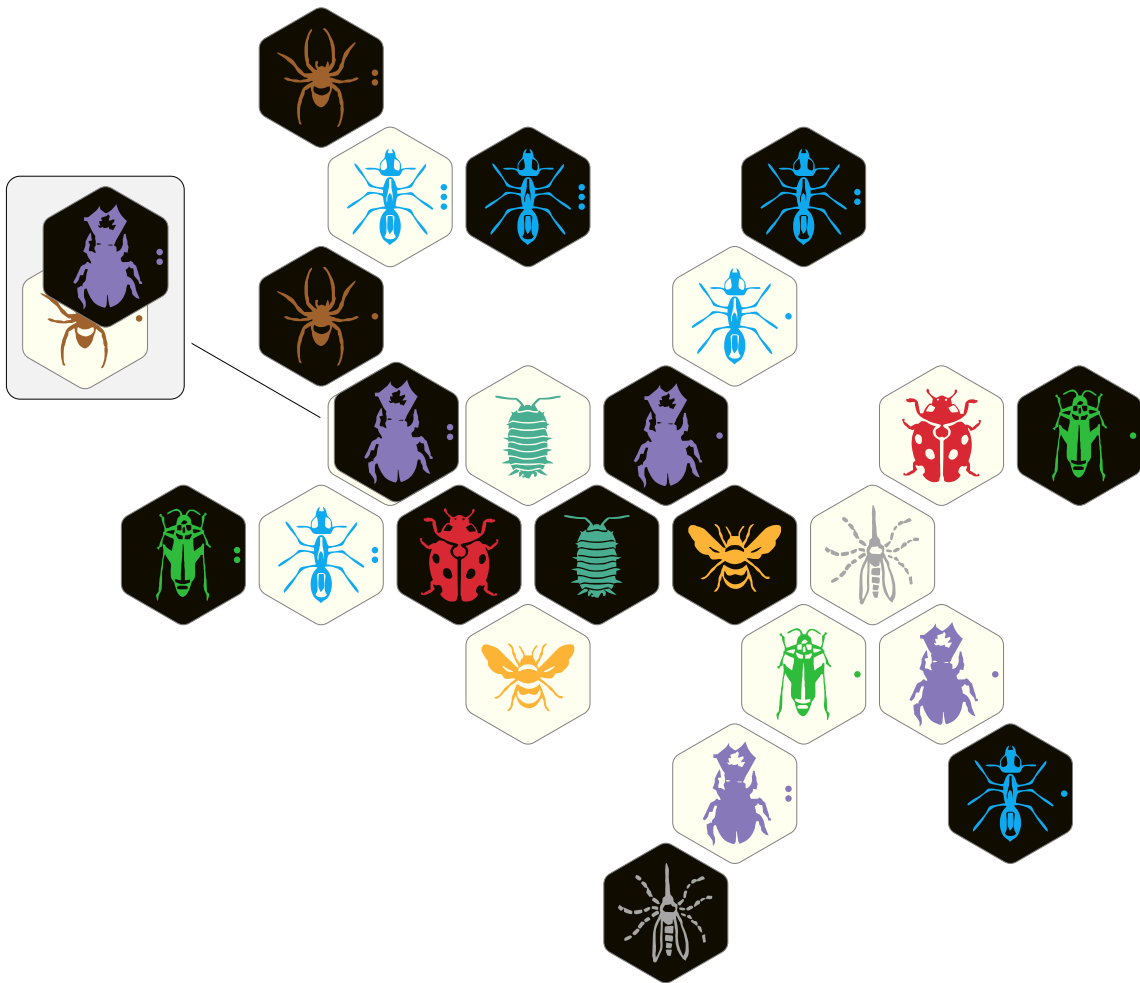


Hive

Puzzle #30

by Loizz

White to play and lose. What is the worst possible move for White?



RESERVE

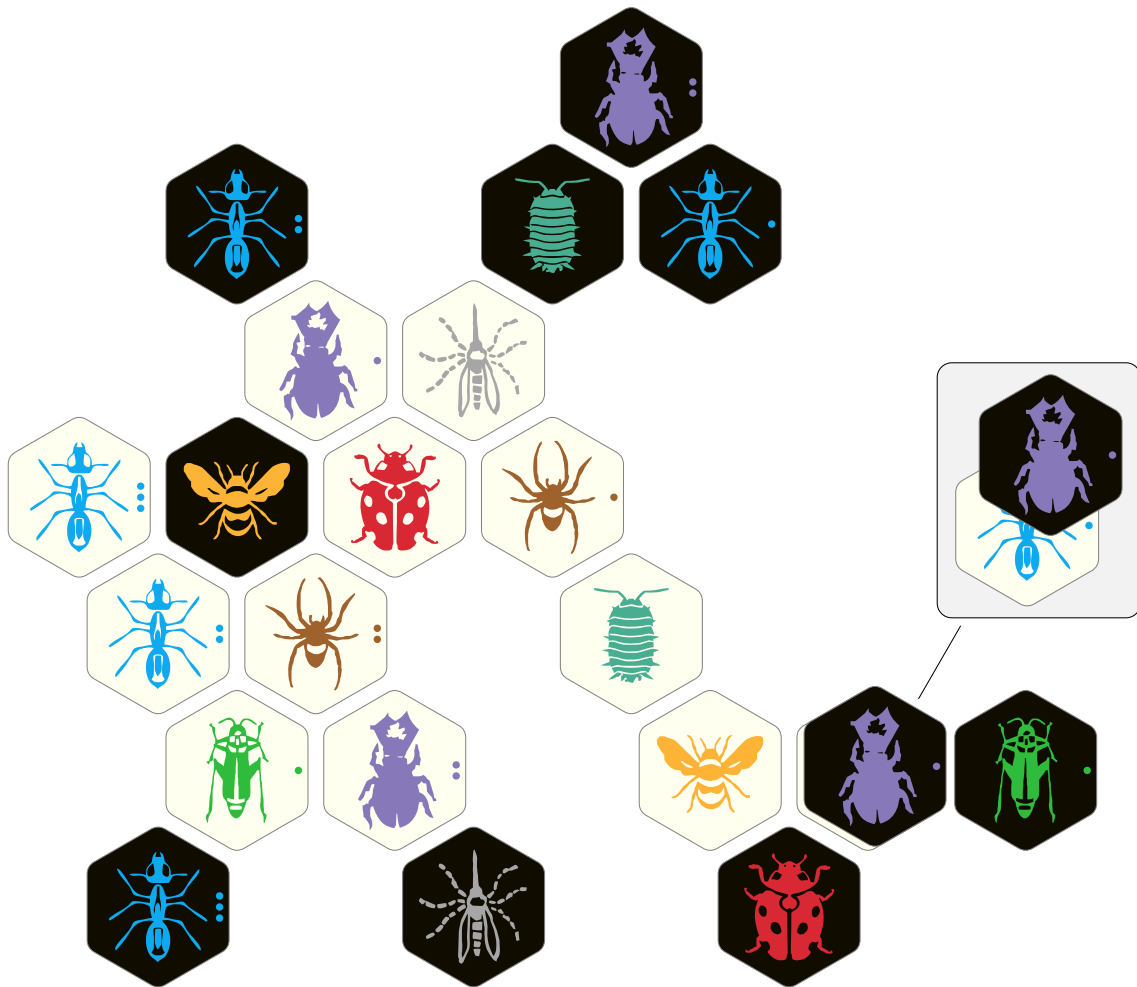


Hive-PLM

Puzzle #31

by Gandac

White moves next. What is the winning sequence for White?



RESERVE

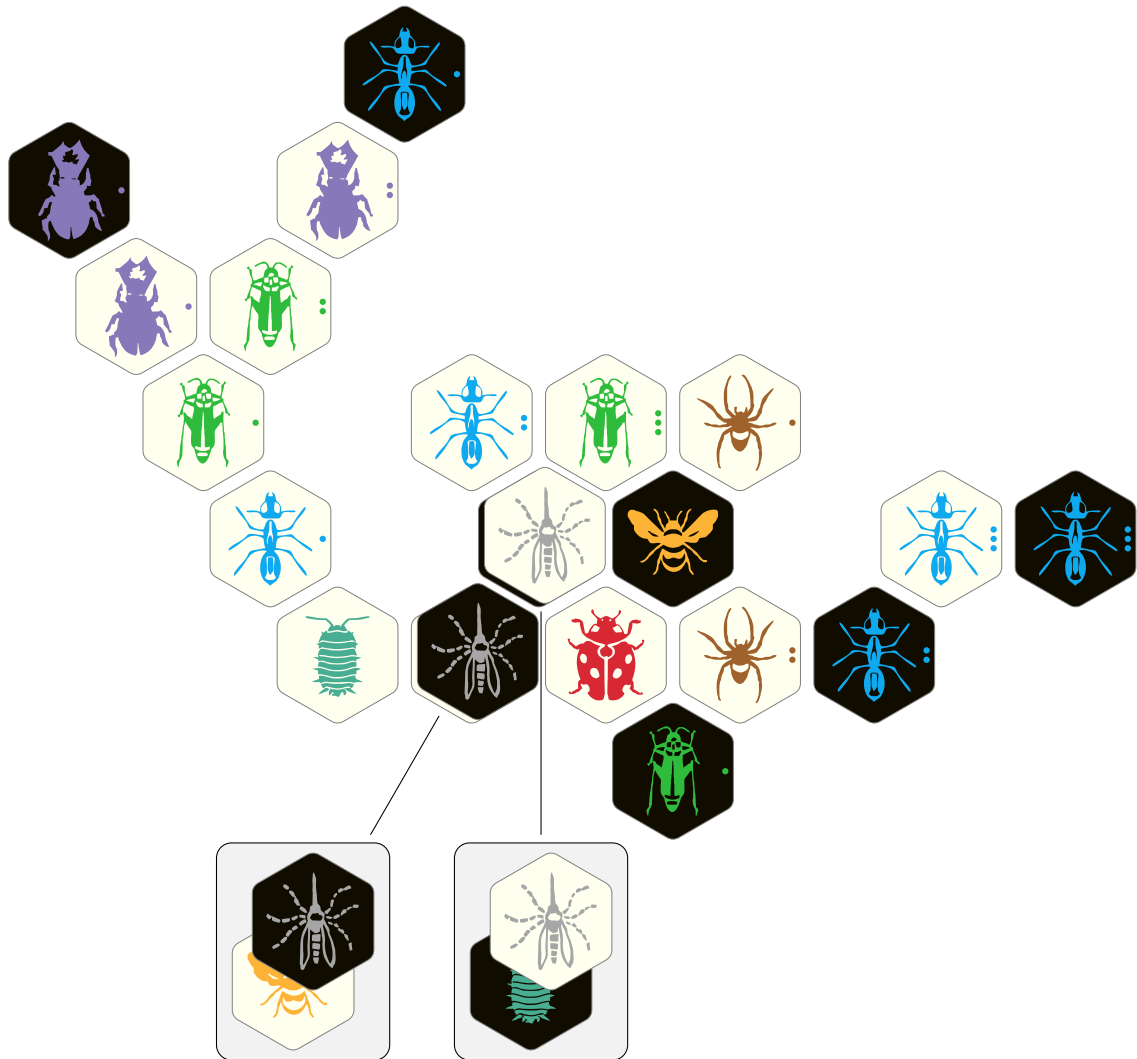


Hive-PLM

Puzzle #32

by Claudiulordache

White moves next. Find a sequence for White to win in 3 turns.



RESERVE

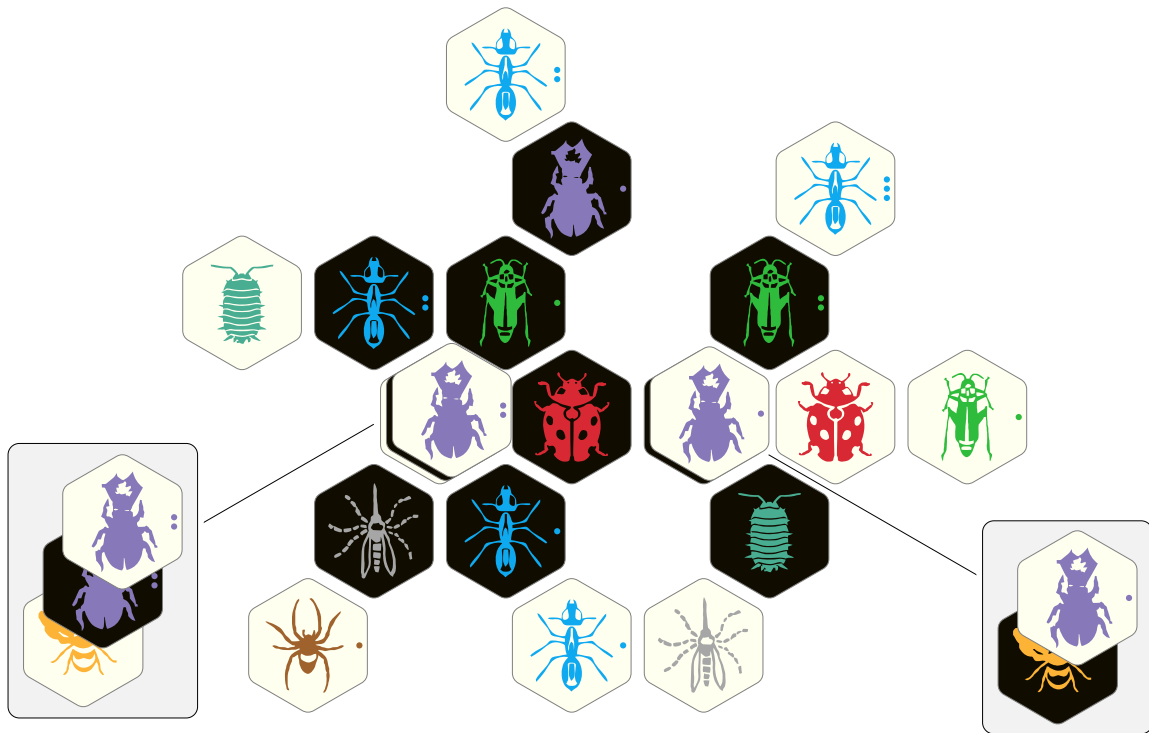


Hive-PLM

Puzzle #33

by Gandac

White moves next. How many turns needs White to win the game?



RESERVE

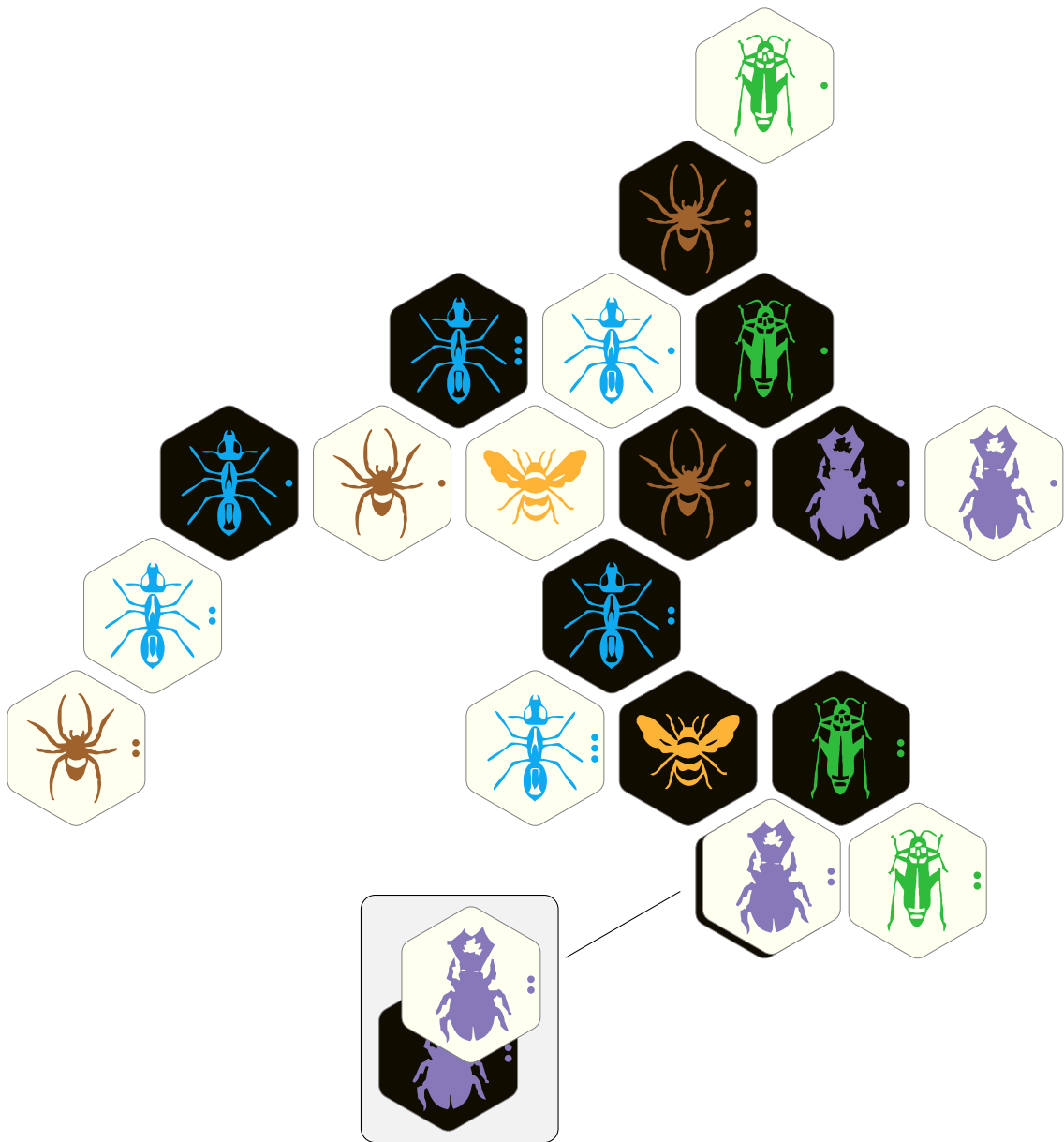


Hive-PLM

Puzzle #34

by image13

Black moves next. Find a sequence for Black to win in 3 turns.



RESERVE

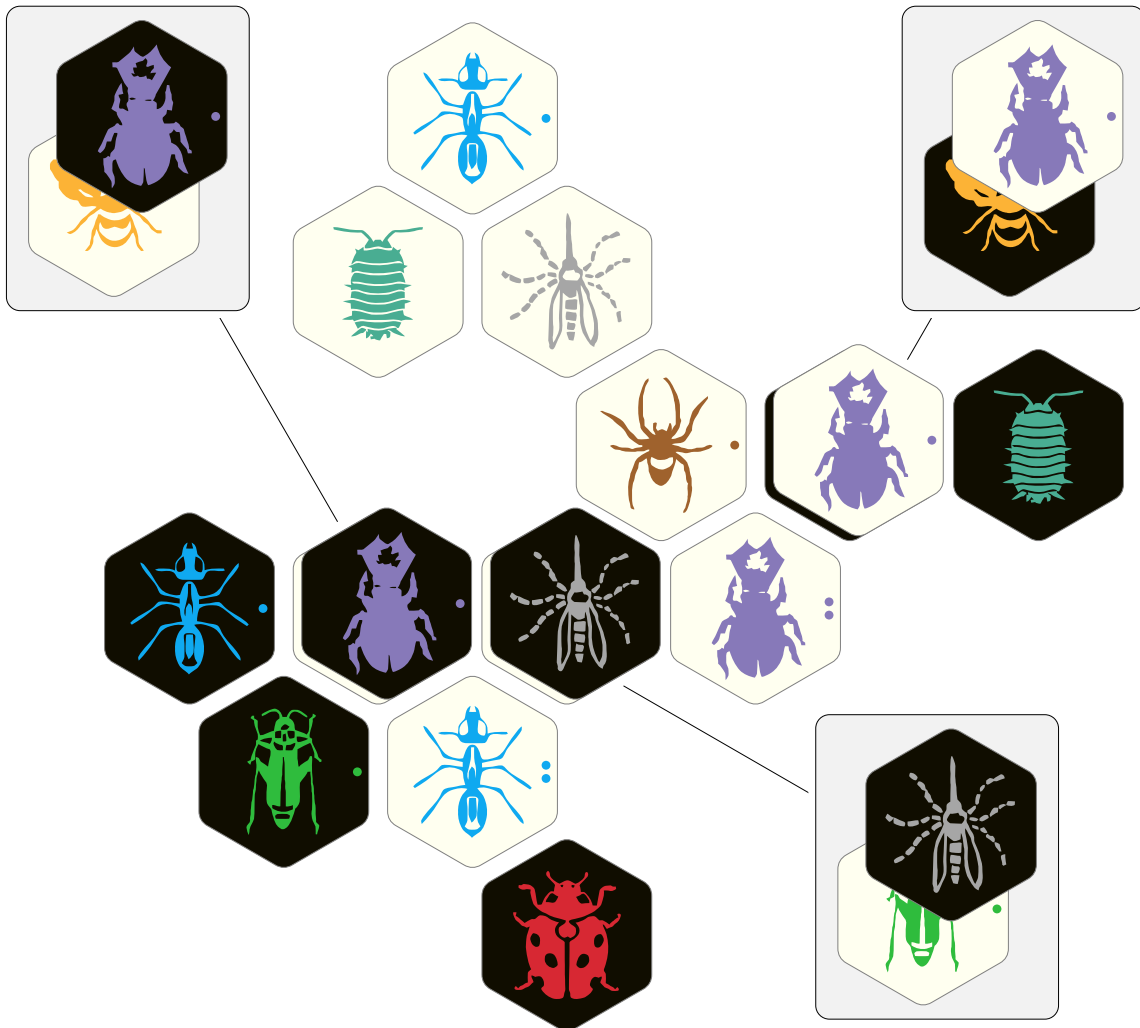


Hive

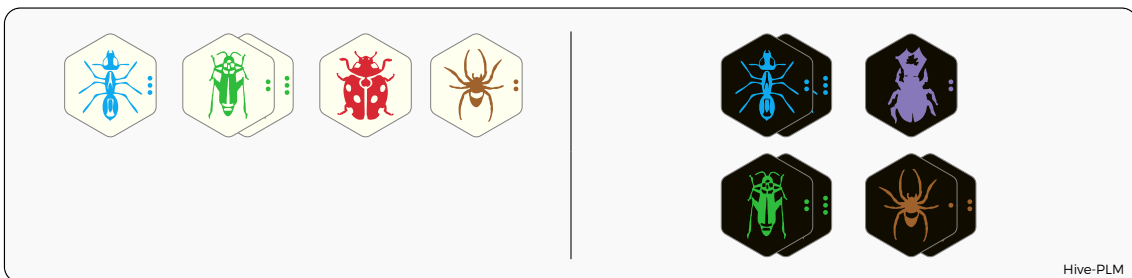
Puzzle #35

by **ForgGotten**

White moves next. Who wins? In how many turns?



RESERVE

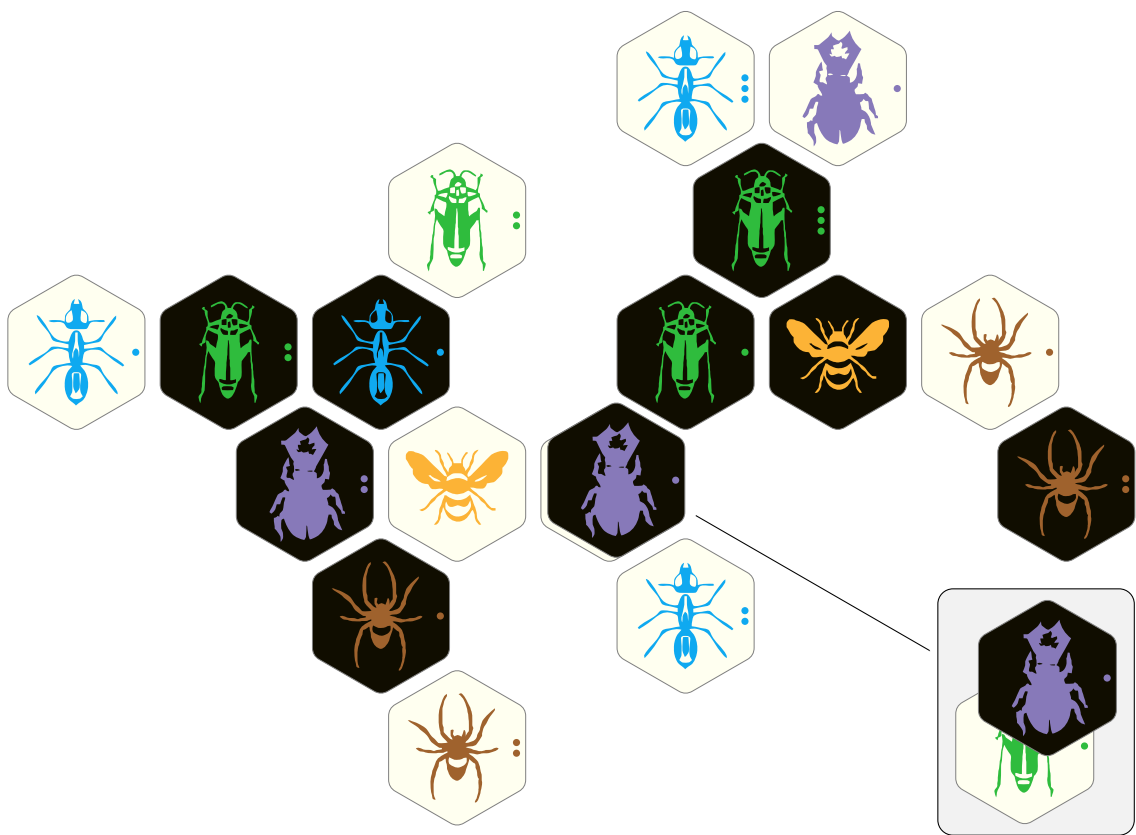


Hive-PLM

Puzzle #36

by image13

Black moves next. How many turns are required for Black to win?



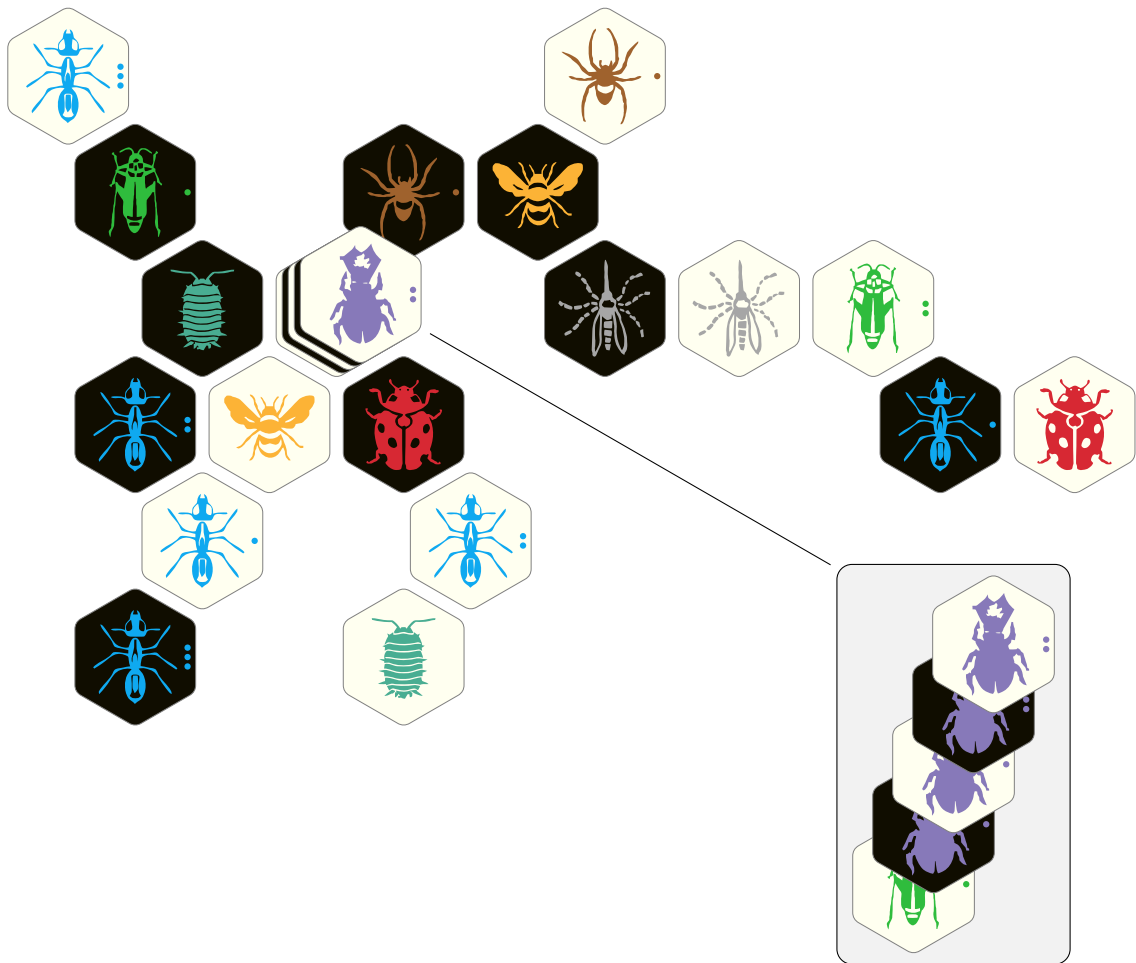
RESERVE



Puzzle #38

by image13

Black moves next. Find a sequence for Black to win in 4 turns or less.



RESERVE

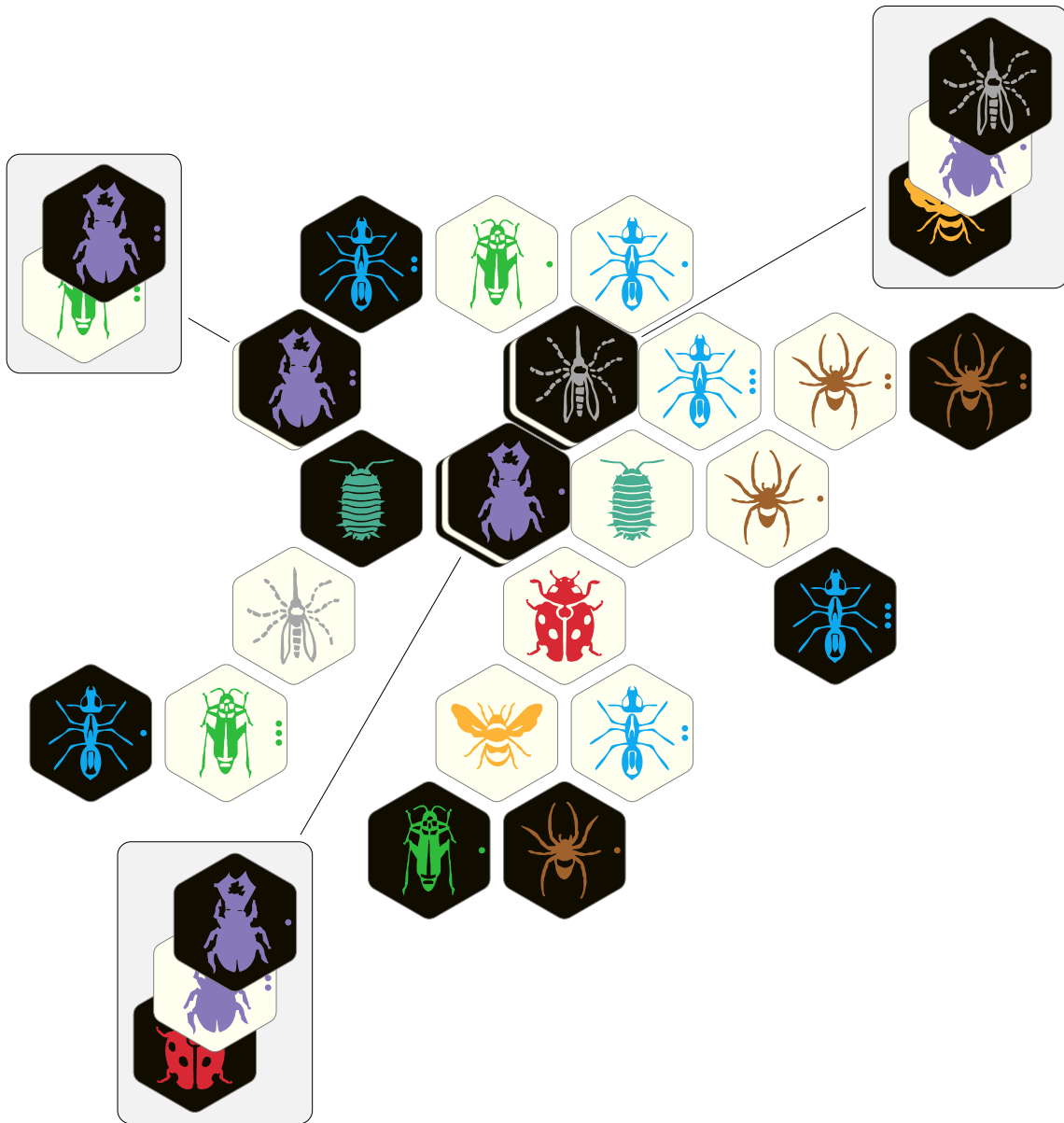


Hive-PLM

Puzzle #39

by eSedano

White moves next. Find a sequence for White to win in 3 turns.



RESERVE

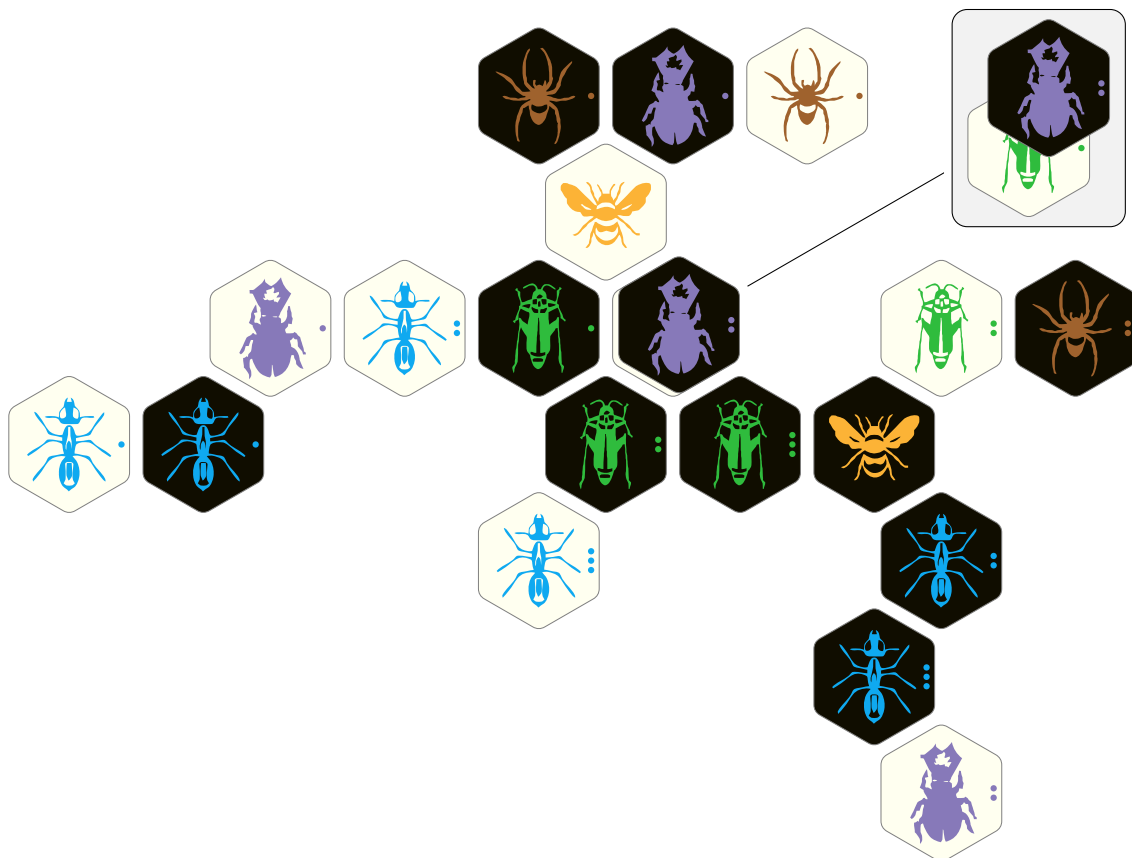


Hive-PLM

Puzzle #40

by image13

Black moves next. Find a sequence for Black to win in 5 turns.



RESERVE

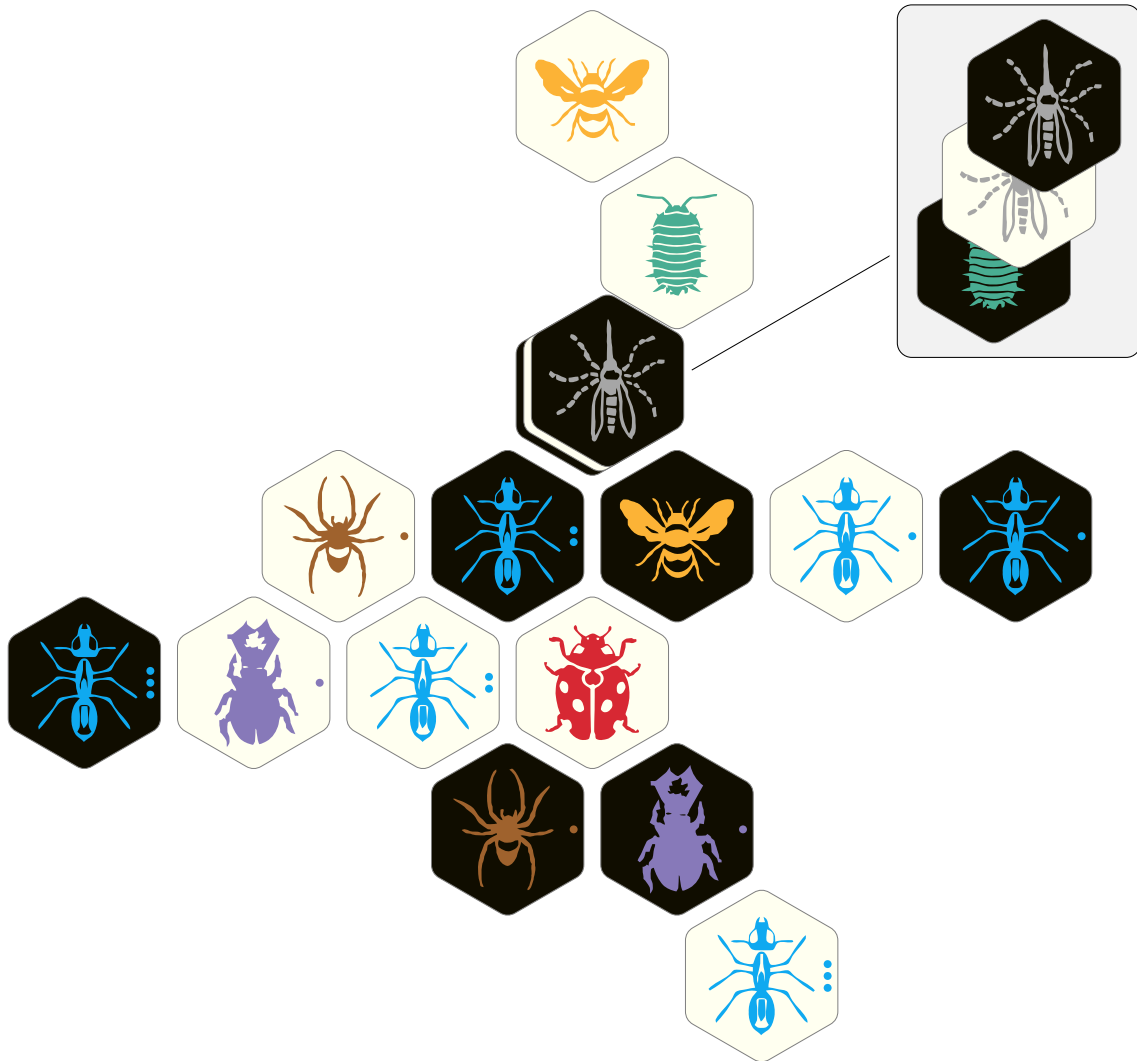


Hive

Puzzle #43

by Jonask

Black moves next. Who wins and how?



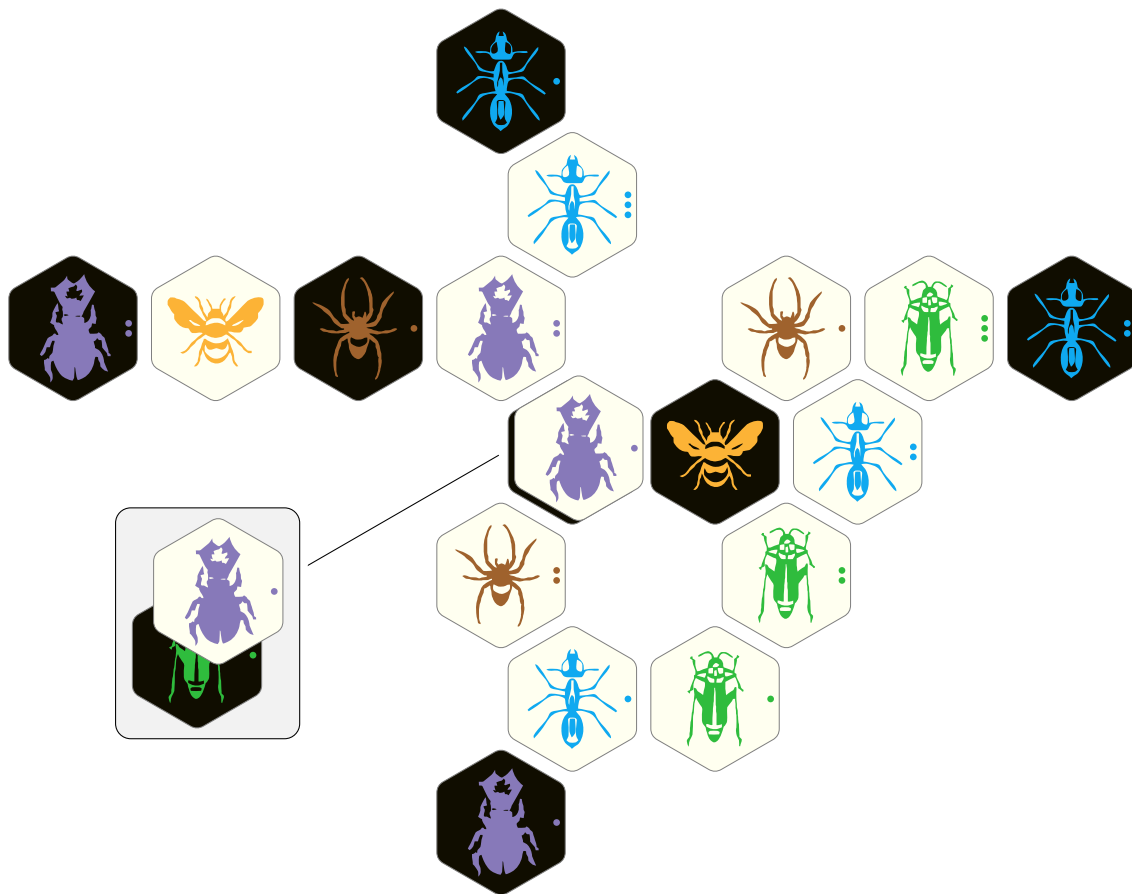
RESERVE



Puzzle #44

by image13⁴

Black moves next. Previously, White has formed a ring by playing White Spider 2. How can Black stop the attack and prevent defeat in four turns or less?



RESERVE

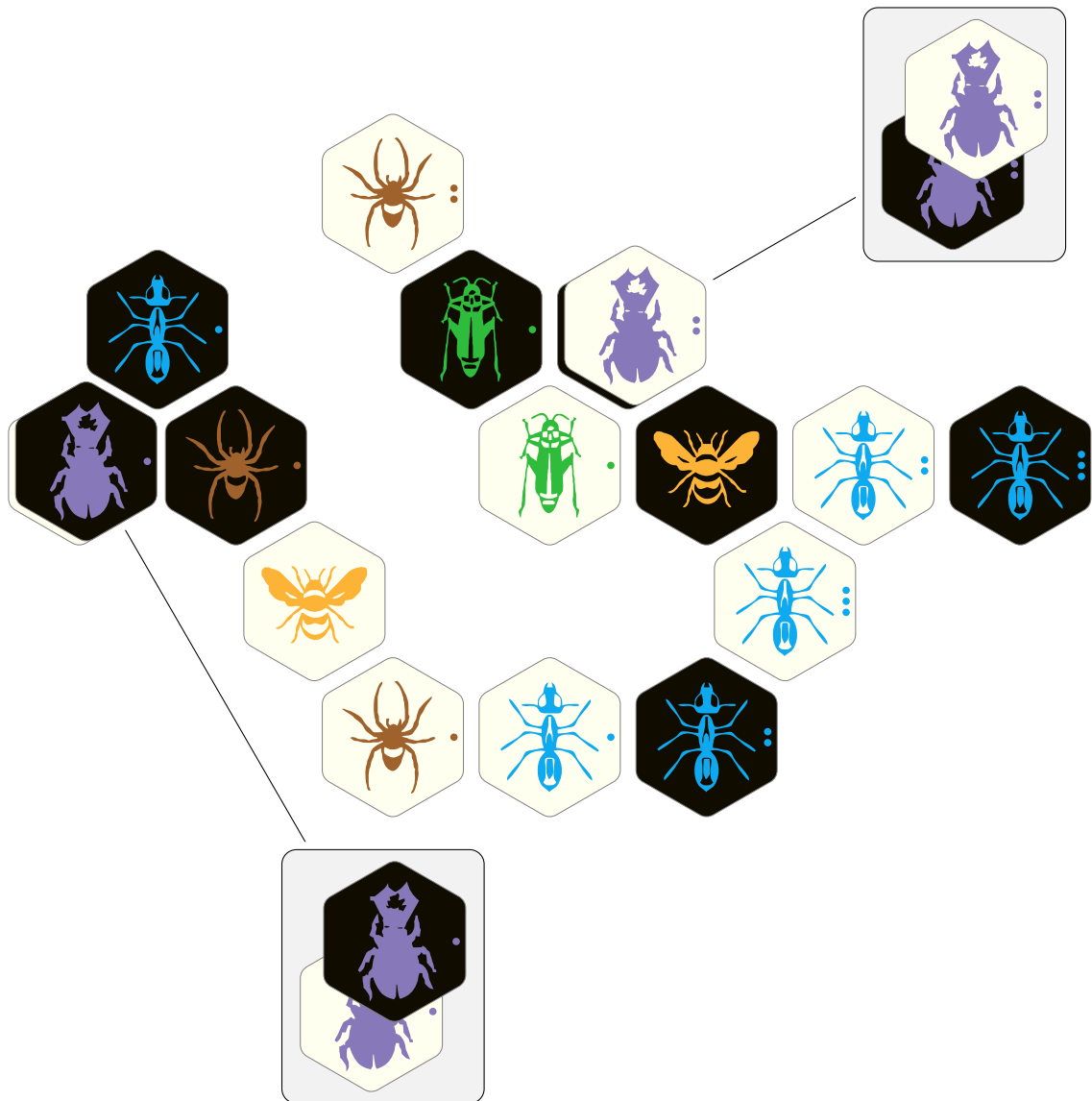


⁴The original puzzle was about finding a winning sequence for White. Three years after it was posted, BoardGameGeek user lcg74160 found a defense against the proposed solution. During the elaboration of this volume we have tried to find alternative sequences for White to win and, after much discussion, we reached the conclusion that Black can effectively stop White's attack. This led to repurposing the original puzzle with the new goal shown on this page.

Puzzle #45

by image13

White moves next. Find a sequence for White to win in 5 turns.



RESERVE

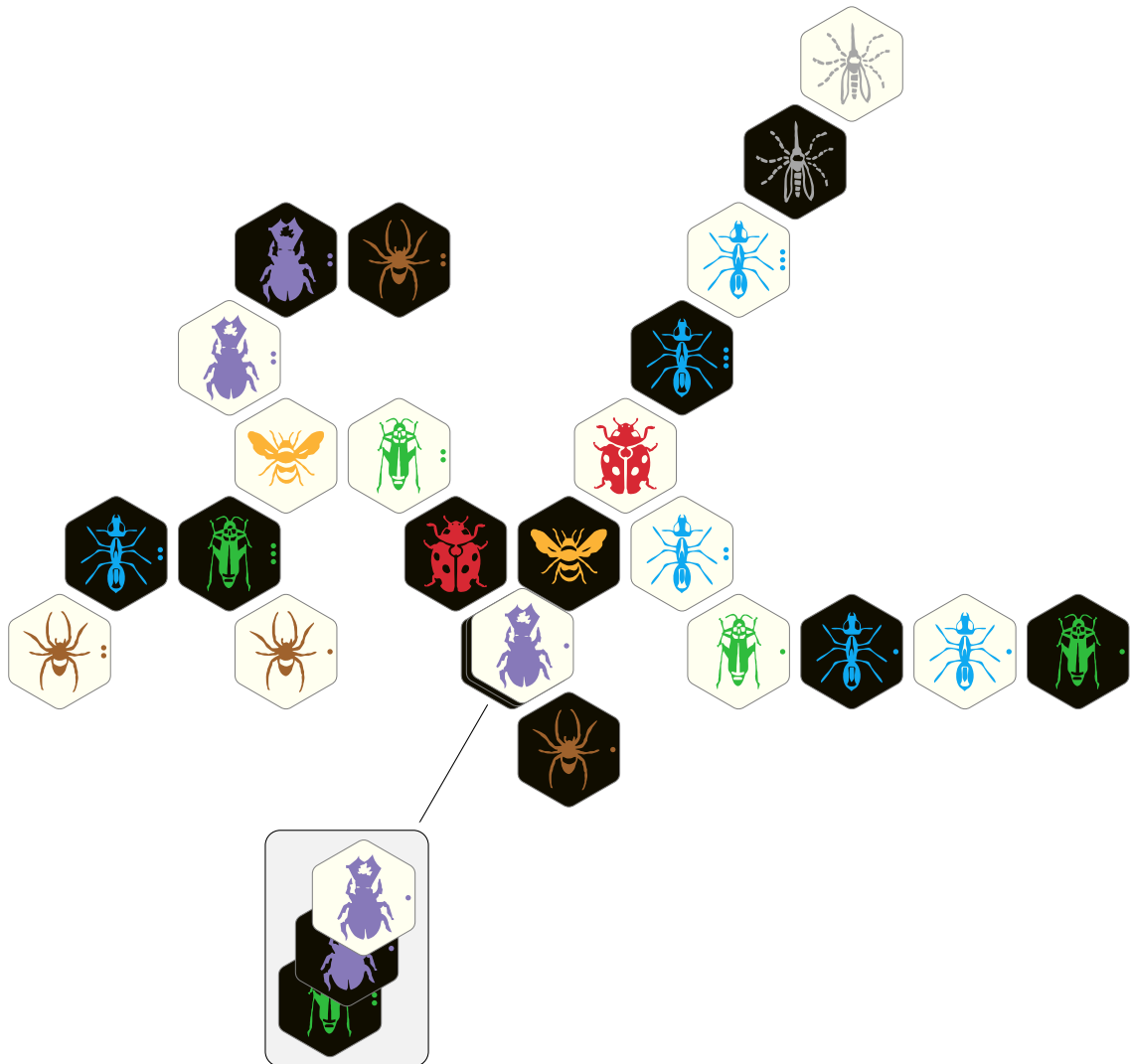


Hive

Puzzle #46

by image13

White moves next. Find a sequence for White to win in 6 turns.



RESERVE

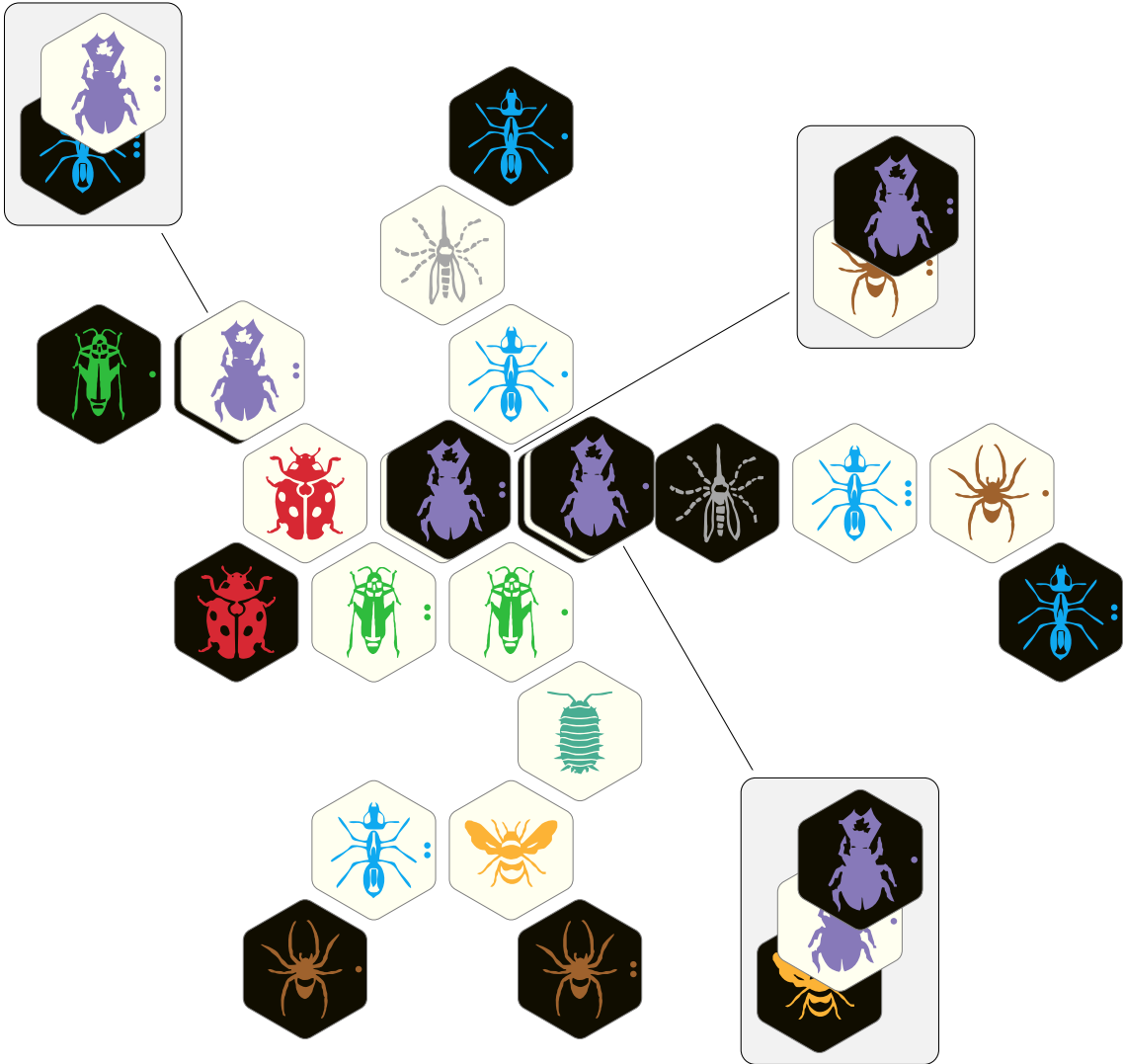


Hive-LM

Puzzle #47

by Loizz

White moves next. Find a sequence for White to win in 4 turns.



RESERVE

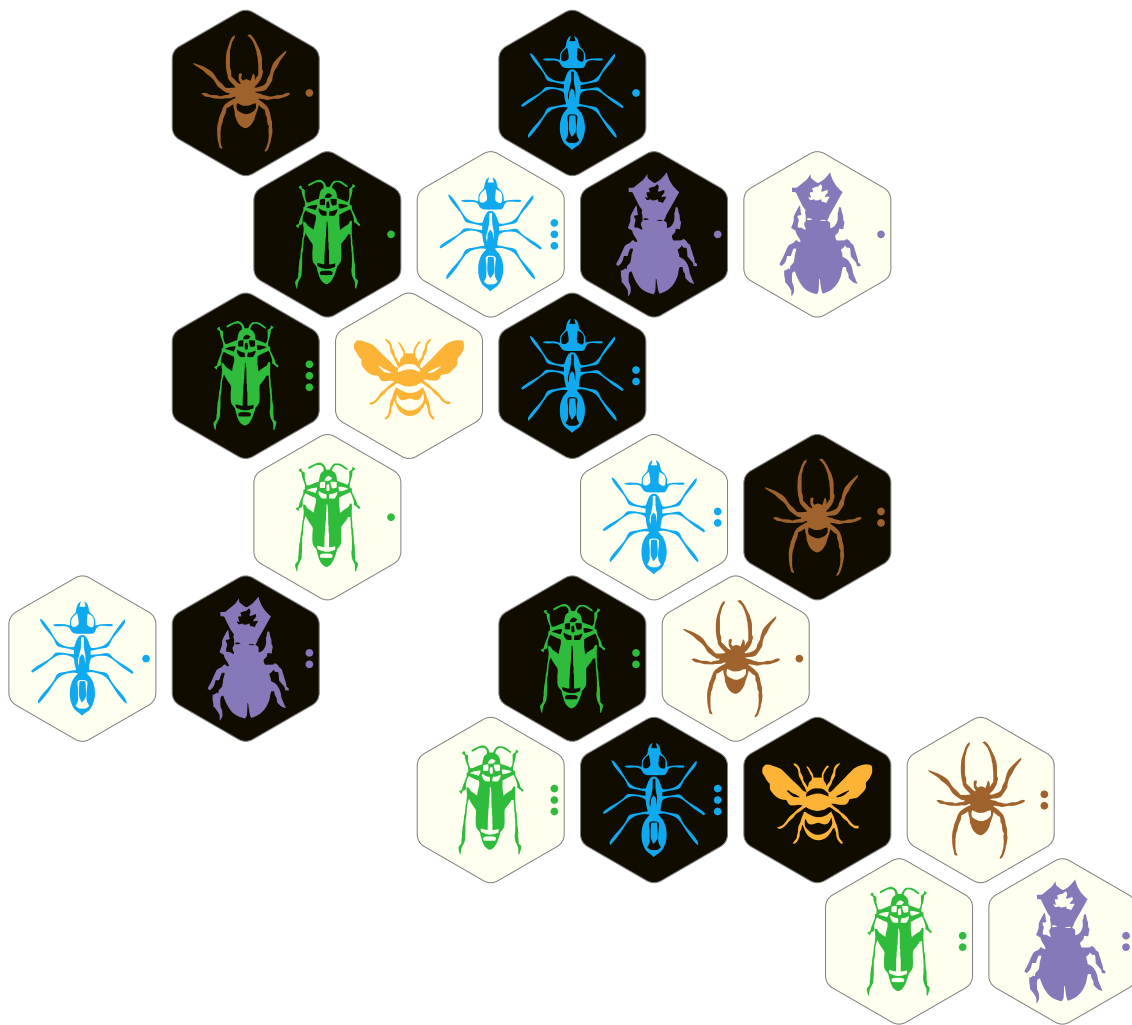


Hive-PLM

Puzzle #48

by image13

Black moves next. Find a sequence for Black to win in 3-6 turns.



RESERVE

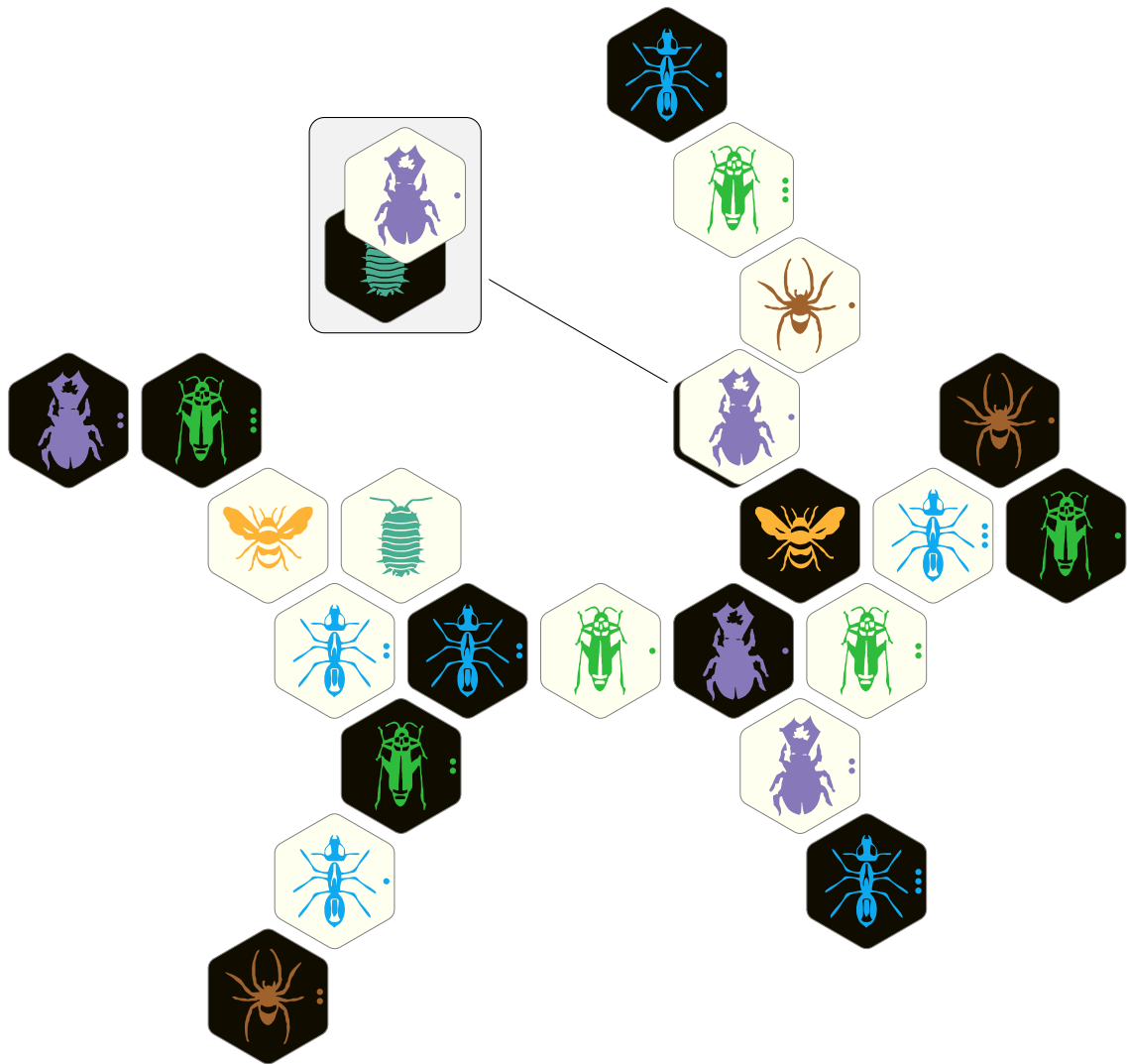
--	--

Hive

Puzzle #49

by image13

White moves next. Find a sequence for White to win in 8 turns.



RESERVE

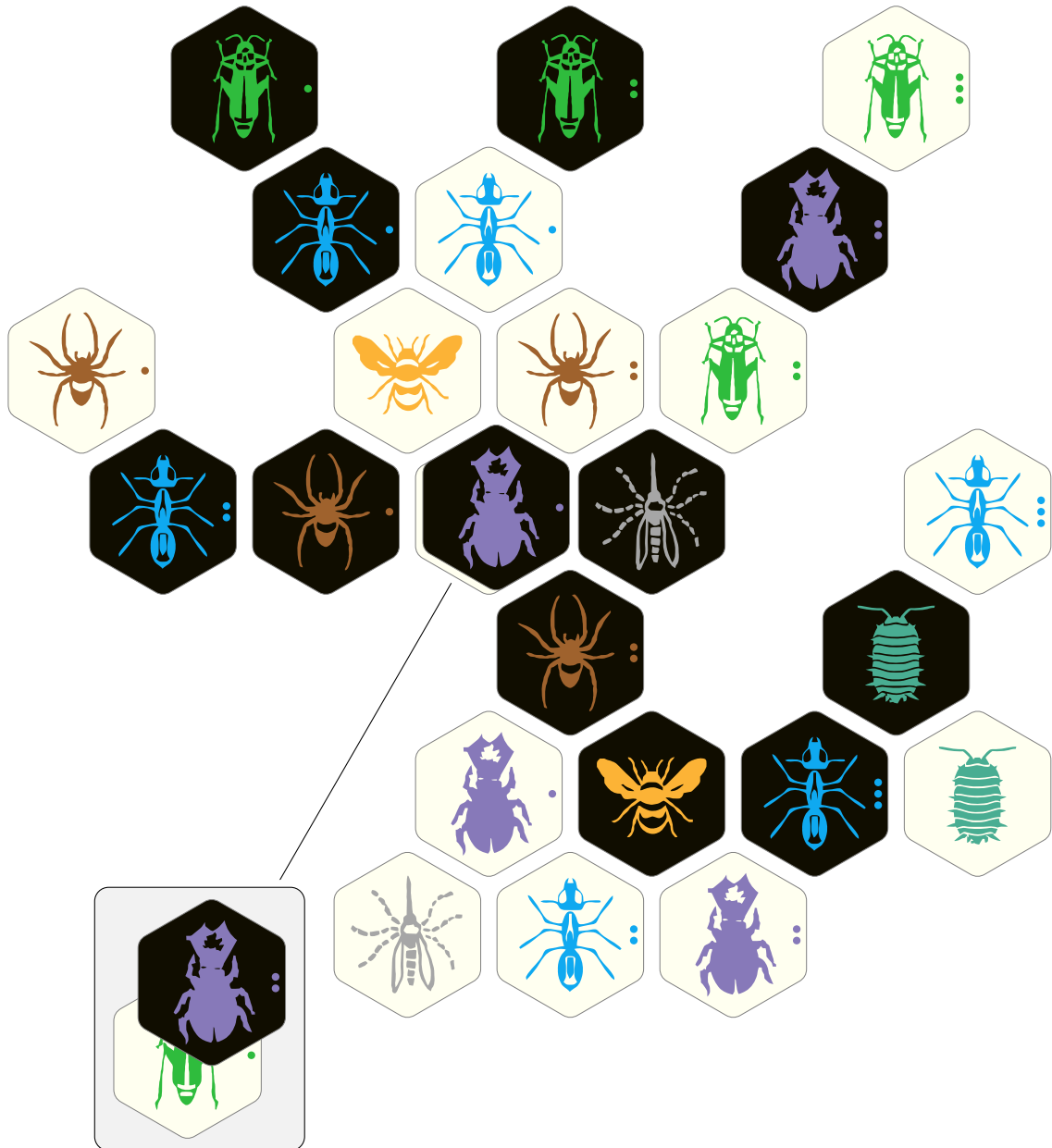
		
---	--	--

Hive-P

Puzzle #50

by Eucalyx and image13

Black moves next. Find a sequence for Black to win in 4 turns.



RESERVE

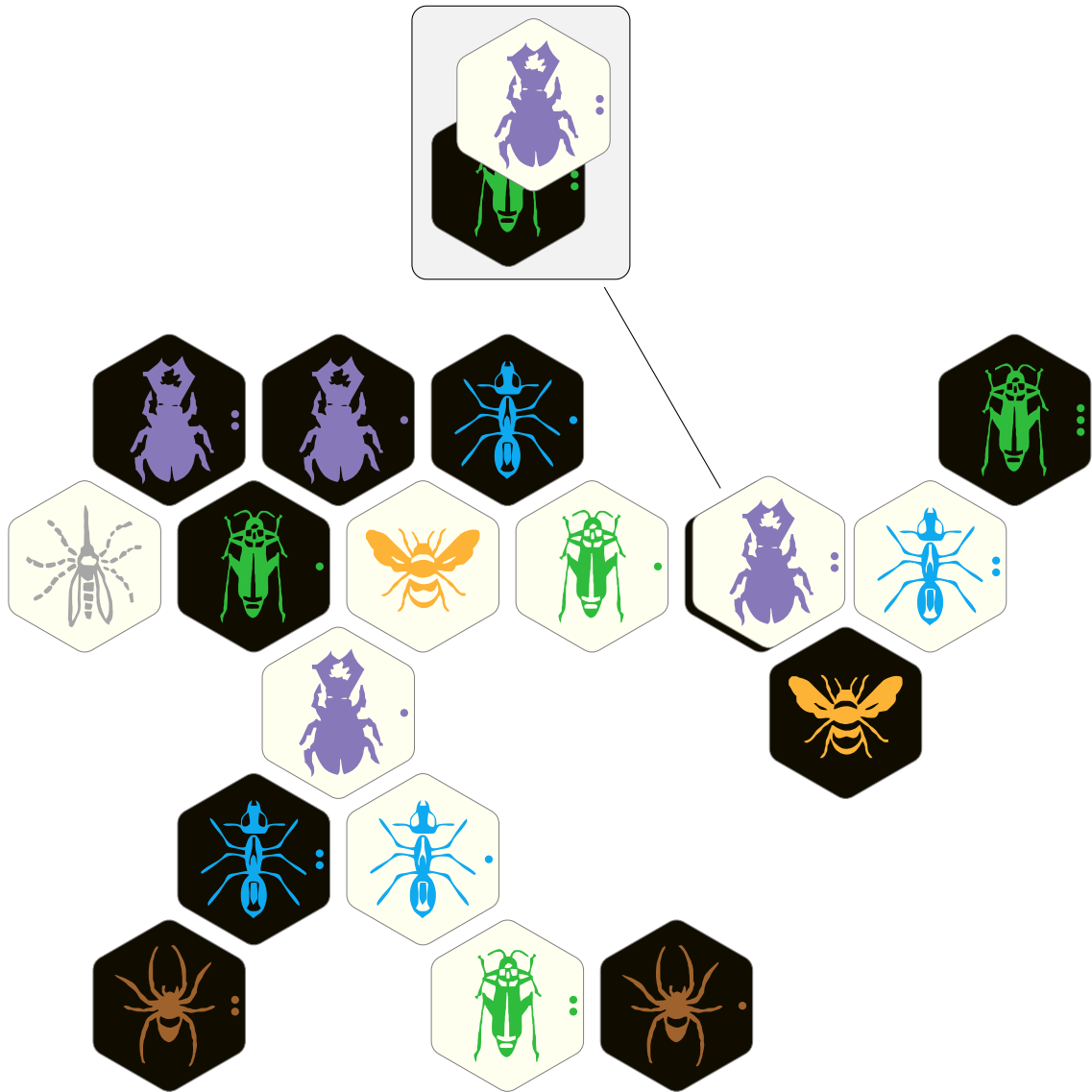


Hive-PM

Puzzle #51

by image13

Black moves next. How can Black win and in how many turns?



RESERVE

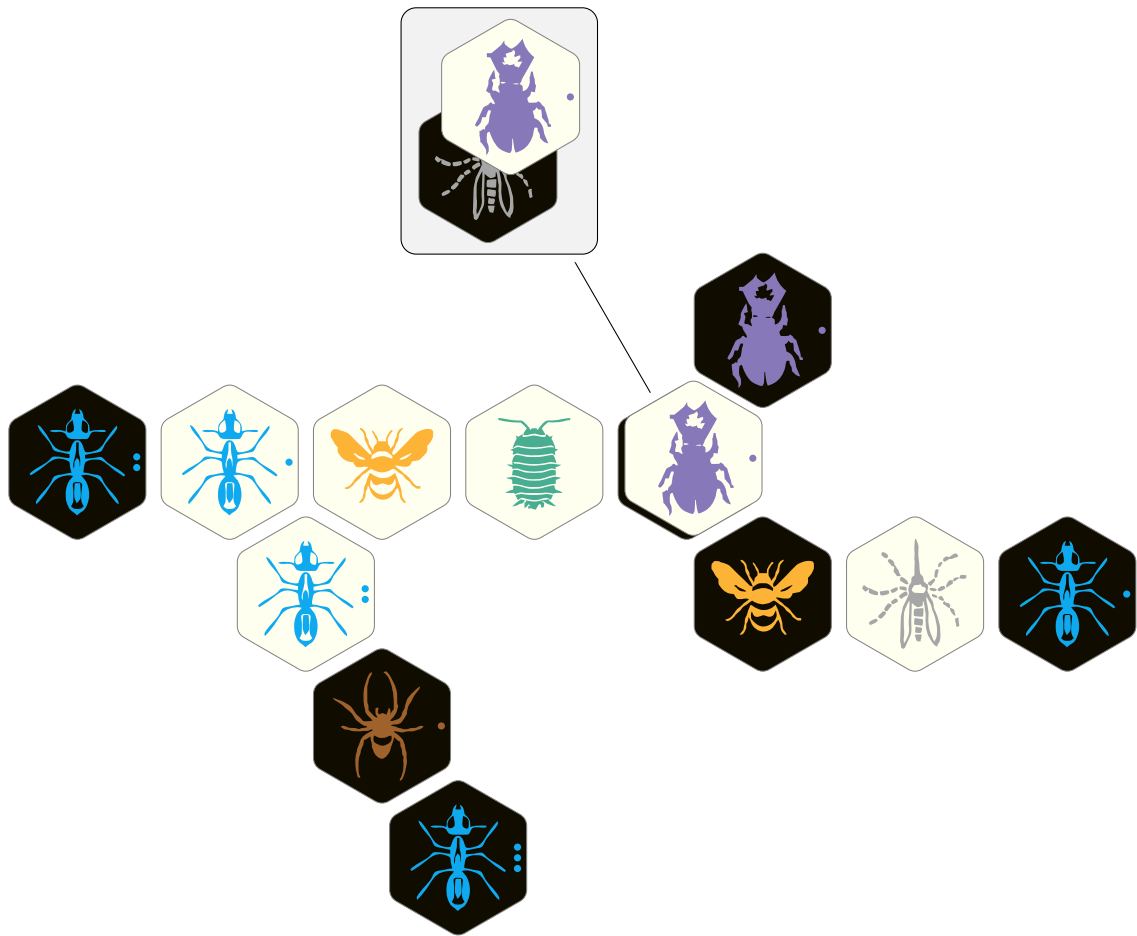


Hive

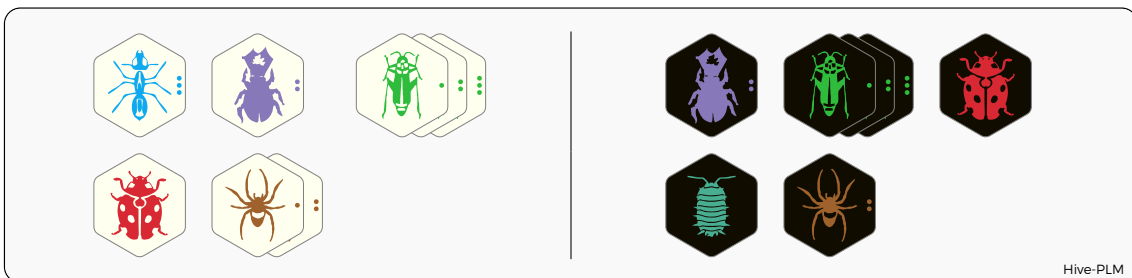
Puzzle #52

by **Claudiulordache**

Black moves next. Who wins and in how many turns?



RESERVE

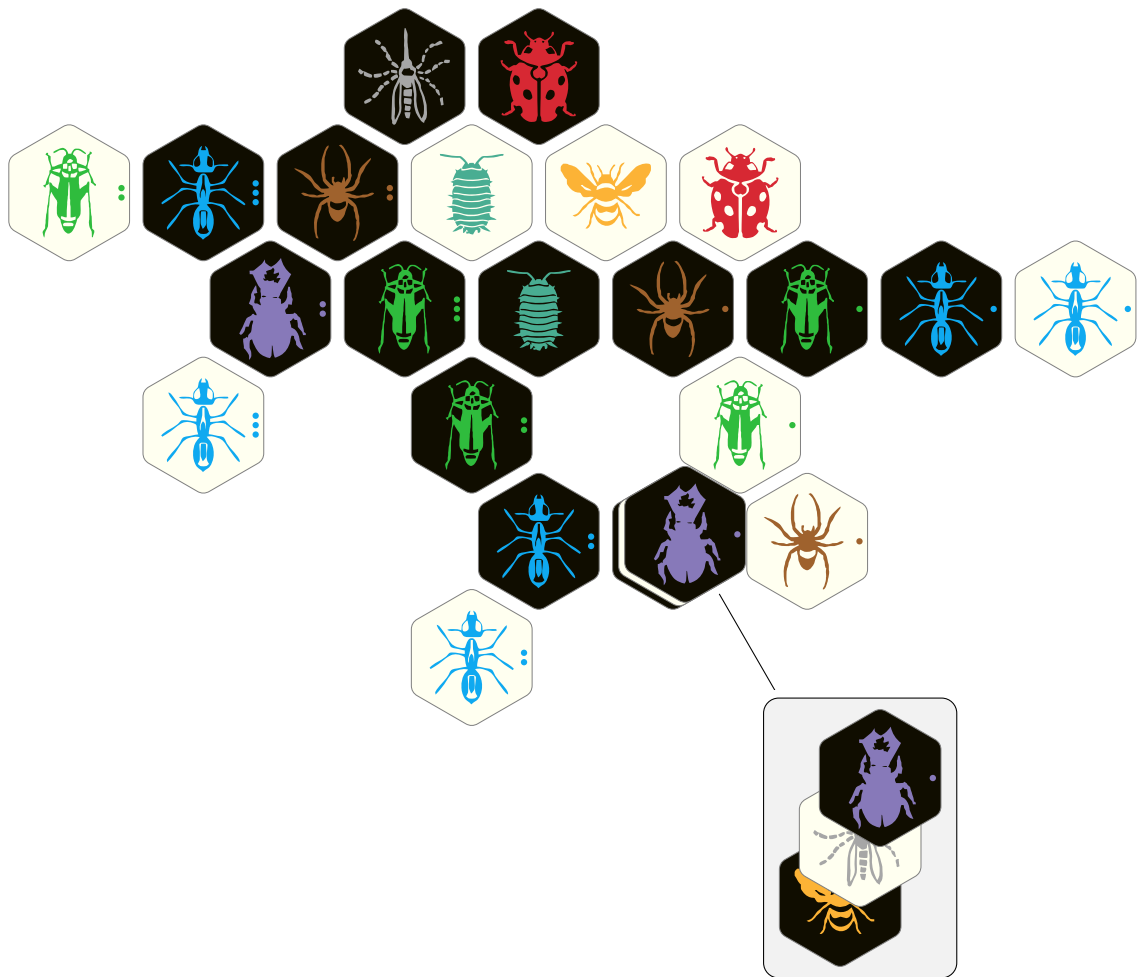


Hive-PLM

Puzzle #53

by djibouss

White moves next. For how many turns can White survive?



RESERVE

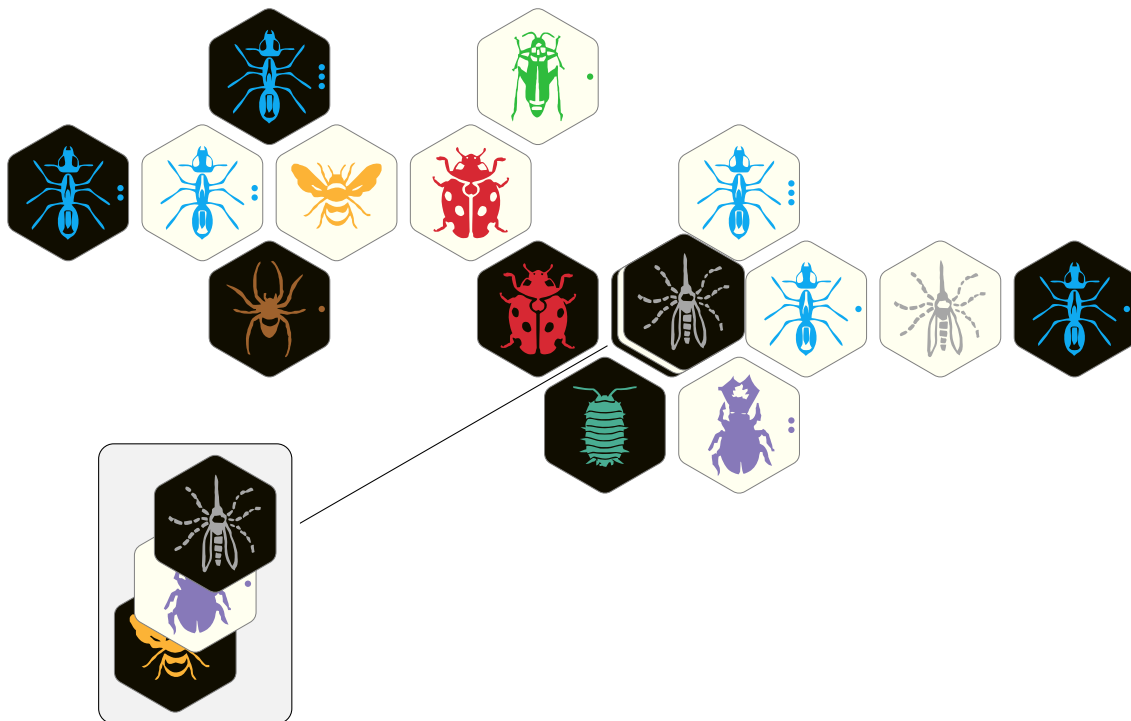


Hive-PLM

Puzzle #54

by Ihalainen

Black moves next. Find a sequence for Black to win in 3 turns.



RESERVE

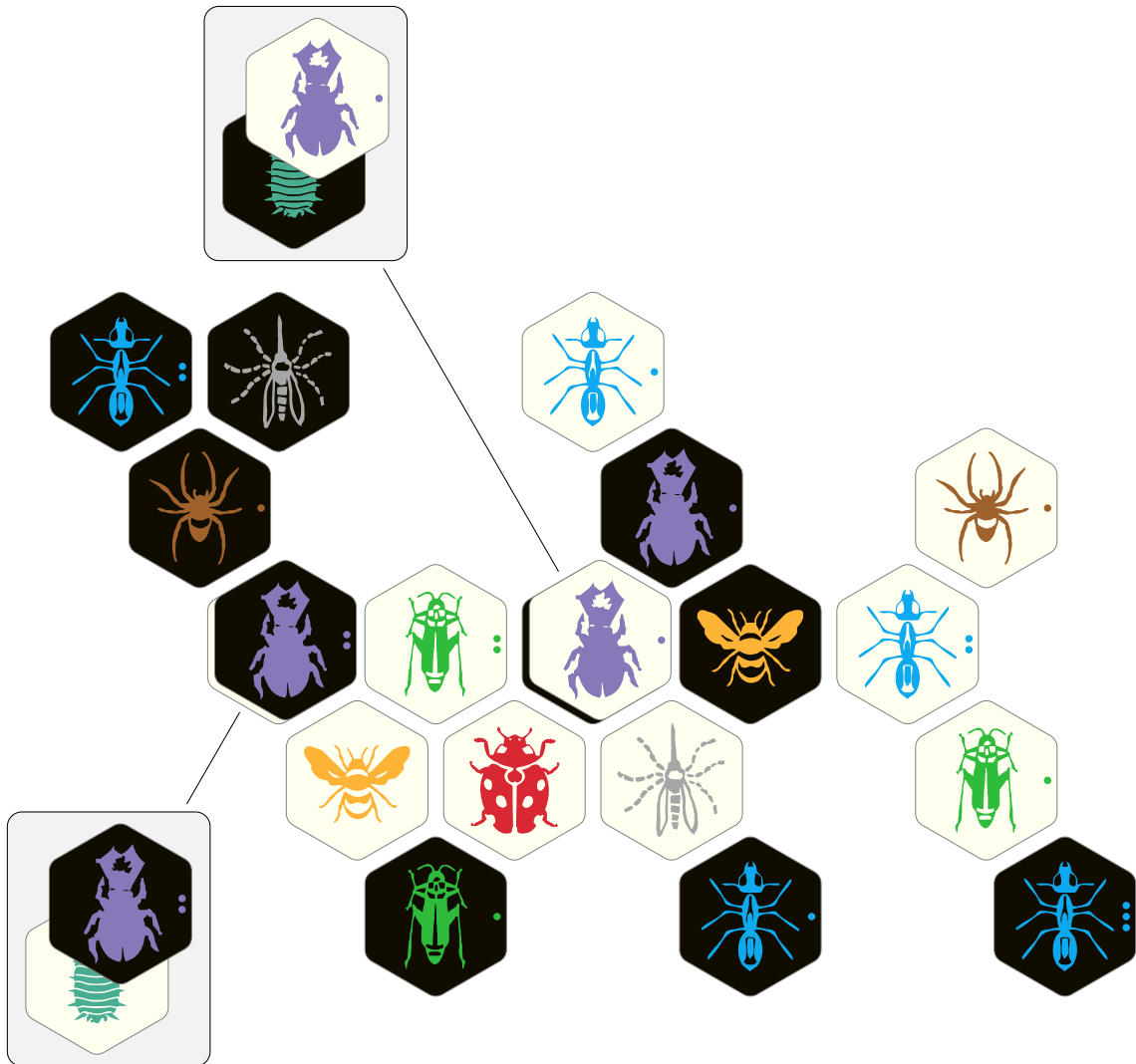


Hive-PLM

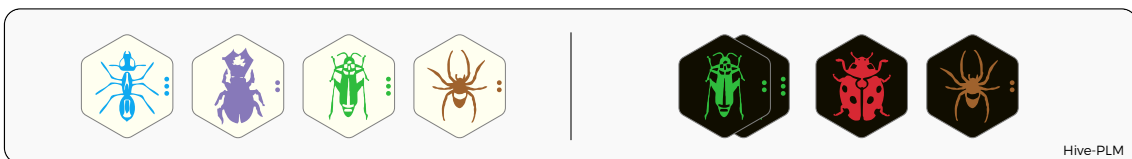
Puzzle #55

by Frasco

White moves next. Who win and in how many turns?



RESERVE

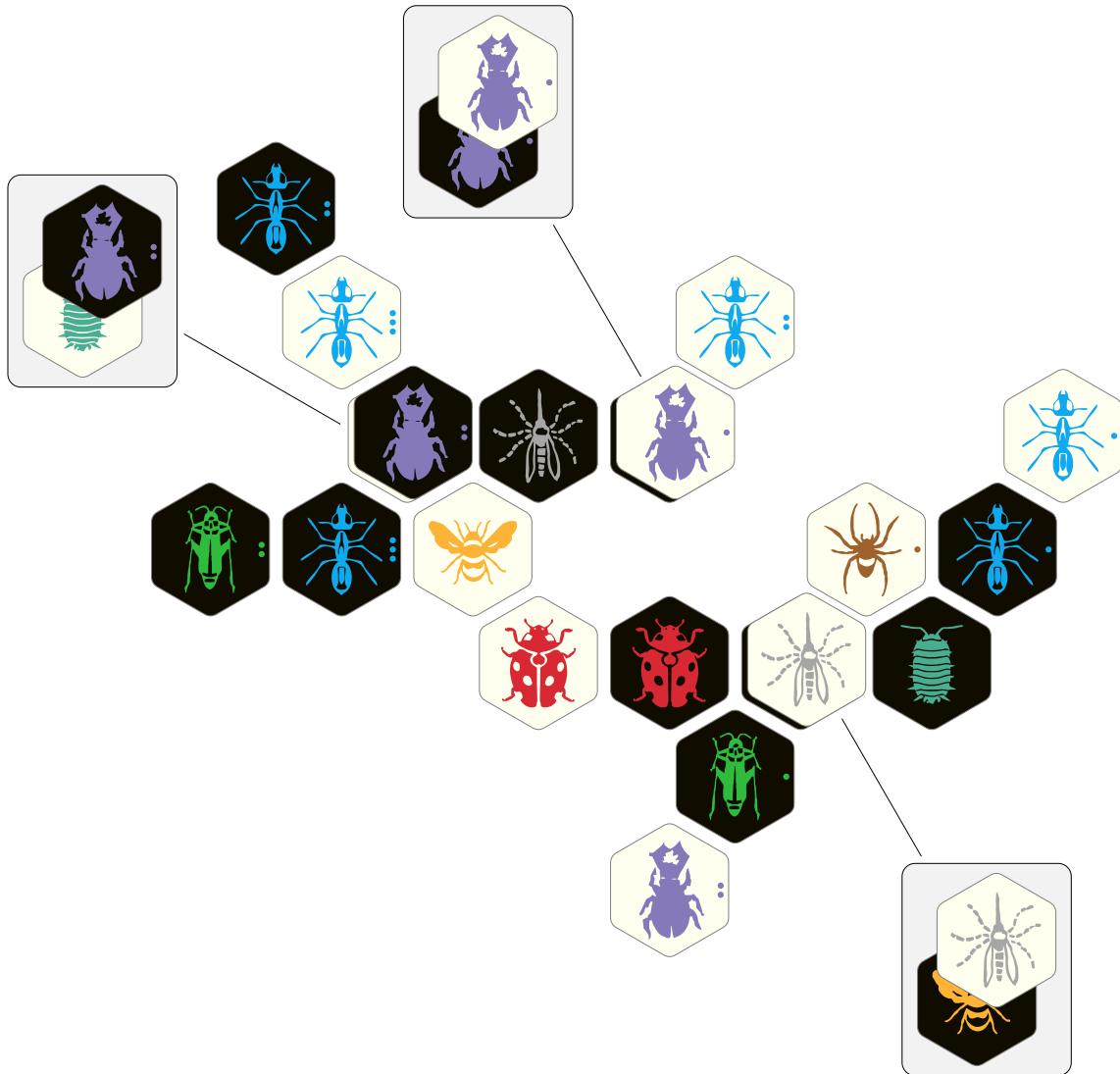


Hive-PLM

Puzzle #56

by Loizz

Black moves next. The White Mosquito moved last. Who wins and how?



RESERVE

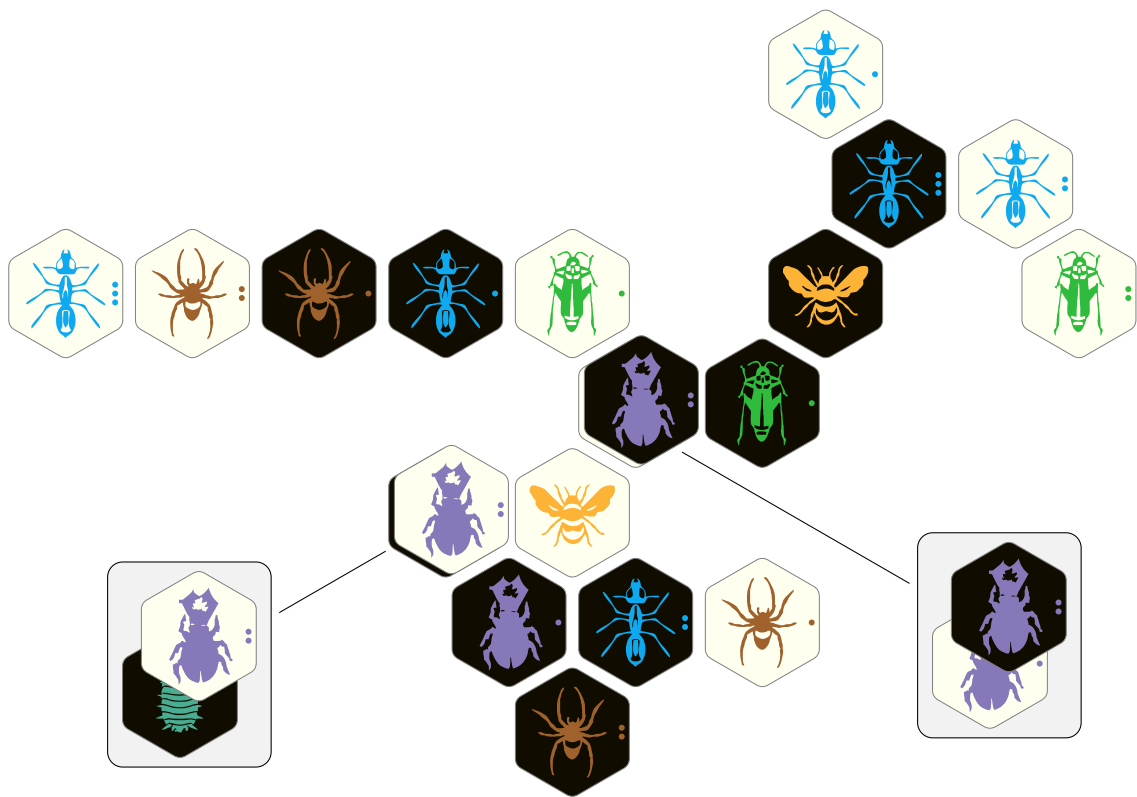


Hive-PLM

Puzzle #57

by image13

Black moves next. Find a sequence for Black to win in 5 turns.



RESERVE

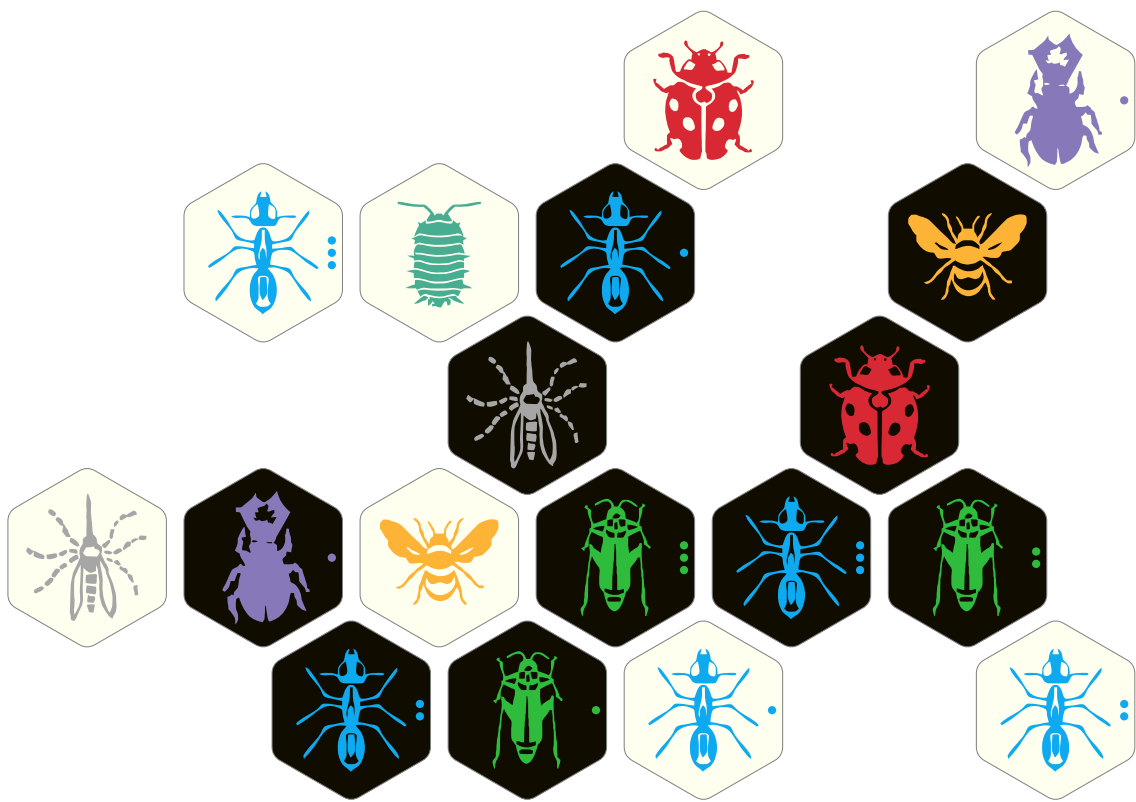


Hive-P

Puzzle #58

by Jonask

Black moves next. Find the forced win for Black.



RESERVE

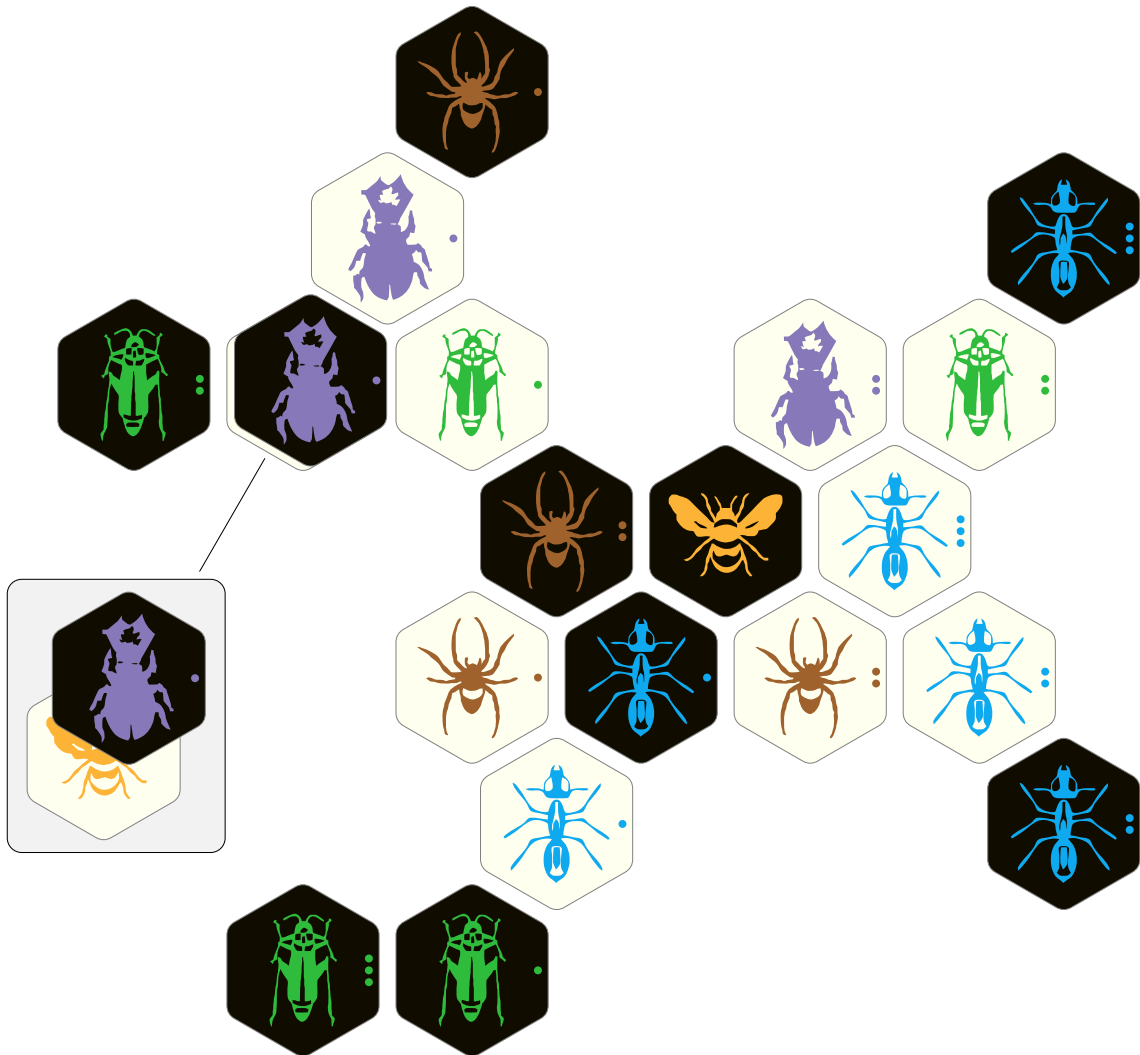


Hive-PLM

Puzzle #59

by image13

White moves next. Find a sequence for White to win in 8 turns.



RESERVE

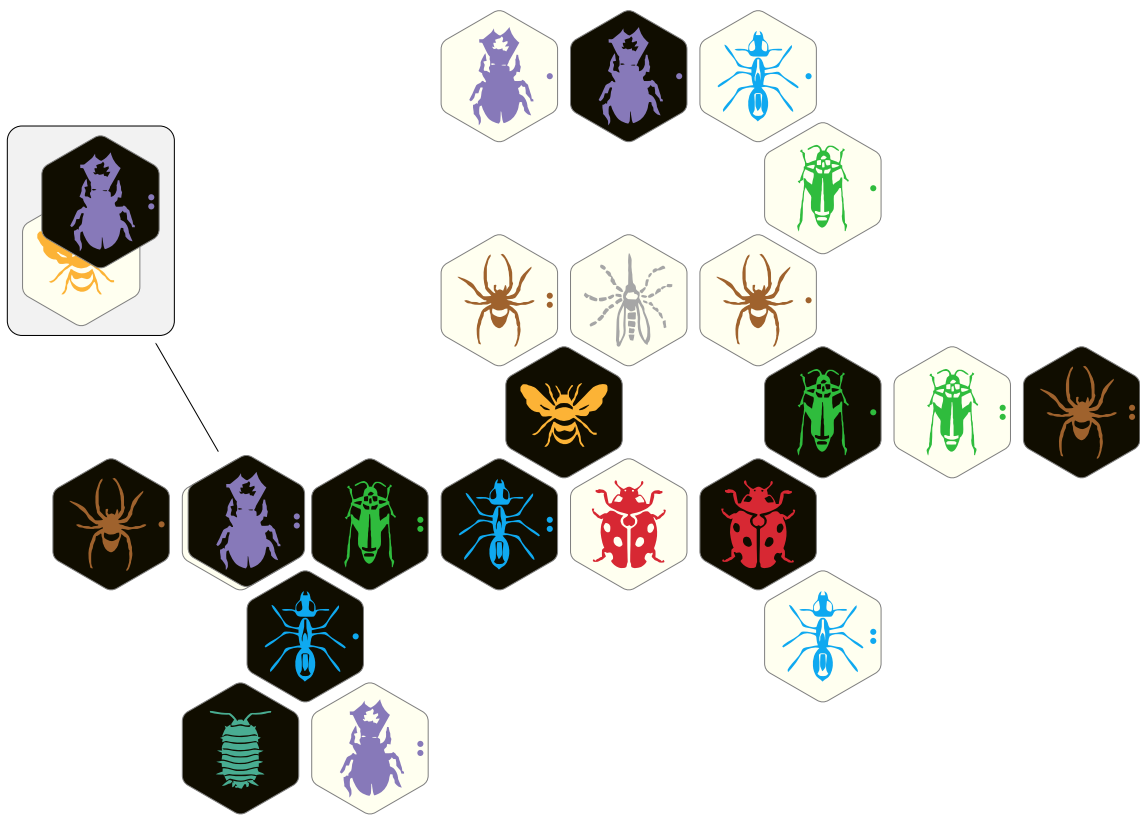


Hive

Puzzle #60

by HappyKiwi, Jonask, and eSedano

White moves next. Who wins and in how many turns?



RESERVE



Hive-PLM

Hints

Puzzle #1

Find a way of weaponizing one of your opponent's defending pieces.

Puzzle #2

If you can fill one of the kill spots on your first turn, White won't have time to bring enough defenders into play to prevent Black's victory.

Puzzle #3

Make sure you drop your Beetles in the right order.

Puzzle #4

You don't have enough free pieces in play to fill the last kill spot.

Puzzle #5

There are two direct drops for Black. The order in which you fill the kill spots matters.

Puzzle #6

Start with a direct drop, then deal with the Black Pillbug warping White pieces away.

Puzzle #7

Once the Black Queen is stuck in place you have to make sure no piece leaves a kill spot.

Puzzle #8

The first thing for Black to do is to clear the most immediate threat to the Queen.

Puzzle #9

Only one move is needed for Black to secure the win.

Puzzle #10

Black needs to bridge the gap between the two Queens in order to succeed.

Puzzle #11

If Black wants to avoid a draw, they will have to force White to move one of the pieces surrounding the Black Queen.

Puzzle #12

Don't worry about releasing the pin on the Black Ant 3. One Ant can't stop two threats at the same time.

Puzzle #13

When a direct drop stops being an option, you may well use a piece from your reserve to free a bug that can fill one of the remaining kill spots.

Puzzle #14

White can win in two turns once the Pillbug is rendered irrelevant.

Puzzle #15

It is said that the best defense is a good offense. Equally, best defensive pieces may also be the best offensive ones.

Puzzle #16

White wins in 2 turns.

Puzzle #17

Use the subtlety of the Pillbug power to win.

Puzzle #18

With no bugs left in reserve, you need to relocate one of your bugs from one kill spot to another before moving your Beetles without freeing any of White's crucial pieces.

Puzzle #19

The solution relies on one direct drop.

Puzzle #20

Can you fill a kill spot and release one of your bugs within the same move?

Puzzle #21

This puzzle can be completed in 12 moves. A possible first step may seem like being in the opposite direction.

Puzzle #22

A direct drop is the fastest way to fill kill spots around your opponent's Queen Bee.

Puzzle #23

Out of all pieces Black may use in the first move, only one leads to the fastest solution.

Puzzle #24

How can Black's move restrict White's mobility?

Puzzle #25

Can the White Mosquito be freed?

Note that the Black Beetle 1 can cover the White Ladybug in two turns and strip it off its Ladybug power.

Puzzle #26

Watch out for White Ant 2 shifting kill spots and turning the game into a win for White.

Puzzle #27

Can you form an advantageous ring offering an intriguing opportunity?

Puzzle #28

The fastest sequence is 5 turns long and uses a squeeze.

Puzzle #29

Black must prevent an immediate defeat first before starting a counter-attack.

Puzzle #30

White can lose the game in 3 moves if forced to commit suicide.

Puzzle #31

Could White's remaining Grasshoppers perform a hop-around to help winning the game?

Puzzle #32

Is there a possibility for White to create a convenient gate?

Puzzle #33

What if you didn't have to do the dirty work yourself?

Puzzle #34

Look for a creative way to immobilise a bug without pinning or covering it.

Puzzle #35

Black will win, but how long can White survive?

Puzzle #36

The first move has to ensure that a kill spot around the White Queen can be filled later on via a direct drop by Black.

Puzzle #37

Beware of White's threat to win in 2 turns and keep the pressure on.

Puzzle #38

Strive to create a double threat using the Black's Pillbug and Grasshopper 1.

Puzzle #39

Black's first move is forced. Can any piece be warped by the Pillbug to improve the position?

Puzzle #40

The Black Beetle 1 needs to change kill spots.

Puzzle #41

Mimicking others is key to solve this puzzle.

Puzzle #42

It's a win for Black in 2 turns, not more.

Puzzle #43

How to prevent the Black Mosquito from climbing down and gaining Pillbug power?

Puzzle #44

A Grasshopper needs to make a hop around for the White win. But how? And how could Black stop this?

Puzzle #45

How can a White Ant fill the kill spot at /bQ?

Puzzle #46

This puzzle is about pieces whose moves cannot be prevented.

Puzzle #47

As White, use your last bug in reserve creatively to obtain clear lines of attack.

Puzzle #48

Let the Grasshoppers do the trick or use a Beetle to finish White off if needed.

Puzzle #49

Ensure Black's first move is forced. Otherwise the Black Beetle 1 can be freed and White can't win in 8 moves.

Puzzle #50

Don't be afraid to let your opponent vacate a few kill spots. You can eventually refill them with different bugs of the same colour.

Puzzle #51

Black can win in 3 turns with White making the last move.

Puzzle #52

If you put your opponent in a shutout, you are being too greedy.

Puzzle #53

Beware of the threat for White to lose right after the first move.

Puzzle #54

The Black Ladybug plays a critical role here.

Puzzle #55

The pinned Grasshopper can be released if a pocket is formed around it.

Puzzle #56

Black starts the sequence by attacking, but White might fight back. If Black is able to bring White's counter-attack to a hold, victory is guaranteed.

Puzzle #57

Strive to form a useful ring.

Puzzle #58

Is there a way to free the Black Ladybug?

Puzzle #59

With Black being only three turns away from victory, the approach to cover the Black Queen is too slow. It is more efficient to force Black into defensive mode.

Puzzle #60

White wins in 3 turns.

Solutions

Puzzle #1

The sequence is:

1. wP wA2\, bM wP\
2. wG1 \wA3, bA2 \wG1
3. wP:bM wP/, b** *****
4. wM bQ/

By starting the attack with the White Pillbug, White lays the foundation of a double threat. On turn 2, Black has to choose between self-pinning the Black Mosquito or stopping White Grasshopper 1. One way or the other, White's attack cannot be stopped.

Puzzle #2

The sequence is:

1. bP:bB1 wQ\
2. wA2 bA1/, bG1 /bA2
3. w** ****, bG1 \wQ

If White uses White Ant 2 to pin Black Grasshopper 1, Black Ant 1 is used to fill the remaining kill spot.

Puzzle #3

The sequence is:

1. bB2 wQ-
2. wG2 ****, bB1 /wQ
3. w** ****, bM \wQ

Any other order of dropping the Beetles results either in a longer sequence or will give White a chance to cover one of the remaining Black Beetles or the Mosquito.

Puzzle #4

White wins in 5 turns:

1. wG2 wS1-, bA2 wG2-
2. wG3 wA2/, bA1 wG3/
3. wB2 \wS2, bA3 bB2\
4. wB2 wS2, b** *****
5. wB2 /bQ

The order in which White introduces the new bugs may be changed, as long as White Beetle 2 enters the game adjacent to White Spider 2. That spawn point allows White Beetle 2 to reach the kill spot without being threatened by Black Beetle 1.

Puzzle #5

The sequence is:

1. bA3 -bG1
2. wA3 -bA2, bG3 bA2-
3. w** *****, bB2 -wQ

With their first move, Black threatens direct drops into two different kill spots. White may move one of their Ants to prevent one or the other, but not both at once.

Puzzle #6

The sequence is:

1. w** -wA2, bP:wM /bP
2. wA1 bP-, b** *****
3. wB1 -bQ

If White covers the Black Pillbug on the first move, Black can start a counter attack and force White to defend.

Puzzle #7

The sequence is:

1. wA2 bQ-, b** *****
2. wB1 bG2, b** *****
3. wM -bQ, b** *****
4. wB1 bQ/

An alternative way to a win for White is to force a shutout by pinning the Black Ladybug with White Ant 3. That sequence, however, requires more turns.

Puzzle #8

Black wins in 5 turns:

1. bP:wM bP/
2. wB1 bA1, bL -bG1
3. wA2 \bL, bG3 \bG2
4. wG2 bM\, bG3 bG2\
5. w** ***** , bB2 wQ\

The order and position in which the Black Ladybug and Black Grasshopper 3 are brought into the game can be different from the one presented in this solution, but the principle stays the same: By introducing these two pieces, White does not have enough material to pin both threats at the same time, and Black can successfully fill the kill spots around the White Queen.

Puzzle #9

Black wins by performing a shutout on White. Once White is forced to pass, Black can surround the White Queen effortlessly. Here we show just one of many possible sequences:

1. bL wA1-
2. pass, bB1 bM
3. pass, bB1 wP
4. pass, bA2 \bM
5. pass, bB1 wQ
6. pass, bS1 bA1-
7. pass, bA2 /wP
8. w** ***** , bB1 wQ-

Puzzle #10

The sequence is:

1. bG3 -bQ
2. w** ****, bS2 /bG3
3. w** ****, bS2 wQ\

A Black Spider spawned adjacent to the Black Queen cannot reach the remaining kill spot without freeing one of White's bugs. By spawning the final Grasshopper west of the Black Queen first, Black creates a door that can be used by Black Spider 2 to bridge the gap, finishing its move in the last kill spot.

Puzzle #11

The sequence is:

1. bA3 bS1-
2. wS2 wG3/, bA3 wS2/
3. w** ****, bB1 wQ-

When Black Ant 3 enters the hive, White is forced to spawn White Spider 2 at the only spawn point left: north-west of White Grasshopper 3. By pinning it on the next turn, Black creates a Bugzwang position. White has to move one of their pieces surrounding the Black Queen, as they are the only two mobile pieces available and Black can finish the game either with Black Beetle 1 or the Black Queen.

Puzzle #12

White wins in 4 turns. Some variations exist, but the key is that Black Ant 3 cannot stop two attackers at once. One winning sequence is:

1. wA2 /bQ, bB1 wA2
2. wG1 wP/, bA3 \wG1
3. wL wS2\, b** ****
4. wL bQ/

If Black Ant 3, the only available defender, pins the White Ladybug on turn 3, White Grasshopper 1 that has just been released fills the remaining kill spot.

Puzzle #13

The sequence is:

1. bA3 -wG1 ,
2. wA2 bB1- , bS2 /bG1 ,
3. w** **** , bG1 \bA3
4. w** **** , bB2 -wQ

The key is to free Black Grasshopper 1, enabling it to attack. This can be achieved by changing kill spots with Black Ant 3 and forcing White to block the direct drop by Black.

Puzzle #14

White wins in 2 turns. The sequence is:

1. wA1 bQ- , b** ****
2. wB1 -bQ

If Black warps the Queen south-west after White's first move, White wins by filling the last kill spot using White Ant 2.

If White attacks using White Ant 2 instead, White Beetle 1 is left behind pinned and White's only threat to win is by warping the White Queen. This threat can be blocked by Black Ant 1 or 2.

Puzzle #15

The sequence is:

1. wA2 wG1- , bA1 /wA1
2. wP:bQ \wP , b** ****
3. wL bQ/

For their first move, White can also move White Ant 2 east of White Spider 1. This does not change the rest of the sequence. If on turn 2, Black Ant 1 pins the White Ladybug, White can use one of their Ants to fill the last kill spot instead.

Puzzle #16

The winning sequence is:

1. wA3 wL\, b** ****
2. wL -bB1

If Black does not move the Black Mosquito on move 1, White can warp the Black Mosquito in for the win.

Puzzle #17

The winning sequence is:

1. wL -wM, bM \wP
2. w** wB1\, bM:wM bM-
3. wP:bM -wP, b** ****
4. wB1 -bQ

A different option for White's first move is using the Mosquito's Pillbug power to warp White Ant 1 south-west of Black Ant 2. In any case, the rest of the sequence progresses in the same way.

On turn 2, White performs a direct drop. If Black tries to prevent that with Black Ant 1, the freed White Grasshopper 1 jumps in and White wins in 3 turns.

Puzzle #18

The sequence is:

1. bG1 /bB1
2. wA3 bS2/, bG3 wA3/
3. w** ****, bG3 bS1-
4. w** ****, bB1 bG1-

There is a possible variation to the sequence: If on turn 3 White moves White Spider 1, Black may drop Black Beetle 2 east of Black Spider 1 as White Grasshopper 1 underneath can't escape since the pre-swamp of the Grasshopper is would be gone.

Puzzle #19

The sequence is:

1. wB2 bQ, bA2 \wG2
2. wA2 -wG2, b** ****
3. wG2 /wS1, b** ****
4. wB2 bB2/

On turn 2, Black has to decide how to stop White from filling the kill spot south-east of White Spider 1, but White has a double threat on that spot. If Black were to block a direct drop by moving an ant close to it, White Grasshopper 2 is free to jump, as outlined in the sequence above. If Black pinned the Grasshopper instead, White can bring their last piece from the reserve directly into the kill spot.

Puzzle #20

The sequence is:

1. wB1 bA2-, bG1 ****
2. wL bA2/, bB1 wM
3. wA2 bQ\

Alternatively, Black could pin White Ant 2 on their second move with Black Spider 1. In that case, the White Mosquito fills the remaining kill spot.

Puzzle #21

The following 12-turns sequence resolves the puzzle.

1. bG6 bG3\
2. wS6 \wQ
3. bG6 \bQ
4. bG6 /wS5
5. bG1 /bG4
6. wS1 wQ/
7. bG3 \bQ
8. wS3 bG1\
9. bG3 -bG4
10. bG2 -wQ
11. wS4 wS3-
12. wS2 bG5/

The solution relies on methodically unwrapping the pieces surrounding the Black Queen. The Grasshoppers need to jump in order to allow the adjacent Spiders to move. The previously mentioned Grasshoppers jump back and then away from the Black Queen without locking other pieces in place. This pattern repeats until all Spiders have moved.

Puzzle #22

Black wins in 5 turns. To do so, the first move must be moving Black Beetle 1 atop the White Queen. Depending on White's response, there are several sequences for Black to win in 5 turns. Here we show one in which White attempts to stop Black from executing direct drops around the White Queen:

1. bB1 wQ
2. wA2 bS2/, bB1 wA2
3. wS2 bA2\, bG1 wQ-
4. wG2 wB2/, bA1 \wQ
5. w** ****, bB1 /wQ

Puzzle #23

Black wins in 5 turns. The first move must be done with the Black Ant 2. There are several sequences for Black to win in 5 turns depending on where Black attacks and how White defends.

1. bA2 -wQ
2. wA1 bA1-, bS1 wQ/
3. wA2 \wG1, bG3 bS1/
4. wA2 bG3/, bS2 \bA2
5. wS2 /bB1, bS2 /wQ

Moving Black Ant 2 first is the key to secure the victory. If Black were to start the attack climbing atop the hive with Black Beetle 2, White would respond with White Beetle 2 climbing onto Black Ant 2, denying Black a victory in 5 turns.

If Black Beetle 2 climbs onto Black Beetle 1, White can shift White Beetle 2 to the kill spot west of the Black Queen. After that White is already ahead in tempo no matter how Black responds.

Puzzle #24

Black wins in 5 turns. The two possible sequences depend on Black's first move. Sequence 1 relies on moving the Black Pillbug to become a proximity Pillbug while pinning White Ant 1.

1. bP \wA1
2. wS1 -wA1, bP:wA1 bP-
3. wB1 /bQ, bB1 wB1
4. wA1 bM\, bA2 \bA1,
5. w** ****, bB2 wQ/

Sequence 2 also uses the Black Pillbug as a proximity Pillbug defender, but in this instance it blocks the attack of White Spider 1.

1. bP \bB1
2. wA1 wB2\, bM /wP
3. wP bB1\, bM /wP
4. wB2 wP, bS2 \bA1
5. w** ****, bB2 \bL

Note that breaking the ring by moving away the Black Ladybug is not effective. Instead, the Black Mosquito moves to a kill spot and forces the White Pillbug to move away.

Puzzle #25

White wins in 3 turns. There are two possible winning sequences.

Sequence 1:

1. wP:wS2 -bG1, bG1 -wS2
2. wM:wP wM\, b** ****
3. wM -bQ

If on turn 2, Black fills the kill spot south-west of the White Queen with e.g., Black Ant 3 hoping for a draw, White takes the kill shot with the White Ladybug and wins.

Sequence 2:

1. wP:wS2 \wP, bL /bB2
2. wM:bG1 \wM, b** ****
3. wL \wQ

As in sequence 1 above, Black may threaten with a draw on the second turn by moving Black Beetle 2 to the kill spot west of the White Queen. If Black doesn't, the White Mosquito or the White Ladybug can take the kill shot.

Puzzle #26

The sequence is:

1. bB2 wA2
2. wB1 bB2, bG3 bB1-
3. wB1 bG3, bB2 bA2
4. w** ****, bB2 wQ/

If Black Grasshopper 3 jumps in before White Ant 2 is covered, White Ant 2 will move over to the kill spot north-east of White Beetle 2. Once Black Grasshopper 3 is covered, White Grasshopper 1 can jump in to attack and White will be ahead in tempo.

Puzzle #27

The sequence is:

1. wA1 wG1/, bG2 bQ/
2. wB1 bB2, bS1 bB1\
3. wP:bQ wP-, bB1 wB2
4. wG2 /bQ

Black instead decides to pin White Grasshopper 2 with Black Ant 1 on turn 2, the last kill spot will be occupied by White Beetle 2.

Puzzle #28

The fastest sequence for Black to win is by forcing a squeeze:

1. bS2 wS2\
2. wG2 /wG1, bB2 wB1
3. wG2 bG1/, bS2 \wG2
4. wG1 wG2/, bA1 wQ-
5. w** ****, bB1 -wQ

The original idea behind the puzzle was to exchange the positions of the two Black Spiders, but this leads to a longer 8-turn victory.

Puzzle #29

Black wins in 5 turns:

1. bA2 wB2-
2. wS2 /wB1, bS2 \wQ
3. wS2 bA1\, bB1 wQ
4. wS1 bA3\, bG3 bB1/
5. w** ****, bB1 /wQ

It would be possible for White to move White Beetle 1 south-east of White Grasshopper 1 first in an attempt to release it. In that case, though, Black can cover it with Black Beetle 1 and is still able to fill the remaining kill spots with their free Ants.

Puzzle #30

The worst move for White is:

wP bS1-

This allows the Black Pillbug to warp the White Queen into the pocket created by White. Now, the only legal move for White is to lose the game by warping either Black Ant 3 or Black Spider 1 into the last kill spot adjacent to his own Queen.

Puzzle #31

White wins in 3 turns. There are at least two different sequences depending on how Black responds to White's first move.

Sequence 1:

1. wG2 -wP, bB2 bP
2. wA2 \bQ, b** *****
3. wG2 /bQ

Since Black Beetle 2 covered the Black Pillbug in the Black's first move, an alternative sequence for White to win is to jump with White Grasshopper 2 to the east of the White Mosquito. Black cannot stop both, the White Mosquito and White Grasshopper 2. One of them will fill the kill spot.

Sequence 2:

1. wG2 -wP, bA1 -wA2
2. wL \bQ, b** *****
3. wM:wS1 bQ-

Puzzle #32

White wins in 3 turns:

1. wM bQ, bP:wG3 -bP
2. wA2 -wS1, b** *****
3. wM bQ-

The first move creates a Beetle gate (technically a Mosquito gate) that prevents the Black Pillbug from warping the White Ladybug away.

Puzzle #33

White wins in 3 turns by forcing Black to spawn a new piece in one of their own Queen's kill spots:

1. wM bP\, pass
2. wB1 bP, b** \bQ
3. wB1 /bQ

Puzzle #34

There are two possible sequences depending on White's response to Black's first move.

If White Spider 2 does not move to free White Ant 2, the sequence is:

1. bG2 -wA3
2. w** ****, bG1 \wS1
3. w** ****, bG1 /wQ

The first move creates a pocket that immobilises White Spider 1 in preparation of Black Grasshopper 1 jumping over in the following move. Remember: a bug's movement cannot end on the same spot it started. Thus, moving White Spider 1 would not be a legal move. White does not have any defenders available to prevent Black Grasshopper 1 from filling the last kill spot.

If White Spider 2 moves, the sequence is:

1. bG2 -wA3
2. wS2 /wA3, bG3 bQ/
3. w** ****, bG3 /wQ

Puzzle #35

Black wins in 4 turns. In this game White neither has the tempo advantage nor the defenders to stop Black's attack. There is always a strong move available for Black to fill the remaining kill spots in the two subsequent turns. The longest defense for White is:

1. wB2 bM, bA2 \bA1
2. wA1 -bA2, bG2 /bA1
3. wA3 wS1/, bG2 bA1/
4. w** ****, bB1 wQ/

Puzzle #36

Black wins in 9 turns:

1. bA2 /bB2
2. wB2 wA2\, bB2 wQ
3. wB2 wA2, bB1 wQ/
4. wA1 wS2-, bA3 -wQ
5. wG1 -bA3, bB2 wQ-
6. wA1 /bA2, bS2 bQ/
7. wB1 bG3, bG2 /wG1
8. wA3 -bG2, bS2 \bG1
9. wG3 wB1/, bG1 wQ\

In the sequence above, Black starts by safeguarding a future pocket for a direct drop. White defends by threatening to cover Black Beetle 1. Black has time to execute a direct drop in the pocket created earlier and to drop Black Beetle 1 before it is covered. Due to the ring formed by White, White Grasshopper 1 can escape. Turns 6 to 9 comprise an effort by Black to free one of their Grasshoppers to fill the final kill spot.

This solution has been proven as a valid forced Black victory by the Mzinga engine⁵ under the assumption that the first move is spawning Black Ant 2. The sequence above is just one of many forced wins, can you find a better one?

Puzzle #37

The sequence is:

1. bG3 wQ-
2. wS1 -bB2, bB1 wP
3. wB1 bG2, bB1 wL
4. wB1 wQ, bB1 bP-

If Black starts the sequence with a different move, White Ant 1 will form a ring and free White Grasshopper 2. After Black's first move, White Beetle 2 and White Ant 1 are effectively immobilised, since releasing the bugs they pin would result in an immediate victory for Black.

After Black's third move, one might think that White will win because they can use the White Pillbug to warp Black Grasshopper 3 into the last kill spot around the White Queen. But the *Freedom to Move Rule* prevents that from happening, as a beetle gate has formed between Black Beetle 1 and White Beetle 2.

⁵Version 0.9.19309.32

Puzzle #38

The sequence is:

1. bG2 \bS1
2. wS1 \bG2, bG3 -bP
3. w** ****, bG3 bG1/
4. wB2 bP, bG1 wQ\

Covering the Black Pillbug is White's only possible defense on turn 4. Otherwise, the Black Pillbug will warp the Black Queen inside the ring formed on turn 3.

Note how the goal of Black Grasshopper 2 is not to attack, but to contribute to the formation of the new ring.

Puzzle #39

The sequence is:

1. wA2 \wG3, bA1 /wG3
2. wM:wA2 -wL, bB1 wL
3. wB2 -bM

White controls Black's moves in order to not lose immediately: first White Grasshopper 3 threatens to win, then the White Ladybug, and finally White Beetle 2 takes the kill shot.

Puzzle #40

The door formation between White Spider 1 and White Grasshopper 1 allows Black Spider 2 to fill a kill spot. From there on, nothing can stop Black Beetle 1 and Black Grasshopper 1 to change kill spots to allow Black Beetle 2 to drop for the win. The sequence is:

1. bS2 wQ-
2. w** ****, bB1 wQ
3. w** ****, bB1 -wQ
4. w** ****, bG1 wQ/
5. w** ****, bB2 /wQ

Puzzle #41

The sequence is:

1. bM \wA1
2. wB1 bG2, bM wM-
3. wM wA2-, bA1 wQ-

White may move a piece other than the White Mosquito on turn 3. In that case, the Black Mosquito fills the last kill spot.

Puzzle #42

White wins in 2 turns:

1. wM \wG2, b** *****
2. wM bQ-

When the White Mosquito drops down to ground level it gains Grasshopper power and at the same time it surrounds the Black Pillbug. There is nothing White can do to stop the Black victory.

Puzzle #43

White wins in 6 turns. There are several winning sequences. This is one of them:

1. bA1 wA1\
2. wG1 wA1/, bA1 wG1/
3. wA3 bQ\, bA1 \wQ
4. wG2 wA1\, bA3 wG2-
5. wS2 wQ-, bG1 bA1/
6. wS2 bQ/

White must play carefully to not let the Black Queen escape. If the Black Mosquito is allowed to drop north-east of the Black Queen, the White Mosquito will have to cover it to prevent it from escaping. The only way to stop the Black Mosquito from dropping down and thwarting Black's plan is to ensure that the last kill spot can be filled by White in the following move.

Puzzle #44

White can win in 4 turns as follows:

1. bA3 /bB2
2. wG1 \bB1, bB1 wA1
3. wG1 \bQ, b** *****
4. wB1 /bQ

However, Black's first move is not forced and White's attack can be stopped by Black Ant 3 entering the game east of Black Beetle 1:

1. bA3 -bB1
2. wG1 -wA1, bB1 wA1

The White attackers are now pinned and Black can start a counter-attack.

Puzzle #45

The sequence is:

1. wG2 /wA1, bA1 /wG2
2. wG3 /wG1, b** *****
3. wG3 wA1\, b** *****
4. wA1 /bQ, b** *****
5. wB2 bQ/

The kill spot south-west of the Black Queen needs to be filled first. White uses the two remaining Grasshoppers in reserve to create a pocket for White Ant 1. That allows White Ant 1 to move freely within the inner hive and to fill the penultimate kill spot.

Puzzle #46

The sequence, regardless of Black's moves, is:

1. wG3 /wS1, b** ****
2. wG3 wS1/, b** ****
3. wG3 wA2-, b** ****
4. wG3 /wG1, b** ****
5. wB1 bQ\, b** ****
6. wG3 \bQ

If White Grasshopper 3 spawns south-east of White Spider 2 aiming to jump next to the White Queen, Black will have time to release Black Beetle 2 and cover it.

Puzzle #47

White wins in 4 turns. There are multiple winning sequences. This is one of them:

1. wG3 \wQ, bB2 wG2
2. wB2 wL/, bL /bA3
3. wL wA1-, bA1 wP-
4. wP:wG3 wG1-

White must be careful with the order in which they execute their moves. Otherwise, Black will be able to defend successfully. Depending on Black's response, the two last turns may play out differently, but White will always be able to fill the remaining kill spots.

Puzzle #48

Black wins in 3 turns. For this puzzle there are two possible sequences after the initial Black move that frees Black Grasshopper 1.

Sequence 1:

1. bA1 bG1/
2. wA1 bB2\, bB2 bG1
3. wA1 /bQ, bB2 wQ\

Sequence 2:

1. bA1 bG1/
2. wB1 bB1, bG1 wQ\
3. wA1 /bQ, bG2 \wQ

Puzzle #49

The sequence is:

1. wA2 wB2-, bA3 /wB2
2. wA2 /bA3, b** ****
3. wS2 wB2-, b** ****
4. wA2 /wS2, b** ****
5. wB2 wG2, b** ****
6. wB2 bQ, b** ****
7. wB2 bQ/, b** ****
8. wB1 -bQ

If White starts the sequence by pinning Black Ant 3, Black can respond moving Black Ant 1 south-west of Black Beetle 1, releasing it and complicating the victory for White. In consequence, it is important to ensure that Black's first move is forced and Black's option to release Black Beetle 1 is eliminated. White Ant 2 freeing White Beetle 2 on the first move guarantees exactly that.

Puzzle #50

The sequence is:

1. bB1 wQ
2. wG1 \bG1, bP:wP \bP
3. w** ****, bM:wP -bM
4. w** ****, bB1 -wQ

The key to this puzzle is to open up a path for the White Pillbug to be warped to a killspot next to the White Queen. This is achieved by allowing White Grasshopper 1 to escape.

Puzzle #51

Black wins after 2 turns:

1. bA3 bS2\
2. wB2 wG1\, bG2 -wM
3. w** wQ\

With Black's second move, all of White's pieces are immobilised and the only legal move for White on turn 3 is to spawn a new piece in the last kill spot around their own Queen.

Puzzle #52

Black wins in 3 turns by forcing White to spawn new bugs in two of their own kill spots:

1. bB1 wB1
2. wA3 \wQ, bA3 \wA3
3. wB2 wQ/, bA2 wQ\

Puzzle #53

White can survive for 5 turns:

1. wL /bS1, bG2 wQ/
2. wA3 \bM, bB2 bS2
3. wB1 \wA3, bB2 wP
4. w** ****, bB2 wQ
5. w** ****, bB2 wQ-

To avoid an immediate defeat White must fill the hole in the ring, or break the ring. Jumping away with White Grasshopper 1 breaks the ring but the White Queen will be warped in, on Black's next turn, Black Beetle 1 will drop and win.

Puzzle #54

The sequence is:

1. bA1 wQ\
2. wM \wG1, bP:wB2 -bP
3. w** ****, bL wQ/

White needs to stop Black Ant 2 from filling the last kill spot. White has two mobile Ants that can easily stop new attackers as soon as they enter the hive. The White Mosquito placement threatens a White victory on the next turn. This forces Black to evacuate one kill spot. Warping White Beetle 2 to release the Black Ladybug prepares for the win and removes the White threat.

Puzzle #55

White wins in 4 turns:

1. wL bQ\, bM bB1/
2. w** wA2-, bA2 wS1/
3. wA1 /wG1, b** ****
4. wG1 bQ/

The type of piece spawned by White on their second move is irrelevant. Its only objective of the newly spawned bug is to contribute to the creation of the pocket for White Grasshopper 1.

Puzzle #56

Black wins in 7 turns:

1. bA2 /wQ
2. wA3 -bG2, bG3 \bB2
3. wA1 wM\, bP wA1-
4. wM bQ-, bP:wA1 /bP
5. wM:bA1 bQ\, bP:wM bP/
6. wA2 \bG3, bB2 bQ
7. w** ****, bB2 wQ-

It's a long sequence starting with Black attacking to put pressure on White. After the first couple of moves Black cannot sustain the pressure and White forces Black into defense by threatening to win on the next move. Black warps away White pieces until White cannot refill the vacated kill spot immediately. From that point onward, Black can continue the attack and win.

Puzzle #57

The sequence is:

1. bG2 bQ\
2. wA1 bG2\, bS2 wS1-
3. wS1 /bB1, bG3 bA2-
4. w** ***, bG2 \wQ
5. w** ***, bB2 wQ-

On turn 4, White may advance with White Beetle 2 to cover Black Beetle 2. In this case Black's moves 4 and 5 are executed in reverse order.

Puzzle #58

Black wins in 6 turns:

1. bS1 bQ\
2. wM bB1, bB2 bA1\
3. wP:bM \wP, bL wP\
4. wM wQ, bB2 bA1
5. w** ***, bB2 wP
6. w** ***, bB2 \wQ

This puzzle is from the game T!HV-csigeee-Quodlibet-2020-10-05-1505 in which Quodlibet solved the puzzle in real time. In the game, White defended slightly differently from the solution presented here.

Puzzle #59

The sequence is:

1. wG3 wA3-, bB2 /bA2
2. wG3 -bS2, bB1 wG3
3. wB2 \bQ, bB1 wG1
4. wG3 wB1-, bA3 wG3-
5. wB1 bB1, b** ****
6. wB2 bQ, b** ****
7. wB2 bQ/, b** ****
8. wB1 \bQ

Covering the Black Queen on the first turn would put White at a critical disadvantage since Black is able to surround the White's Queen in 3 turns. Black's first move stops White from jumping south-west with White Grasshopper 3, as that would lead to all of White's remaining attackers being pinned.

Puzzle #60

White wins in 3 turns:

1. wB1 bB1, b** ****
2. wP \wM, b** ****
3. wM:bQ wM/

Note how White creates a new spawn point by climbing with White Beetle 1. After the White Pillbug has been spawned the adjacent White Mosquito gains Pillbug power and can warp the Black Queen into the closed ring to claim an immediate victory.

References

- Puzzle #1: Loizz, "(I plan to post a lot of) Beginner's Puzzle(s)", posted in Hive: the Boardless Game Facebook group, Jan. 8, 2021. [FB]
- Puzzle #2: Loizz, "Puzzle for beginners", posted in Hive: the Boardless Game Facebook group, Jun. 7, 2020. [FB]
- Puzzle #3: Original puzzle, previously unreleased
- Puzzle #4: image13, "Hive Puzzle #26", BGG post, Mar. 10, 2014. [BGG] [Image]
- Puzzle #5: image13, "Hive Puzzle #13", BGG post, Dec. 17, 2013. [BGG] [Image]
- Puzzle #6: Original puzzle, previously unreleased
- Puzzle #7: Original puzzle, previously unreleased
- Puzzle #8: The_Entomologist, "Hive puzzle #48", BGG post, Sep. 17, 2019. [BGG]
- Puzzle #9: ForgGotten, "Puzzle 3", posted in the Telegram chat Hive: The boardless game, Oct. 1, 2020
- Puzzle #10: Original puzzle, previously unreleased
- Puzzle #11: Original puzzle, previously unreleased
- Puzzle #12: Loizz, "Beginner's Puzzle", posted in Hive: the Boardless Game Facebook group, Jun. 21, 2020. [FB]
- Puzzle #13: image13, "Hive Puzzle #20", BGG post, Feb. 1, 2014. [BGG] [Image]
- Puzzle #14: Gandac, "Quizzzzz #1", posted by Frasco on Hive: the Boardless Game Facebook group, Jan. 24, 2020. [FB]
- Puzzle #15: Original puzzle, previously unreleased
- Puzzle #16: ForgGotten, "Puzzle #5", posted in the Telegram chat Hive: The boardless game, Nov. 26, 2020
- Puzzle #17: Original puzzle, previously unreleased
- Puzzle #18: image13, "Hive Puzzle #19", BGG post, Feb. 1, 2014. [BGG] [Image]
- Puzzle #19: image13, "Hive Puzzle #22", BGG post, Feb. 25, 2014. [BGG] [Image]
- Puzzle #20: Original puzzle, previously unreleased
- Puzzle #21: image13, "Hive Puzzle #6", BGG post, Nov. 20, 2013. [BGG] [Image]
- Puzzle #22: The_Entomologist, "Hive puzzle #45", BGG post, Sep. 2, 2019. [BGG]
- Puzzle #23: The_Entomologist, "Hive puzzle #46", BGG post, Sep. 9, 2019. [BGG]
- Puzzle #24: The_Entomologist, "Hive puzzle #47", BGG post, Sep. 16, 2019. [BGG]
- Puzzle #25: Loizz, "Beginners Puzzle", posted in Hive: the Boardless Game Facebook group, Jul. 3, 2020. [FB]

- Puzzle #26: image13, "Hive Puzzle #27", BGG post, Mar. 10, 2014. [BGG] [Image]
- Puzzle #27: image13, "Hive Puzzle #7", BGG post, Nov. 20, 2013. [BGG] [Image]
- Puzzle #28: image13, "Hive Puzzle #11", BGG post, Dec. 3, 2013. [BGG] [Image]
- Puzzle #29: The_Entomologist, "Hive puzzle #50", BGG post, Sep. 30, 2019. [BGG]
- Puzzle #30: Loizz, "Beginner's Puzzle", posted in Hive: the Boardless Game Facebook group, Jul. 1, 2020. [FB]
- Puzzle #31: Gandac, "A slightly changed position", posted in Hive: the Boardless Game Facebook group, Jun. 11, 2020. [FB]
- Puzzle #32: Claudiulordache, "Re-re-edited", posted in Hive: the Boardless Game Facebook group, Jun. 16, 2020. [FB]
- Puzzle #33: Gandac, "A small puzzle, white to move", posted in Reddit, Jan. 21, 2020. [Reddit]
- Puzzle #34: image13, "Hive Puzzle #4", BGG post, Nov. 15, 2013. [BGG] [Image]
- Puzzle #35: ForgGotten, "Puzzle 2", posted in the Telegram chat Hive: The boardless game, Sep. 17, 2020
- Puzzle #36: image13, "Hive Puzzle". BGG post, Nov. 12, 2013. [BGG] [Image]
- Puzzle #37: image13, "Hive Puzzle #5", BGG post, Nov. 15, 2013. [BGG] [Image]
- Puzzle #38: image13, "Hive Puzzle #8", BGG post, Nov. 22, 2013. [BGG] [Image]
- Puzzle #39: Original puzzle, previously unreleased
- Puzzle #40: image13, "Hive Puzzle #15", BGG post, Jan. 15, 2014. [BGG] [Image]
- Puzzle #41: image13, "Hive Puzzle #18", BGG post, Jan. 15, 2014. [BGG] [Image]
- Puzzle #42: Gandac, "Easier but cute", posted in Hive: the Boardless Game Facebook group, Jun. 10, 2019. [FB]
- Puzzle #43: Jonask, "From a game", posted in Hive: the Boardless Game Facebook group, Sep. 24, 2020. [FB]
- Puzzle #44: image13, "Hive Puzzle #3", BGG post, Nov. 13, 2013. [BGG] [Image]
- Puzzle #45: image13, "Hive Puzzle #14", BGG post, Dec. 17, 2013. [BGG] [Image]
- Puzzle #46: image13, "Hive Puzzle #25", BGG post, Mar. 10, 2014. [BGG] [Image]
- Puzzle #47: Loizz, "From world championship game gandac vs. neighlles", posted in Hive: the Boardless Game Facebook group, May 27, 2020. [FB]
- Puzzle #48: image13, "Hive Puzzle #2", BGG post, Nov. 13, 2013. [BGG] [Image]
- Puzzle #49: image13, "Hive Puzzle #10", BGG post, Dec. 3, 2013. [BGG] [Image]
- Puzzle #50: Eucalyx and image13, "Hive Puzzle #16", BGG post, Jan. 15, 2014. [BGG] [Image]

- Puzzle #51: image13, "Hive Puzzle #17", BGG post, Jan. 15, 2014. [BGG] [Image]
- Puzzle #52: Claudiulordache, "Puzzle", posted in Hive: the Boardless Game Facebook group, Dec. 16, 2020. [FB]
- Puzzle #53: djibouss, "From a game I've just lost on BGA", posted in Hive: the Boardless Game Facebook group, Jun. 26, 2020. [FB]
- Puzzle #54: lhailanen, "Puzzle 4", posted by ForgGotten on the Telegram chat Hive: The boardless game, Nov. 11, 2020
- Puzzle #55: Frasco, "Quizzzzz #2", posted by Frasco on Hive: the Boardless Game Facebook group, Jan. 24, 2020. [FB]
- Puzzle #56: Loizz, "Beginner's Puzzle", posted in Hive: the Boardless Game Facebook group, Jun. 25, 2020. [FB]
- Puzzle #57: image13, "Hive Puzzle #9", BGG post, Nov. 22, 2013. [BGG] [Image]
- Puzzle #58: Jonask, "Puzzle from the Hive World Championship 2020", posted in Hive: the Boardless Game Facebook group, Oct. 8, 2020. [FB]
- Puzzle #59: image13, "Hive Puzzle #23", BGG post, Feb. 25, 2014. [BGG] [Image]
- Puzzle #60: Original puzzle, previously unreleased

About the authors

Enrique Sedano is a Computer Engineer with a PhD in Electronics living and working in Cambridge, UK. He is an avid reader of science-fiction and fantasy and an enthusiast board gamer. He has been playing Hive for nearly 4 years, has led Hive training sessions and shared his enthusiasm for the game at his workplace. He also contributed to the organisation of the first Hive Rapid Tournament.

Jonas Kronander has a PhD in string theory and lives just north of Stockholm in Sweden. He has an interest in mathematics, programming and logical puzzles but also enjoys running and skiing. Since he discovered Hive in April 2020 he has been actively engaged in the Hive community. He has designed puzzles, investigated Hive opening statistics, manufactured custom Hive pieces and co-organized the first two iterations of the Hive Rapid Tournament.

Christian Sperling is a photographer and former architect from Berlin, Germany, now living in Brisbane, Australia. Since 2008 he is hooked on Hive, won the 2014 Hive Online World Championship and finished 4x as the runner-up. Over the years he has trained innumerable players and helped publishing several books about the game. He is also the creator of the Hive Dragonfly, a popular unofficial expansion piece.

If you enjoyed Hive Puzzles Volume One, why not supporting us?
Buy us a coffee at https://www.buymeacoffee.com/hive_puzzles

The hive constellation shown on the front page was created by Enrique. He built a random position that would fit nicely on the cover. After having arranged the bugs arbitrarily into a somewhat realistic position he noticed that it was indeed a functional puzzle. It was used in one of the pre-release teasers posted on social networks along with the description "Black to move and win in 3 turns". It became apparent that the puzzle was trickier than initially expected. For that reason we decided to include the solution for it here:

1. bA3 bB1\
2. wA1 /bA3, bM /bA1
3. w** ****, bM -wQ

The key is to ensure that Black can win no matter if the White Queen is being warped away or staying in place. Black needs another bug with ant mobility, placed at a position where White cannot pin it and create a gate around the last kill spot at the same time. Furthermore, that additional bug should not prevent the Black Grasshopper from winning in case the White Queen is warped to the north-east of the White Pillbug. The placement of the Black Mosquito south-west of Black Ant 1 achieves exactly that. The option to climb up the hive with Black Beetle 1 is not target-oriented. White Ant 1 can prevent Black from performing a direct drop and drag the game out.



PUZZLES

Do you fancy a new Hive challenge? Looking to improve your end game skills? Then this compilation with 60 tricky puzzles from beginner to master level is for you.

Take a peek in the hint section when you are struggling and compare your solutions with the proposed move sequences at the end of the book.

All challenges are clickable and linked to an online Hive editor for convenient puzzle solving.

Have fun and enjoy!

*Believe me:
You will want to
get yourself a copy!*

Randy Ingersoll
Hive Online World Champion 2011