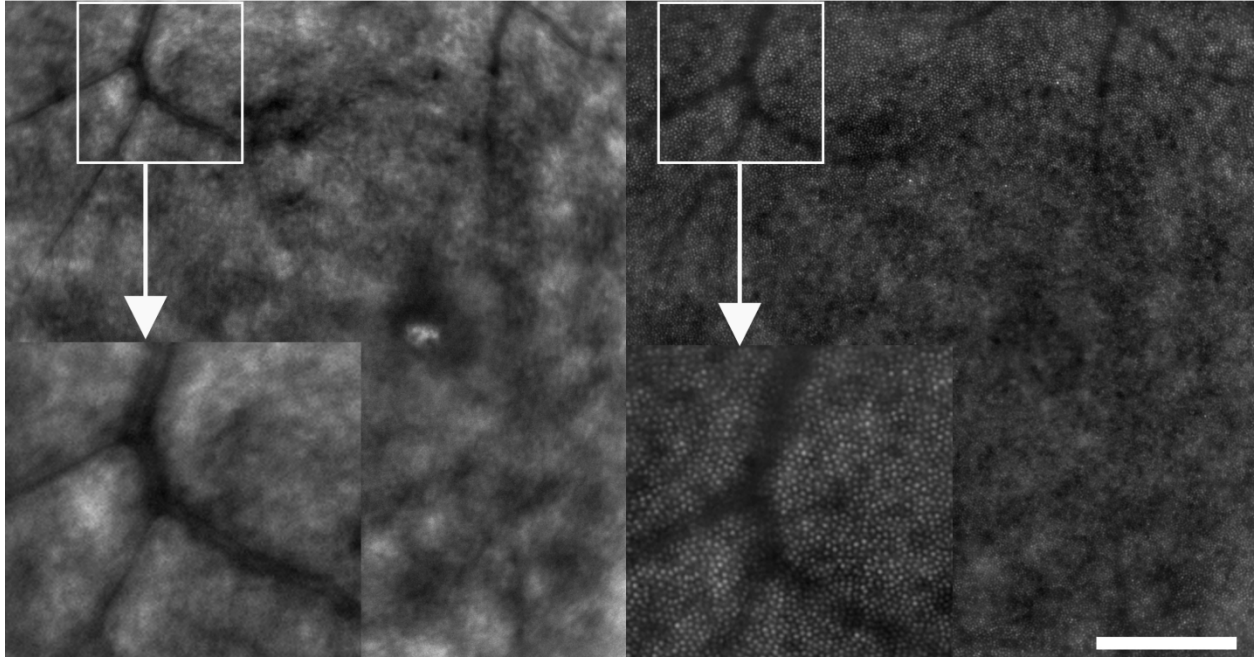
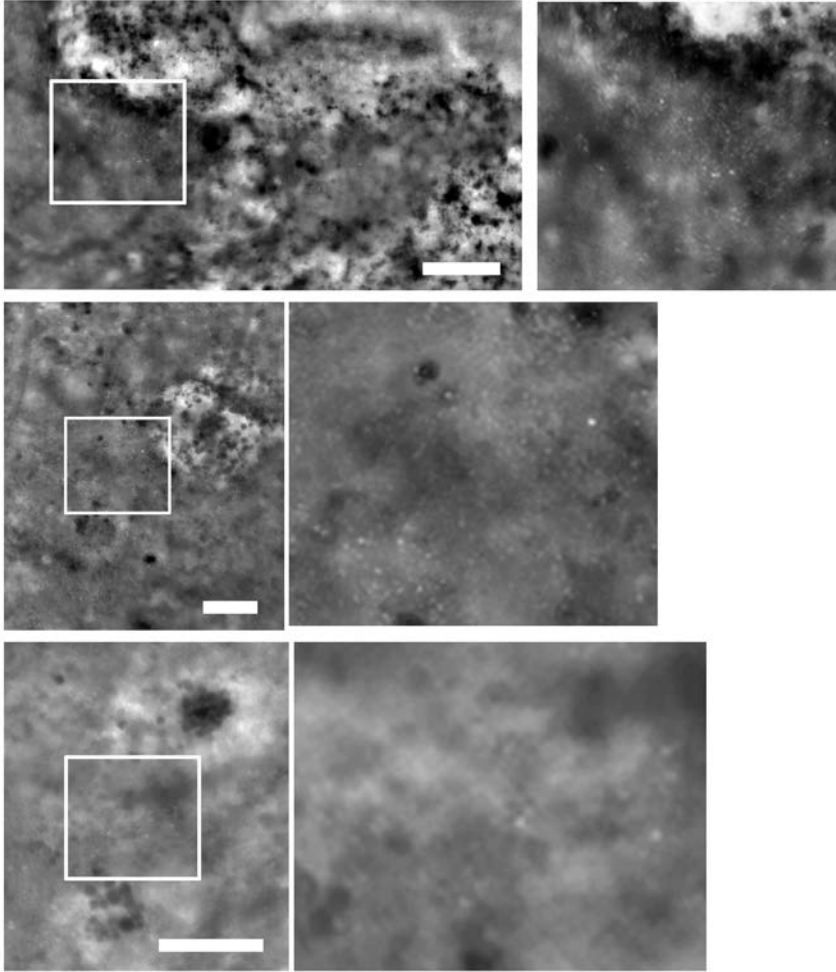


## Supplementary Material

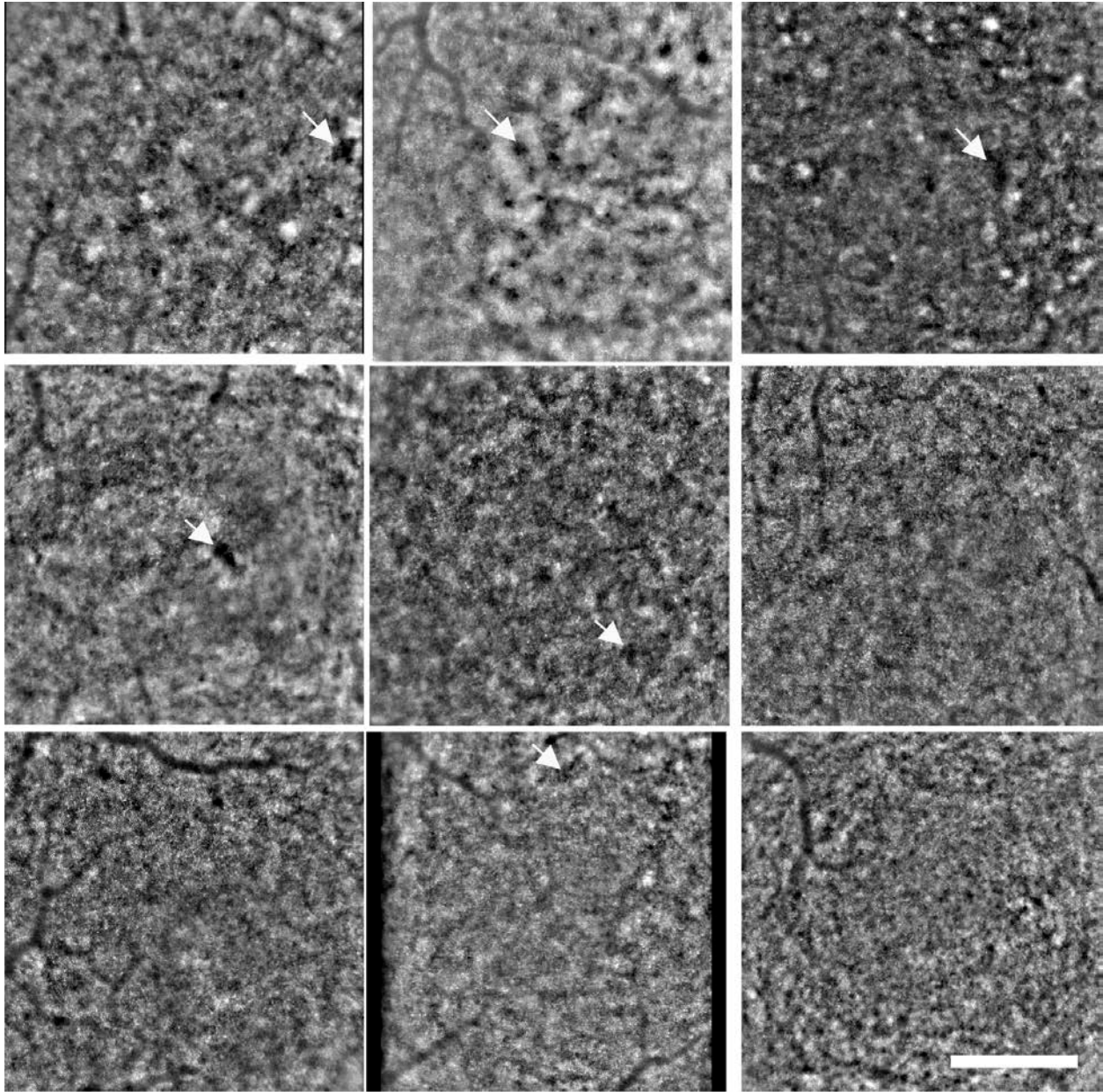
### Supplementary Figures:



Supplementary figure 1. AO images of a normal macula in two different planes of focus using the rtx1 camera. Left panel, focus is on retinal vessels; right panel, focus is on photoreceptors (bar, 250 $\mu$ m).



Supplementary figure 2.  
Visualization of the cone mosaic (right panel: magnification)  
in AO images from GA patients (from top to bottom, case 4, 5 and 6) (bars,  
250 $\mu$ m)



Supplementary figure 3. AO images of control maculae of subjects aged 60 years or more. Focal hyporeflectance that may correspond to HRCs can be detected (three are shown by arrows) (Bar, 500 $\mu$ m).

**Supplementary Video Legends:**

**Supplementary Video S1.** Real-time videosequence of case 8 during the AO acquisition process (Same spot as in video 5; QuickTime video; 40 frames, 10 fps; width of the image 1.2mm)

**Supplementary Video S2.** Case 6. Time-lapse observation by AO of the emergence of an atrophic spot (spot b of figure 4) over 12 months. Note the emergence of an atrophic spot in the last images, which develops over a pigment clump visible in the initial images. Note also the redistribution of pigment clumps outside of the atrophic area (QuickTime video; 7 frames, 2 fps).

**Supplementary Video S3.** Case 6. Time-lapse observation by AO of the progression of GA over 7 months (QuickTime video video; image width 1 mm, 5 frames, 5 fps).

**Supplementary Video S4.** Case 8. Time-lapse observation by AO of the progression of atrophy over 6 months (Same eye as in figure 5). Note the redistribution of pigment clumps outside of the atrophic area (QuickTime video video; image width 1.2 mm, 6 frames, 5 fps).

**Supplementary Video S5.** Case 8 .Time-lapse AO imaging over 3 months of an atrophic area (same area as in video 1). Note that the pigmented border progresses in parallel to the RPE atrophy. The metrics of the progression of the smallest GA spot are shown in figure 4 (QuickTime video video; image width 1.1 mm, 6 frames, 5 fps).

**Supplementary Video S6.** Case 7. Time-lapse AO imaging over 4 months of a case of GA with parafoveal sparing (Same eyes as in figure 6). Note the active redistribution of HRCs within and around the fovea. In particular, redistribution within the large HRC is observed showing that it is composed of aggregates of smaller HRCs (QuickTime video video; image width 1.1 mm, 5 frames, 5 fps).

**Supplementary Video S7.** Case 9. Time-lapse AO imaging over 4 months of a case of GA with foveal sparing. Note the active redistribution of HRCs within the fovea (Quicktime video; image width 1.2 mm, 8 frames, 5 fps).