Making Thumbnails for Plaque and EM Pictures for PhagesDB

OBJECTIVE

Create thumbnail images for display on a phage page on PhagesDB.org by appropriately cropping larger images files.

BACKGROUND

At PhagesDB, we don't want to lose any of the information you submit, that's why we'll always have links to the full plaque picture and EM picture you submit. At the same time, we also want a "quick view" of a phage's plaques and morphology on its home page, and we want these thumbnails to be somewhat standardized so that comparisons can be made from one phage to another. This document describes the format for making these thumbnails.

THUMBNAIL SPECIFICATIONS

- Must be **200 pixels by 200 pixels**.

- Must be either a **.jpg, .jpeg, or .png** file.

- Must be **black and white**, no color images.

- Should be relatively low-memory if possible (< 100kb).

- Appropriate modifications can be made using Photoshop or similar program.

PLAQUE THUMBNAIL SPECIFICATIONS (see examples below)

- Thumbnail should show about ¼ of the total plate. This should be the upper-left ¼, though images can be rotated if there's a better quarter in the original image.

- Ideally, a dilution that shows at least several separated plaques should be used. Whenever possible, avoid using images where all plaques are bunched together, or where there's only a single plaque visible.

- **Do not use images from spot tests or streak plates!** Spots or streaks of plaques aren't good representations of typical plaque morphology. Use pictures where the phage has been plated across the entire plate.

- Name should be **PhageName_Plaque_Thumb.ext** where "PhageName" is your phage's name and "ext" is png, jpg, or jpeg depending on your image type. For example:

 **Giles_Plaque_Thumb.jpg**

ELECTRON MICROGRAPH THUMBNAIL SPECIFICATIONS (see examples below)

- Thumbnail should show a **single complete virion particle**, if possible. Avoid multiple or overlapping particles.

- The particle should be approximately **vertically oriented**, with the capsid at the top.

- The particle's height should be between ~50% and ~80% of the picture's height. Meaning: don't make the particle so small that it takes up less than half the height, and don't make it so large that it takes up the entire frame.

- Do not cut off the end of the tail or any part of the capsid when cropping.

- Name should be **PhageName_EMPic_Thumb.ext** where "PhageName" is your phage's name and "ext" is png, jpg, or jpeg depending on your image type. For example:

    Corndog_EMPic_Thumb.png

PLAQUE THUMBNAILS, GOOD EXAMPLES:
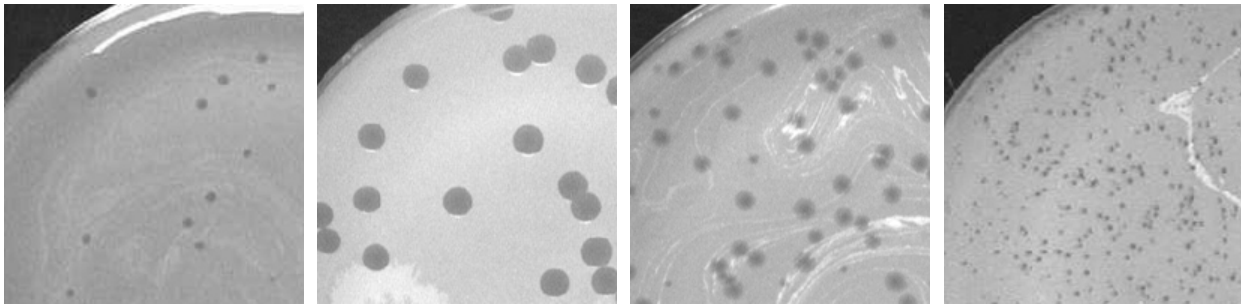
PLAQUE THUMBNAILS, BAD EXAMPLES:
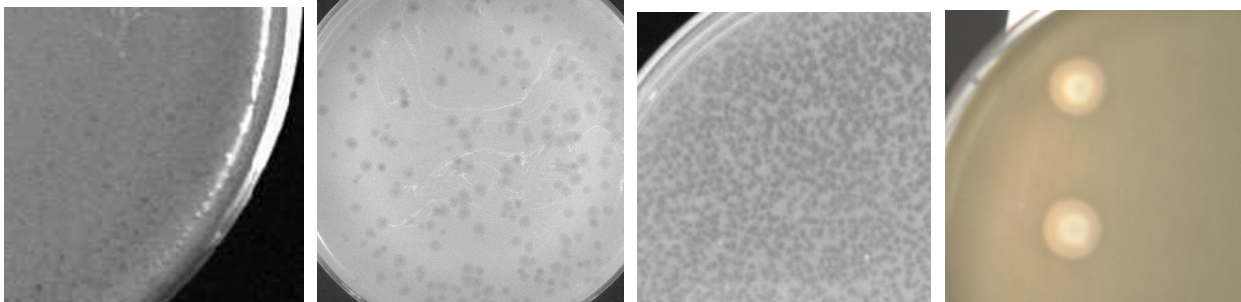
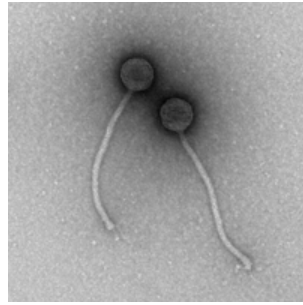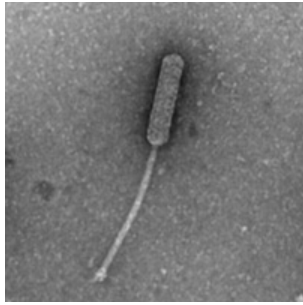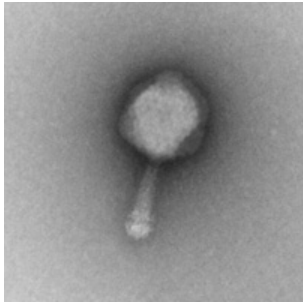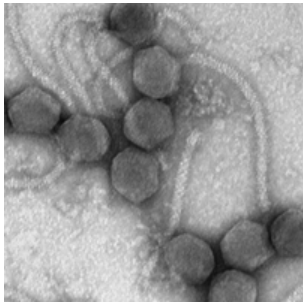| Inverted, grainy | Full plate instead of quarter plate | Plaques too close together | Color instead of black & white |

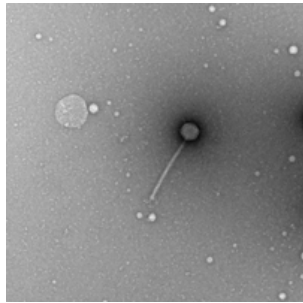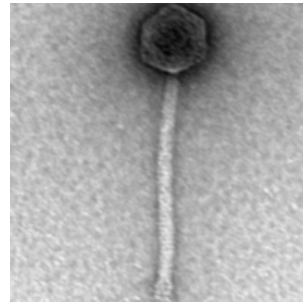| No plate edge for scale | Plaques not clearly visible | Spot test, so plaques aren't clear | Streak plate, plaques aren't clear |
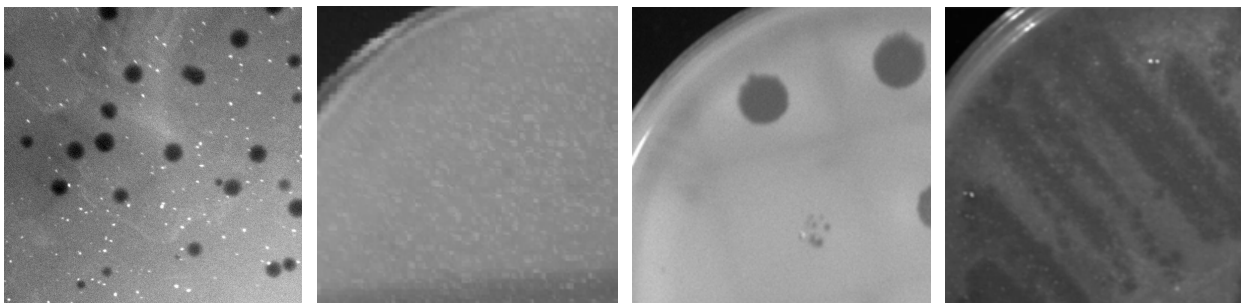
EM Pic Thumbnails, GOOD Examples:
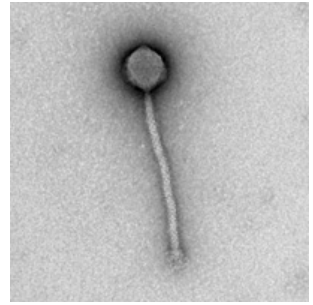
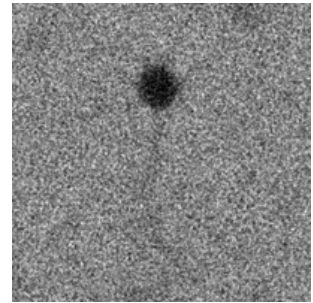**EM Pic Thumbnails, BAD Examples:**
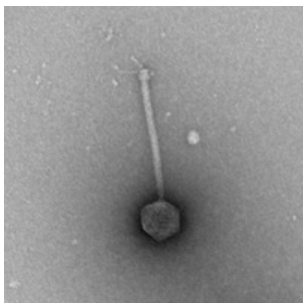

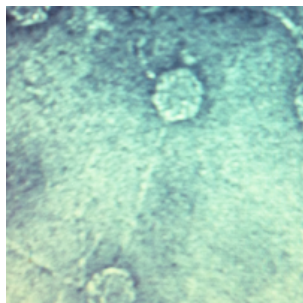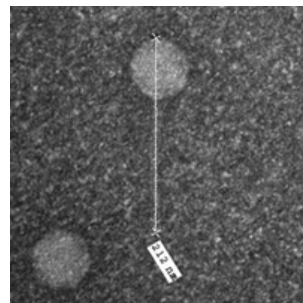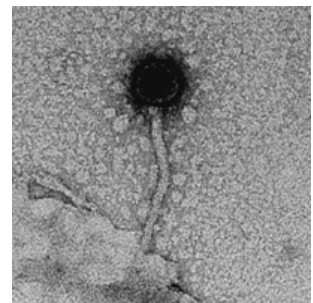| Too many particles, unclear | Particle is too small | Particle is too large, slightly cutoff | Tail barely visible, poor staining/focus |

| Upside down | In color instead of black & white | Tail obscured by measuring bar | Messy image, tail obscured |