

## Diatoms from a Fish Pond at Puuhonua o Honaunau



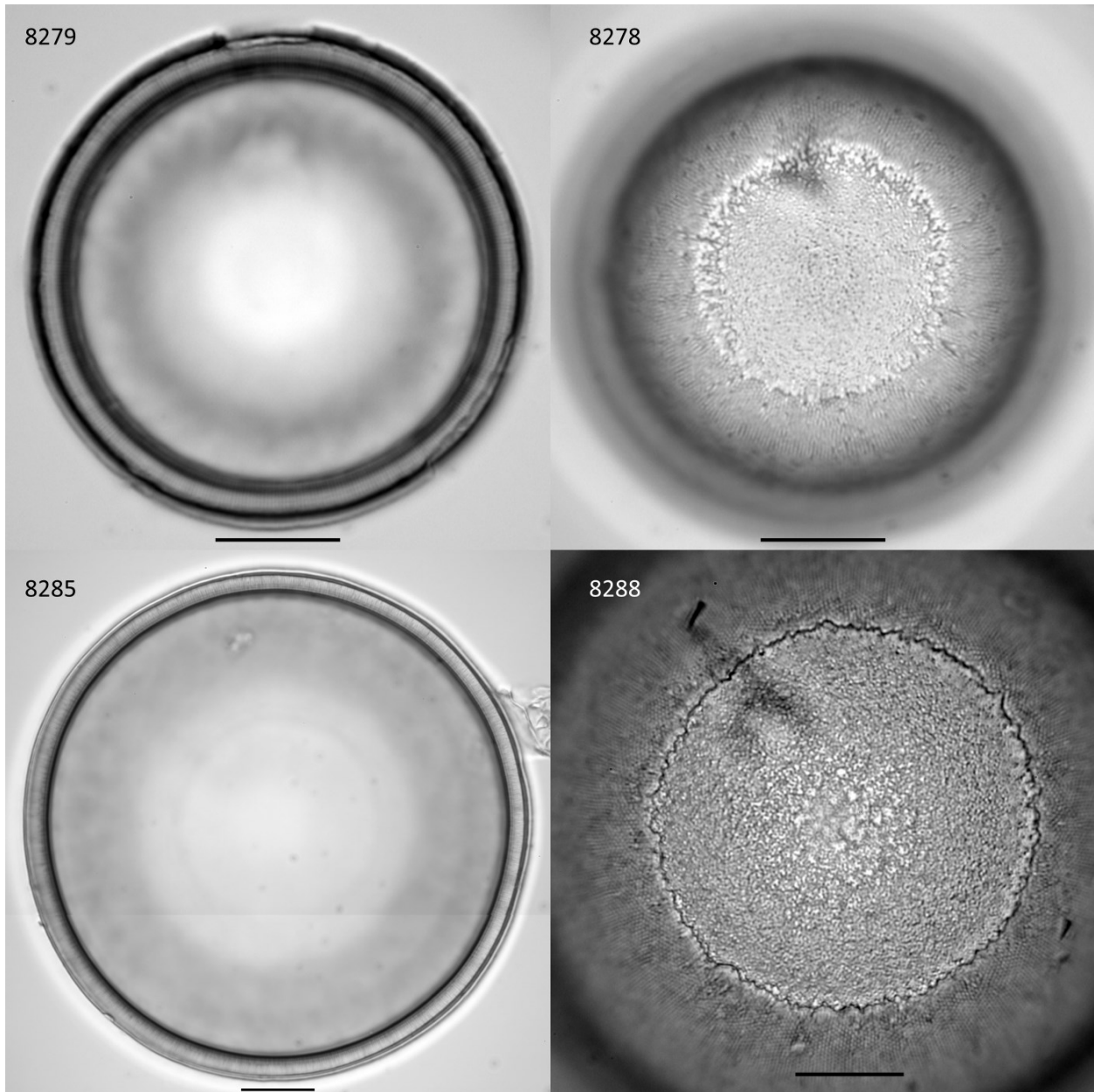
Collection site on Hawaii Island

Illustrated here is a selection of diatoms from a brackish fish pond in Puuhonua o Honaunau National Historic Park, also known as the Place of Refuge, on Hawaii Island (lat 19.421164 lon -155.911537).

The surface of a rock on the edge of the pond was scrubbed with a toothbrush and the drippings collected. The collection was cleaned with hydrogen peroxide. Coverslips with dried sample were mounted on slides in Zyraz. The specimens chosen for this report were the most abundant or the most interesting. Using the ACFOR abundance scale, among other genera, *Hyalodiscus* was abundant, *Pleurosigma* and *Seminavis* were frequent, *Diploneis*, *Melosira*, *Mastogloia*, and *Achnanthes* were occasional.

Numbers in images are part of the file names in the collection of the author. On a computer containing the collection and running Windows 10, these numbers can be used in the Windows Explorer search bar to find images. This report was started by Rob Kimmich on 1 Jun 2022 and last revised on 25 Jun 2022.

## Radial Centric

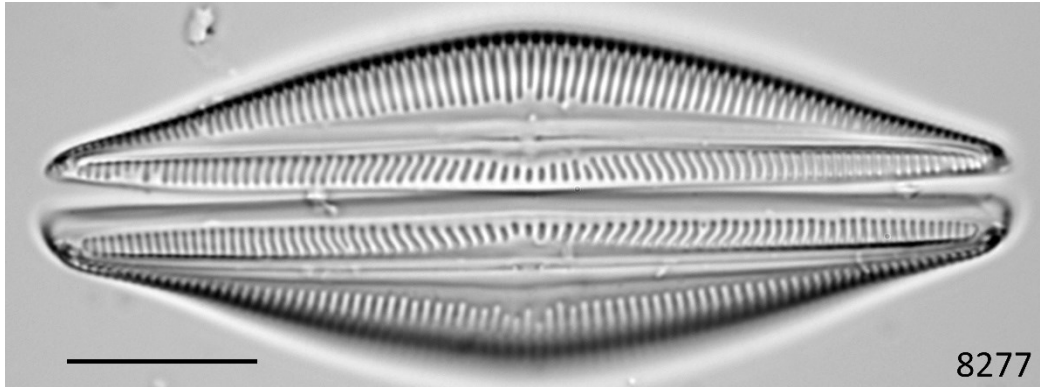


*Hyalodiscus* sp2. 100x. Scale bars 10  $\mu$ m. Distinguished by small, not easily visible, areolae outside the hyaline center. From Round et al. (1990).

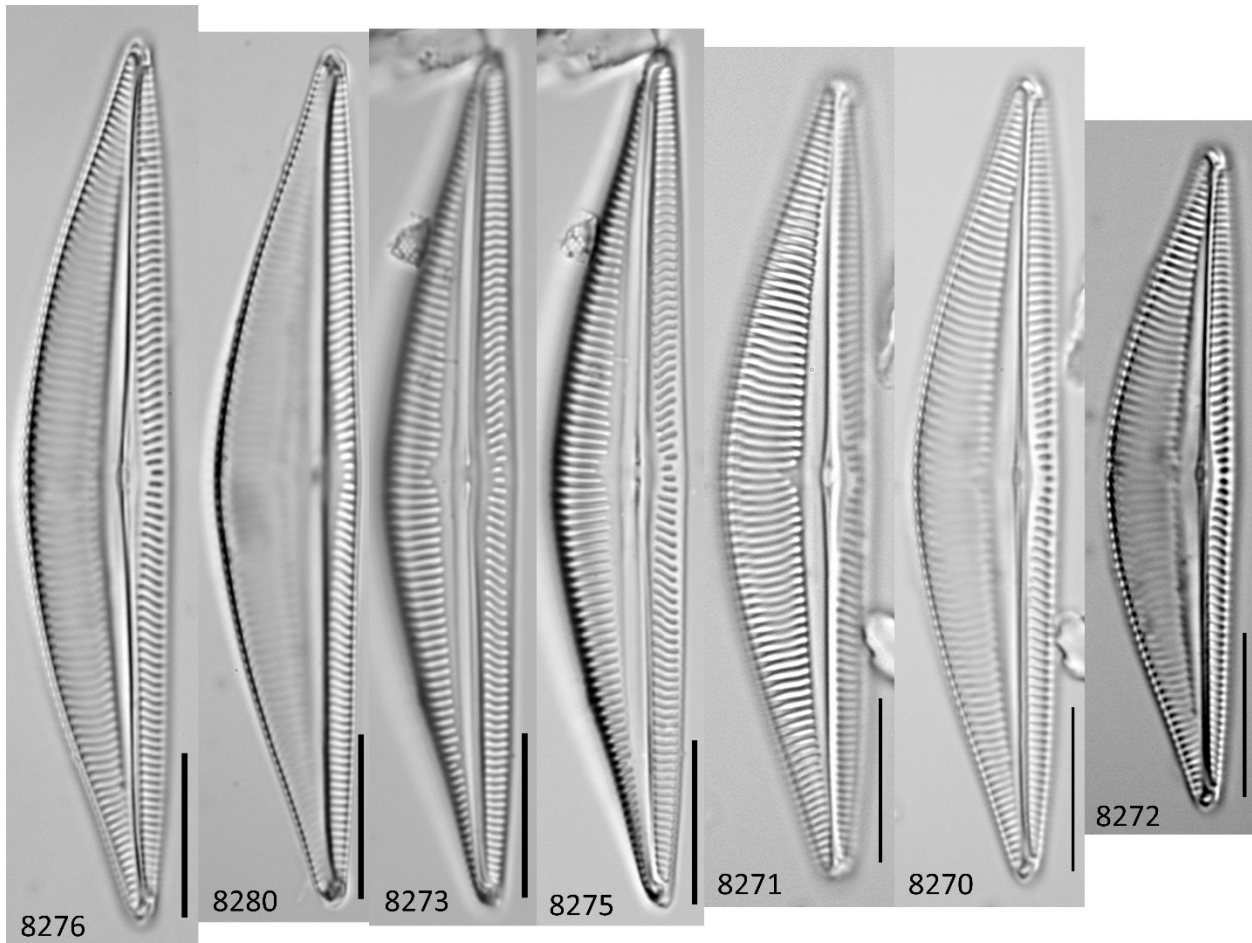
Top, external view. Two focus slices: 8279 low focus on outline, 8278 high focus on edge of hyaline center.

Bottom, internal view. Two focus slices: 8285 high focus on outline, stitch of 2 images; 8288 low focus on areolae in white spot.

## Asymmetric Biraphid



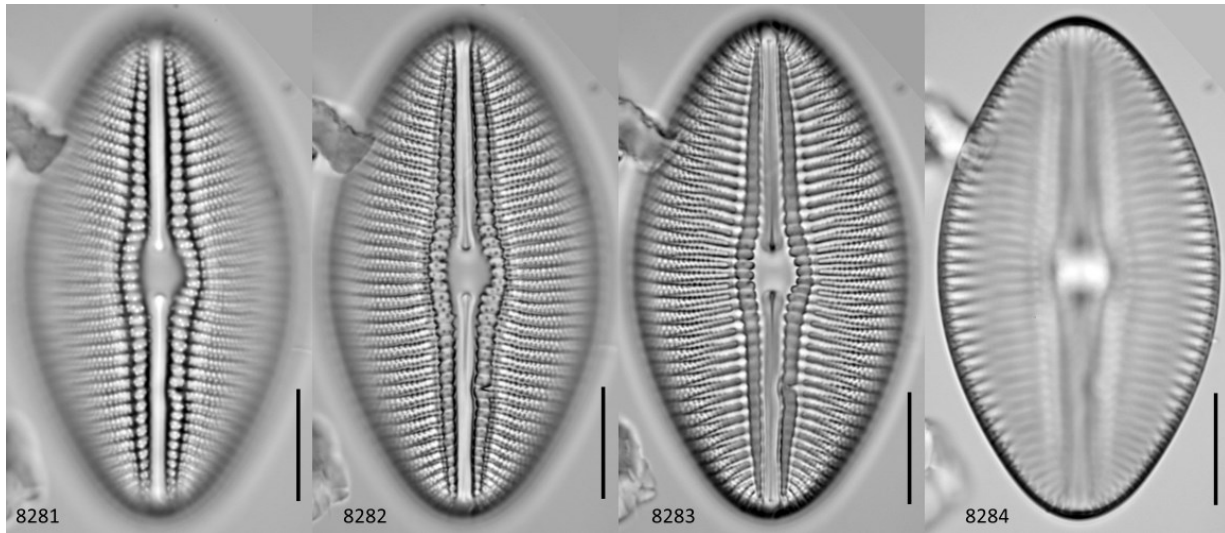
8277. *Seminavis robusta*. 100x. Whole frustule. Scale bar 10  $\mu$ m. Central fascia absent. Central area slightly expanded. Proximal raphe ends straight.



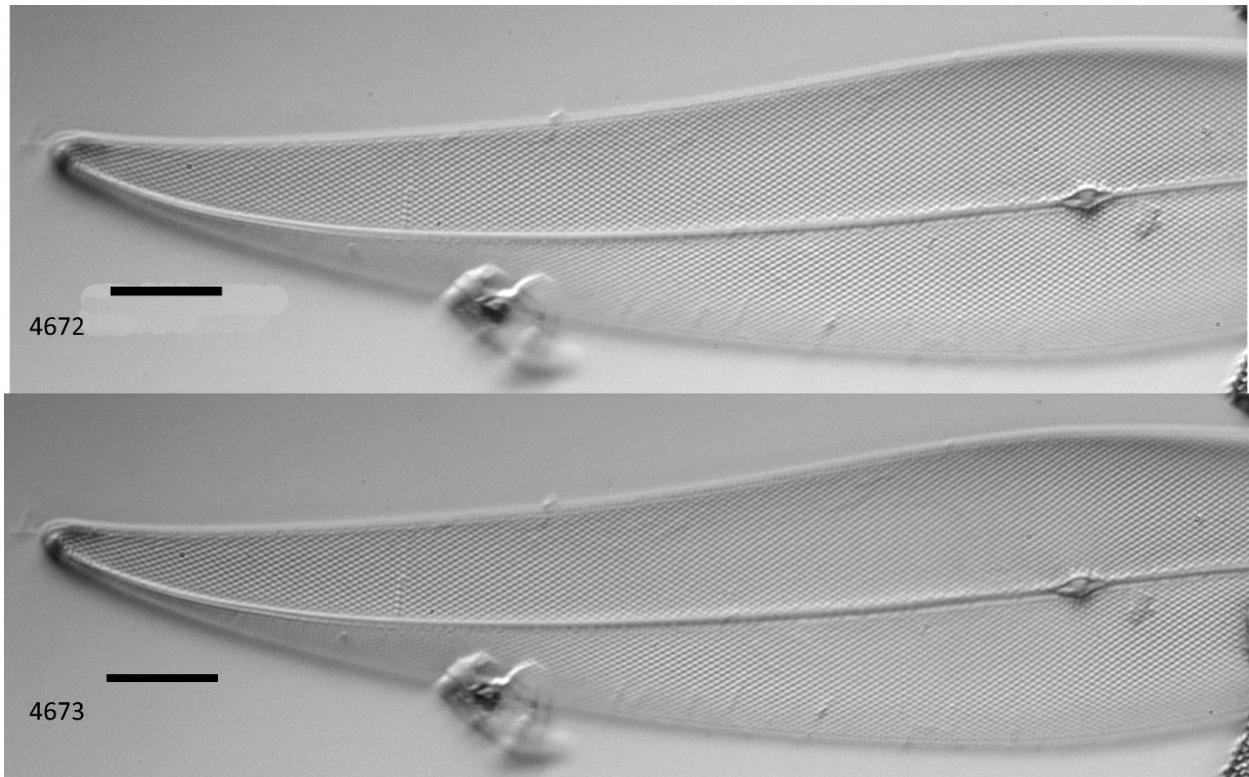
*Seminavis robusta* size series. 100x. Scale bar 10  $\mu$ m. 8276 Internal view, focus on proximal raphe ends. 8280 Focus on ventral side. Two focus slices on proximal raphe ends: 8273 high focus in white spot, 8275 low focus in black spot. Two focus slices: 8271 low focus on dorsal striae, 8270 high focus on raphe ends. 8272 Focus on distal raphe ends. (Frankovich et al. 2022; Round et al. 1990; Kimmich 2022a; Sullivan 2022)



### Symmetric Biraphid



*Diploneis smithii*. 100x, external view. Scale bars 10  $\mu$ m. Focus slices: 8281 high focus in white spot on canal surface, 8282 on canal edge, 8283 black spot on proximal raphe, 8284 low focus on outline. From Lobban et al. (2012 plate 45 fig 3-6).



*Pleurosigma* sp11. 60x. Scale bars 10  $\mu$ m. 4672 Focus on central nodule. 4673 Focus on distal raphe end. Striae decussate to the apex. From Kimmich (2022b).

## References

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- Sullivan, M (2022) Email from 14 Jun 2022 identifying *Seminavis robusta*.

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Published in the July 2022 edition of Micscape magazine.