

## General Rules


















- **Landform** = row of placards, including its deck. <sup>C0e</sup>
- **Atrophy**: Discard a cube to the soup or return a biont to its owner, who adds 1 catalyst of their color from the soup to their tableau pool. Atrophy must happen in this order. <sup>D6b, glossary</sup>
  - mutation cubes - I guess this includes diseased cubes, because the glossary has special rules for atrophied diseased cubes, but I don't understand them.
    - If an unpromoted mutation loses its + cube, discard it to the bottom of the deck in the organism's home row.
    - If a promoted mutation loses its + cube, flip it to its unpromoted side, carrying the non-+ cube back to be its original + cube self on the unpromoted side.
    - If a promoted mutation loses its **non-+** cube, nothing further happens immediately; however, if it later loses its + cube, then it flips to its unpromoted side, has no cube for the + space on this side, and is discarded to the bottom of the deck in the organism's home row.
  - chromosome cubes / organ cubes
  - chromosome bionts / foreign gene bionts / endosymbiont bionts
  - A: trophic bionts**
- **Extinction**: If your non-parasite organism goes extinct, you retrieve its placard/card as a trophy for 1 VP at game end. If your parasite goes extinct, you retrieve its card for reuse. <sup>A4d</sup> **MPC: If AI ends up with a macroorganism parasite because your host goes extinct, the parasite does, too, and AI keeps it as a trophy.** <sup>L7e</sup>
- **Home row**: <sup>E2</sup>
  - Microorganism: The landform icon on the left edge of its placard.
  - Macroorganism:
    - Marine: ocean.
    - Terrestrial: continent.
  - **(I: Skip) Parasite**: Same as its host.
- **Wantonness** = <sup>H5r</sup> on all of your microorganism's mutations + <sup>H5r</sup> on microorganisms in which you are a foreign gene. <sup>A6b</sup>
- Your **tableau pool's catalysts** are limited to  $12 \div p$  of each color, where  $p$  is the number of players (**1p: 6 C<sup>1</sup>, 2p: 6, 3p: 4, 4p: 3**). <sup>B3b</sup>
- Whenever a biont returns to your tableau pool due to manna death <sup>F2a</sup>, atrophy, or extinction, add 1 catalyst of your color from the soup to your tableau pool. <sup>B4a</sup>
- **Roil a deck**: Cycle its top card to the bottom. <sup>D2b</sup>
- **A: Some macroorganism organs and endosymbionts grant abilities depicted in attached bubbles. If 2 organs share a bubble, each organ grants those abilities; so, yes, having both organs grants them twice.** <sup>H5a</sup>



**Play** <sup>A</sup> — Each round (200,000,000 years <sup>A5</sup>) comprises the following 5 phases:

- Events** <sup>A1, D</sup>
  - Until you reveal an event without , flip the top event onto the event discard, combining its icons with the  cards revealed this phase. <sup>D1</sup>
  - The last of the events you just drew depicts the player order. <sup>A6</sup>
  - Note**: If the final card of the game has , keep the previous round's player order. <sup>A6</sup>
    - **A: After Tropical Waterworld**, place it atop the continent landform until the next . While this card is there, the continent row is inactive, all earth events <sup>D3</sup> skip the continents row (no roiling; no adding continent refugia), and runaway greenhouse is triggered by   . <sup>D1b</sup>
  - **Flip** the landform cards to match the landform icons on the last event drawn. <sup>A1b, D2, D3</sup>
  - For each active landform, **roil** its mutation deck. <sup>A1b, D2b</sup>
  - Apply event icons to all players. <sup>A1c</sup> Apply event icons to all refugia and organisms, even in inactive landforms. <sup>D</sup>
    -   **New Refugium**: For each  , draw a refugia card from under the **highest/lowest** active landform in the column [with placards remaining <sup>D3</sup>], and place it at the right end of its row. <sup>D3a</sup> Load its disorganized field with the indicated manna cubes from the pool. <sup>D3b</sup>
    -  **Radiation Smite**: For each , each refugia [without  <sup>D4b</sup>] loses its rightmost enzyme; if no enzymes, it loses a manna cube (leftmost on the placard; if it is both organized and disorganized, remove the disorganized one). <sup>D4</sup> If this leaves a refugia without cubes, remove it from the game, returning the bionts to their owners. <sup>D4a</sup>
    -  **Extreme Temperatures**: Sum the  (and only apply this effect once for all of them, when evaluating the first one). For each organism, subtract its  (red chromosomes + this icon on mutations), and if the result is positive, it suffers that many **atrophies**. <sup>D5</sup>
    -  **O<sub>2</sub> Spike**: Sum the  (and only apply this effect once for all of them, when evaluating the first one). Each player subtracts each of their organism's , and if the result is positive, it suffers that many atrophies. <sup>D6</sup> You may opt to atrophy antioxidants or vitamins instead of cubes or bionts. <sup>D6b</sup>
    -  **UV Radiation**: The number in  indicates the maximum mutations/organs each organism can have. In player order, discard each organism's mutations/organs down to that limit. <sup>D7</sup>
      - Discard any mutation cubes on discarded mutation cards. <sup>D7a</sup>
      - If the organism has no , it must lose healthy mutations before diseased mutations. <sup>D7b</sup> **MPC: AI will try to get rid of yours first.** <sup>L7c</sup>
      - Discarded mutations go face up under the mutation deck in the organism's home row. <sup>D7c</sup>
        - **A: If a macroorganism has an organ or occupied endosymbiont space with , the entire organism is safe from UV.** <sup>D7d</sup>
    -  **A: Cancer**: If  appears, each macroorganism must roll 1 die for each organ and 2 dice for each biont. It suffers 1 atrophy for each 5–6 more than its number of blue chromosomes that it rolls. <sup>D8</sup>
      - If the macroorganism has , ignore 5s. <sup>D8a</sup>
      - For each 1 you rolled, generate 1 catalyst of any color, and add it to your tableau pool. <sup>D8b</sup>
    -  **A: Drought**: If  appears, each **terrestrial** macroorganism suffers 1 atrophy, unless it has an organ or endosymbiont with . <sup>D9</sup>
    -   **(I: Skip <sup>C3</sup>) A: Global Cooling/Warming**:   is in effect for autocatalytic rolls (                                        until the opposite occurs. <sup>D10</sup>
      - If last 4 climate change icons are                                             



- v. If your roll included any doubles, and you still have a biont here, you may take and flip the refugium to become a microorganism. <sup>A3c, F3</sup> If your roll included any doubles, and you no longer have any bionts here, pick someone who does, who may take the microorganism. <sup>F4e</sup>
- **I: Return other players' bionts to them. For each biont they get back, they take a same-color catalyst from the soup.** <sup>C3</sup>
  - Put all organized manna (bionts/cubes <sup>F1a</sup>) in the chromosome fields as chromosomes. <sup>F3a</sup> Other players' bionts therein are called **foreign genes**. <sup>F4d</sup>
  - Discard all enzymes and disorganized manna to the soup. <sup>F3a, F3b</sup>
4. **Darwin Roll** <sup>A4, G</sup> — in player order <sup>A6</sup> (most wanton player can be first player for the phase <sup>A4</sup>)
- For each of your microorganisms (bacteria/parasites), in whatever order you like. <sup>A4, G</sup>
  - i. Make a Darwin roll (1 die per cube + 2 dice per biont). A host never includes its parasite or the parasite's diseased cubes in the host's roll. <sup>G0a</sup>
  - ii. You may reroll **once** a number of dice up to the number of yellow chromosomes it has. <sup>A4a, G1</sup> **1p: AI will only reroll errors.** <sup>C1e</sup>
  - iii. For each triple you rolled, add 1 catalyst, of the color indicated in the lower-right corner of the placard (for a microorganism) / the color of your parasite card (for a parasite), to your tableau pool. <sup>G2, G2a</sup>
  - iv. For each 1 you rolled, add 1 catalyst, of the color indicated in Metabolism Chromosomes (Phase 4) on the placard (for a microorganism) / the color of your parasite card (for a parasite), **per red chromosome** it has to your tableau pool. <sup>G2, G2a</sup>
  - v. **Errors:** Each 6 you rolled is an error. If it does not have , each 5 you rolled is also an error. <sup>G3</sup>  
**M: Instead, each 6 you roll is an error if it does not have  (and 5 is never an error).** <sup>C4</sup>
  - vi. **CC: You may discard 1 error die to purchase <sup>H1</sup> or promote <sup>H2</sup> 1 mutation.** <sup>G4</sup> (If it has , you may discard 2 to for 2, instead. <sup>G4a</sup>)
  - vii. For each error beyond the number of blue chromosomes it has, it suffers 1 **atrophy**. <sup>G3</sup>  
— Atrophies (token losses) & Extinctions. <sup>A4c, A4d</sup>
5. **(CC: Skip) Purchase** <sup>A5, H</sup> — in player order <sup>A6</sup> (most wanton player can be first player for the phase <sup>A5</sup>); exception: parasite purchases right after its host; <sup>A5</sup> may pass. <sup>A6d</sup> **C: The AI of your color goes right after you.** <sup>C2a</sup>
- For each of your bionts in an organism, you may spend 1 catalyst <sup>H0a</sup> to make 1 purchase (a new mutation <sup>H1</sup>, mutation promotion <sup>H2</sup>, **marine macroorganism** <sup>H3</sup>, red queen <sup>H4</sup>, or organ <sup>H5</sup>) <sup>A5b</sup> for that organism (if the organism has , you may make 2 sequential purchases, instead <sup>H0e</sup>). <sup>A5a</sup> **1p: For AI bionts that are foreign genes or endosymbionts in your organisms, you may use them to make purchases; otherwise, the AI does.** <sup>C1b</sup> **[MPC: It evolves into a marine macroorganism if it can; if not, buys an organ if it can; <sup>L7a</sup> if not, it will red queen to fill its organ slots; <sup>L7b</sup> if not, it will try to become a terrestrial macroorganism; <sup>L7d</sup> if not] It promotes a mutation if it can; if not, buys a mutation.** <sup>C1d</sup>
  - H0e, which agrees with A5e, but has some conflict with B3a's note and H0g. "Should say must."
  - H0f
  - H0g, which agrees with B3a's note, but disagrees with A5e and H0e. "Should say must."
  - The catalysts spent come from the organism's pool, such that parasites **must** spend from their host's tableau pool. <sup>A5e</sup>
  - If it has , you can use any color of catalyst. <sup>H0d</sup>
  - Otherwise, the color of the catalyst is determined by what you buy (you may spend any identical pair of catalysts, instead): <sup>A5d, H0a</sup> **req.  color mutation color**
  - **Buy a microorganism mutation** <sup>H1</sup>
    - **(I: Skip <sup>C3a</sup>) 1p: AI randomly chooses a mutation it can afford to buy.** <sup>C1d</sup>
    - For each  the recipient has, you may **roll** a mutation deck in either an active row or the recipient organism's home row. <sup>H1a</sup> **1p: AI will do this to a random deck from which it cannot buy.** <sup>C1f</sup>
    - Without peeking at its back, take the topmost mutation card from either an active row or the recipient organism's home row. <sup>H1</sup>
    - Place the mutation in a row beside its recipient. For a parasite, to the left, for a bacterium, to the right. <sup>H1</sup>
    - Add a **mutation cube** on the + cube space of the mutation, matching the color of the space. <sup>H1b</sup>
    - All of the mutation's abilities are immediately in effect, except , which kicks in next round. <sup>H1c</sup>
    - If the mutation has any kind of **Pollution!**  **SPIKE**, it makes an immediate **oxygen spike attack** against **all** other organisms in its row. <sup>H1d</sup> Count the recipient's green chromosomes. Each player subtracts each of their organism's , and if the result is positive, it suffers that many atrophies. <sup>D6</sup> You may opt to atrophy antioxidants or vitamins instead of cubes or bionts. <sup>D6b</sup>
  - **Promote a microorganism mutation** <sup>H2</sup> [unpromoted] **mutation color**
    - **(I: Skip <sup>C3a</sup>) 1p: AI randomly chooses a mutation it can afford to upgrade.** <sup>C1d</sup>
    - Flip the mutation to its promoted side, carrying the mutation cube over to this side. <sup>H2</sup>
    - Add a **mutation cube** on the + cube space of the promoted mutation, matching the color of the space. <sup>H2a</sup>
    - The unpromoted mutations abilities immediately lose effect. <sup>H2b</sup>
    - All of the mutation's abilities are immediately in effect, except , which kicks in next round. <sup>H2c</sup>
    - If the promoted mutation has any kind of **Pollution!**  **SPIKE**, it makes an immediate **oxygen spike attack** against **all** other organisms in its row. <sup>H1d</sup> Count the recipient's green chromosomes. Each player subtracts each of their organism's , and if the result is positive, it suffers that many atrophies. <sup>D6</sup> You may opt to atrophy antioxidants or vitamins instead of cubes or bionts. <sup>D6b</sup>
  - **A: Evolve a bacterium (MPC: or parasite, <sup>L1</sup> but not hyperparasite <sup>L1b</sup>) into a marine macroorganism** <sup>H3</sup> **any**
    - The bacterium plus its mutations (but not its parasites) must contain the cubes indicated in the "barcode" along the left edge of the macroorganism you select. **Spend those cubes**, which are now represented by the **system chromosomes barcode**. <sup>H3a</sup> The system chromosomes still serve the chromosomal roles depicted on the bacterium placard. <sup>H3c</sup>
    - Take any available **macroorganism card** and place it atop the bacterium placard. <sup>H3</sup>
    - Move the leftover cubes onto the **organ spaces** on the macroorganism, then discard the remainder of the cubes. <sup>H3b</sup>
    - **MPC: If this is a parasite, discard any host mutations that lost all of their cubes as diseased cubes (now discarded).** <sup>L1</sup>
    - If all of the macroorganism's organ spaces are filled (counting its parasite's diseased cubes as if they filled organ spaces <sup>H5e</sup> and macroorganism symbiotes may count each other's; however, if only one becomes terrestrial, the other becomes extinct, regressing to a microorganism <sup>L5e</sup>), it immediately becomes a **terrestrial macroorganism (MPC: if it has a macroorganism parasite, do the same for it after its host; <sup>L5a</sup> however, if one of the symbiotes is a terrestrial macroorganism already, others cannot count symbiotes' organs <sup>L5f</sup>).** <sup>H3b</sup> Discard all of its organ cubes, antioxidants (   <sup>E5a</sup>), and vitamins ( <sup>E5b</sup>) to the soup, then flip it over. Carry the trophic level biont and endosymbionts over to this side. <sup>H5d</sup> Discard its parasite's cubes. <sup>H5e</sup>
    - Put the organism owner's biont in the lowest **trophic level** of **CHP** that no macroorganism in this row has claimed. If all 3 were already claimed, set it beside **CHP**. <sup>H3c</sup> This biont still serves the chromosomal roles depicted on the bacterium placard. <sup>H3c</sup>
    - Move the other bionts from the bacterium and its possible parasite (including foreign genes) onto the **endosymbiont spaces** on the macroorganism, then return the remainder to their owners, and for each biont returned, add 1 catalyst of the same color from the soup to their tableau pool. <sup>F2b, H3d</sup>

- **MPC:** If this is a parasite, and its host is a microorganism, the host's symbionts become endosymbionts in this; however, the remainder stay in the host. <sup>L1a</sup>
- If the bacterium had a parasite that had a hyperparasite, because the parasite is now assimilated into the macroorganism, the hyperparasite becomes a parasite of the macroorganism (without any diseased cubes, of course; they went away above). <sup>H3e</sup>
- Discard the bacterium's mutations to the bottom of its home row's deck. <sup>H3f</sup>
- Discard the bacterium's antioxidants (●●● <sup>E5a</sup>) and vitamins (● <sup>E5b</sup>). <sup>H3f</sup>
- If this is the first macroorganism in the game, remove all event cards from the deck that are not from the proterozoic era. <sup>H3g</sup>
- **A: Buy organ for macroorganism** <sup>H5</sup> **organ cube color**
  - If all of the macroorganism's organ spaces are filled (counting its parasite's diseased cubes as if they filled organ spaces <sup>H5e</sup>), it immediately becomes a **terrestrial macroorganism**: <sup>H3b</sup> Discard all of its organ cubes, antioxidants (●●● <sup>E5a</sup>), and vitamins (● <sup>E5b</sup>) to the soup, then flip it over. Carry the trophic level biont and endosymbionts over to this side. <sup>H5d</sup> Discard its parasite's cubes. <sup>H5e</sup>
- **(I: Skip <sup>C3</sup>) Red queen:** Host steals parasite's cube (if it has none, biont <sup>H4a</sup>), or parasite steals host's cube. <sup>H4</sup> **color of cube to steal**
  - **Cost exception:** If you are Yellow, you don't have to pay to steal from a parasite. <sup>H4d</sup>
  - The organism must have . <sup>H4</sup>
  - Either the organism must have more than its target, or you must have permission from the target's owner (**1p: AI never grants permission** <sup>C1g</sup>). <sup>H4</sup>
  - **A:** If a macroorganism steals a cube from its parasite, but has no suitable organ space for it, discard it. <sup>H4b</sup>
  - If an organism steals the last biont from its parasite, the parasite goes extinct. <sup>H4a</sup>
- **A:** If a marine macroorganism was created, went extinct, or changed its red or yellow chromosomes, rearrange the trophic level bionts of all marine macroorganisms according to **metabolic rate**: lowest, **P**; second-lowest, **H**; third-lowest, **C**; resolve ties randomly. <sup>H6a</sup>
  - **Metabolic rate** is the macroorganism's total number of red and yellow chromosomes, including system chromosomes. <sup>H6b</sup>
  - If there is a 4th marine macroorganism, in turn order, each player does the following for each of their marine macroorganisms: <sup>H6c</sup>
    - If you have enough catalysts to buy the rest of its organs (counting its parasite's diseased cubes as if they filled organ spaces <sup>H5e</sup>), you may do so to make it terrestrial. <sup>H6c</sup>
    - Players with endosymbionts in it may contribute. <sup>H6c</sup>
    - You may spend extras to buy organs for the newly terrestrial macroorganism. <sup>H6c</sup>
    - Until there are only 3 marine macroorganisms, the marine macroorganism with the lowest metabolic rate goes extinct; shift trophic levels of the survivors. <sup>H6d</sup>
- **A:** If a terrestrial macroorganism was created, went extinct, or changed its red or yellow chromosomes, rearrange the trophic level bionts of all terrestrial macroorganisms according to **metabolic rate**: lowest, **P**; second-lowest, **H**; third-lowest, **C**; resolve ties randomly. <sup>H6a</sup>
  - Until there are only 3 terrestrial macroorganisms, the terrestrial macroorganism with the lowest metabolic rate goes extinct; shift trophic levels of the survivors. <sup>H6d</sup>

**Game End** — Tally your total VP as follows (**1p: Instead, if you have bionts in 2 marine macroorganisms [MPC: after subtracting AI's living and trophy macroorganisms <sup>L7j</sup>], you win; if in 2 terrestrial macroorganisms [MPC: after subtracting AI's living and trophy macroorganisms <sup>L7j</sup>], you win big**): <sup>I1</sup>

- 1 VP for each **cube (and system chromosome)** on your organisms (bacteria, parasites, macroorganisms) and their mutations. <sup>I1a</sup>
- 1 VP for each of **your bionts** in anyone's organism. <sup>I1b</sup>
- **A:** 1 VP for each of **your extinct organisms**. <sup>I1c</sup>
- **A:** Shared equally among all players with any bionts on it: <sup>I1d</sup>
  - 12 VP if your marine macroorganism (**MPC: which may be a symbiote <sup>L6</sup>**) is at the highest marine trophic level of all marine macroorganisms; 6 VP if it isn't. <sup>I1d</sup> **MPC: Double the VP if it is a symbiote in an all-macroorganism symbiosis. <sup>L6</sup>**
  - 12 VP if your terrestrial macroorganism (**MPC: which may be a symbiote <sup>L6</sup>**) is at the highest marine trophic level of all terrestrial macroorganisms; 6 VP if it isn't. <sup>I1d</sup> **MPC: Double the VP if it is a symbiote in an all-macroorganism symbiosis. <sup>L6</sup>**

In a tie, the tied player with more catalysts wins.

**The Sequel:** You can carry these results into a game of **Bios: Megafauna** if you like, following those instructions: <sup>K</sup>

**Setup <sup>C</sup>**

1. Dump all the cubes and catalyst discs in a bowl to form the *soup*. <sup>C0b</sup>
2. Each player takes a random color (**1p: choose 2 <sup>C1</sup>**) and does the following: <sup>C0a</sup>
  - a. Take the 4 <sup>B4</sup> (**4p: 3 <sup>B4</sup>**) (**C: 3 <sup>C2</sup>**) biont domes in this color. <sup>C0a</sup>
  - b. **(I: Skip <sup>C3a</sup>) 1p: For each of the other 2 colors, place a cube under 1 biont for the AI player, who will use its parasites. <sup>C1c</sup>**
  - c. **C: Each player places a cube under their 4th biont for the AI. <sup>C2a</sup>**
  - d. Flip 1 biont upside down to show that it is unassigned. <sup>C0a</sup>
  - e. **(I: Skip <sup>C3</sup>)** Take the parasite card of this color. <sup>C0a</sup>
  - f. Take 1 catalyst disc of your color from the soup, and place it in a **tableau pool** (a pool of unassigned bionts and catalysts in your tableau <sup>B3a</sup>) with your bionts. This is an unassigned catalyst. <sup>C0c</sup>
3. Shuffle the event cards; separate them by eon. Stack Hadean atop Archean atop Proterozoic. Remove bottom 1 (**S: 4 <sup>C0d</sup>**) and top 3 cards unseen. <sup>C0d</sup>
4. Shuffle the refugia placards; separate them by landform. Place these decks, bacterium side down, in a column: cosmic, ocean, coastal, continental. <sup>C0e</sup>
5. Place each landform card, inactive side up, atop its refugium. <sup>C0f</sup>
6. Shuffle the mutation cards. Set a 5-card deck left of each refugium, RNA (i.e. single strand, not DNA, which is double strand) side up. <sup>C0g</sup>
7. Stack the macroorganism cards where everyone can access them. <sup>C0h</sup>

**Legend**

black	Bios: Genesis (2 <sup>nd</sup> edition) base game	red	<b>C</b>	Cooperative game (requires 1p) <sup>C2</sup>	purple	<b>A</b>	Advanced game
blue	<b>S</b> Short game <sup>C0a</sup>	green	<b>I</b>	Introductory game (incompatible with A) <sup>C3</sup>	cyan	<b>CC</b>	Crystal Catastrophe variant <sup>C4</sup>
magenta	<b>1p</b> 1-player game (requires CC) <sup>C1</sup>	yellow	<b>M</b>	Macro variant (requires A; for sequel <sup>K0a</sup> ) <sup>C4</sup>	orange	<b>MPC</b>	Macro Parasite Chimera variant <sup>L</sup>

**Revision Log**

0.9 Phil Eklund ruled on the a5e/H0e *must* versus B3e/H0g *may*: all should say *must*.