根詰まり-Root Bound

By Christopher Field

In Root Bound, two groups of 'plants' spread in lifelike ways and vie for control of territory as space for new growth rapidly dwindles.

A descendant of the Go family of games, Root Bound draws inspiration from Mark Steere's *Take*, Michael Amundsen's *Cavity*, and Michael Amundsen and Luis Bolaños Mures's *Lifeline*.

Thank you to Matt Curtis for helping play test as the game evolved.

EQUIPMENT:

Root Bound requires sufficient pieces in two colors and a hexagonal board. The official board has 7 spaces to a side, but other sizes may be played. It may also be played on a centerless hexagonal board.

DEFINITIONS:

Claimed Region:

A Claimed Region is an area of empty spaces that is surrounded by pieces of a single color. No spaces are Claimed Regions until both players have had a turn.

Live Group:

A group of pieces is considered 'live' if any of the pieces in that group are adjacent to a Claimed Region.

Dead Group:

A group of pieces is considered 'dead' if it is cut off from all other ally groups and is not otherwise a Live Group.

PLAY:

Turns alternate. On the first player's first turn, they must place one piece onto any empty space. On the second player's first turn, they must place two pieces onto non-adjacent spaces. From then on, players must place 1 or 2 pieces onto empty spaces, noting the placement restrictions below, or pass. At the end of each player's turn, starting on their second turn, they remove all Dead Groups that belong to their opponent.

Note: Other than the first player's first turn, players are not allowed to reduce themselves to a single group unless that group is a Live Group. This protects new players from making this common mistake.

PLACEMENT RESTRICTIONS:

There are three placement restrictions to remember:

- 1) A piece may not be placed in a Claimed Region.
- 2) A piece may not be placed adjacent to two or more ally pieces if those pieces are also neighbors of each other; i.e., do not form any small triangles of one color.
- 3) When placing two pieces adjacent to each other in a turn, they may not form a straight line with a third pre-existing piece of their color. Rapid growth cannot go in a straight line.

END OF GAME:

The game ends when both players pass consecutively. Remove groups that are not Live Groups and are cut off from ally Live Groups. Start with the smallest groups and remove them all at once. This process may change larger groups into Live Groups. Repeat this process for the next smallest groups and continue until all groups are Live Groups or are not cut off from ally Live Groups.

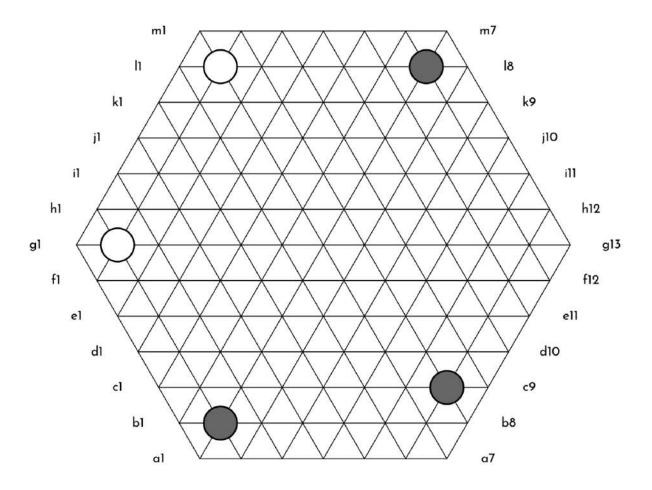
Players score the number of their pieces remaining on the board plus the number of empty spaces in Claimed Regions adjacent to their groups. The highest score wins. If there is a tie, the player who passed first is the winner.

TIPS:

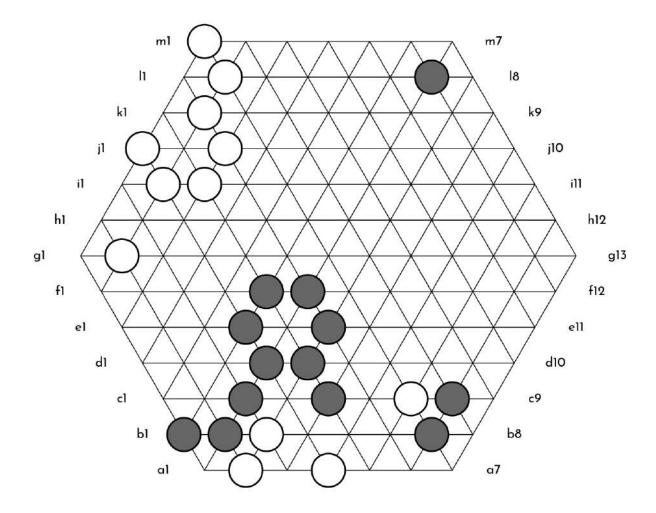
Live groups are easiest to secure near the corners or along the edges. Play there first. But do not get too greedy by trying to secure too much space. It is very easy for the enemy to invade and ruin your plans.

EXAMPLES:

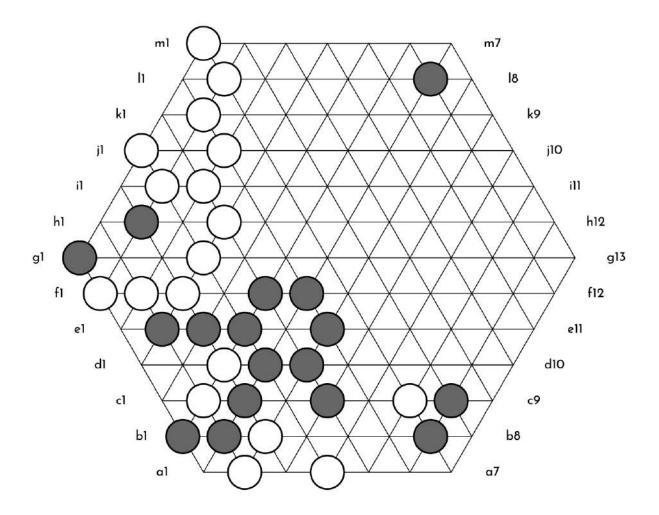
Below are some examples to help showcase the rules above.



The players have spent the first few turns of the game creating several groups. They have played near the corners, where it is easiest to claim territory.

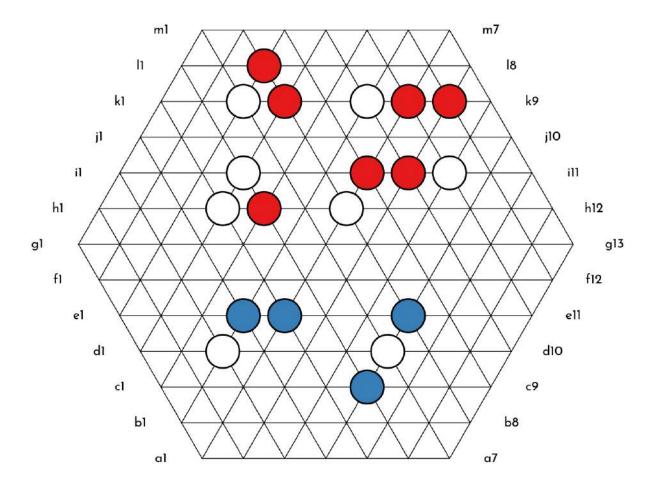


The white pieces have claimed a region on the upper-left side of the board and will score 3 points for it at the end of the game. The black pieces have claimed a region in the middle of the board and will score 1 point for it at the end of the game.



The player with the black pieces is about to play at e1. When they do, it will make a Claimed Region worth 5 points because the two-piece group at c2 and d3 will be a Dead Group and be removed.

The player of the white pieces, on the other hand, will not get to make a Claimed Region at the left corner of the board. The black pieces are not Dead Groups. And, due to placement restrictions on the white pieces, there will eventually be black pieces on g2 and i1. This will create a small Claimed Region and cause the black pieces to form a Live Group which will not be removed.

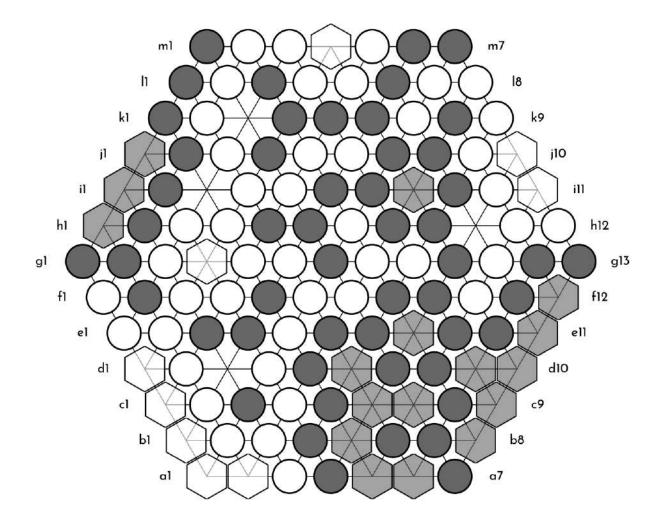


Example positions to demonstrate legal placements and placement restrictions. This is not a valid board position.

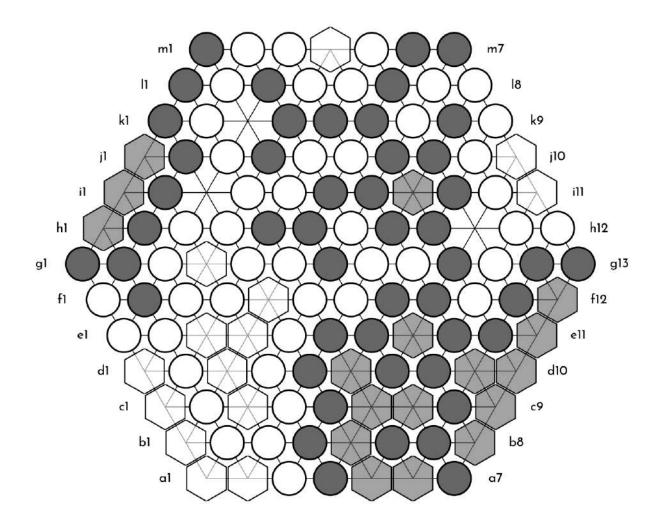
The white pieces represent pre-existing pieces that were on the board at the start of the turn.

The red pieces represent placements that *cannot* be made because of placement restrictions. Placements cannot form triangles and cannot grow in a straight line away from an existing piece.

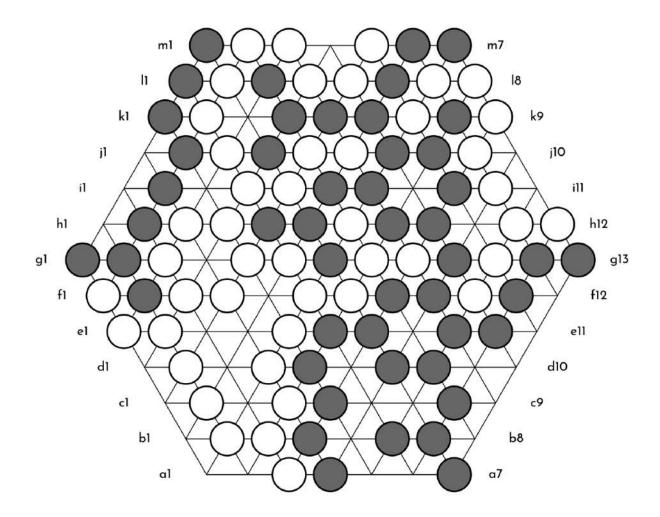
The blue pieces represent placements that *can* be made. Placement restrictions do not prohibit bent growth nor linear growth on opposite sides of an existing piece.



A game that is about to finish. Both players have passed. Note the pieces on c3, e3, e4, and f5. They are not Dead Groups because they are not cut off from each other, but they are cut off from Live Groups and will be removed.



A completed game with the scoring Claimed Regions marked. Black wins 65 to 59.



The same game without scoring highlights.