Supplemental Material for

Small Instance Detection by Integer Programming on Object Density Maps

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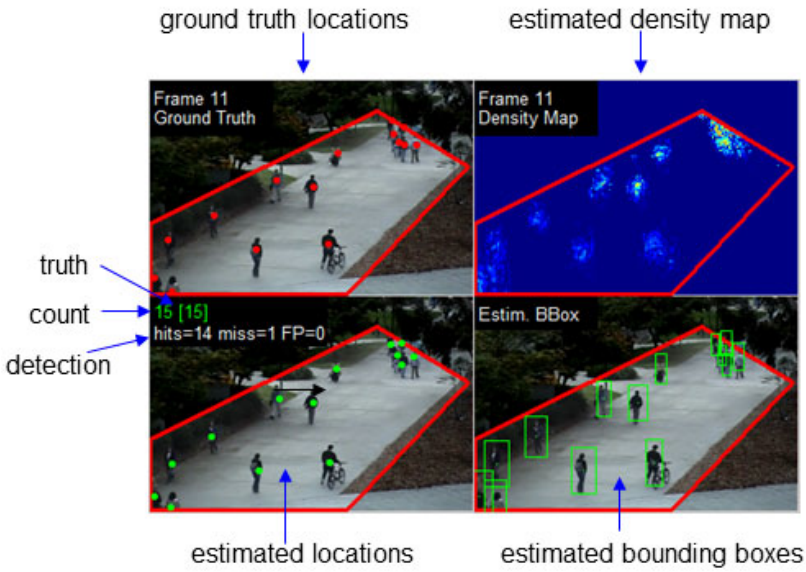
This is the supplemental material for the paper "Small Instance Detection by Integer Programming on Object Density Maps". We have included more figures or video of the results shown in Figure 10. The video is encoded in Quicktime (H.264) and is playable with the latest Quicktime player (available from http://www.quicktime.com). The additional video and figures are:

1. `video_ucsd_split-max.mov` – counting and detection results for the UCSD pedestrian dataset (split-'max'), with 1200 frames for testing and 160 frames for training. An example video frame is shown below:



2. `Figures` – detection results for other small object datasets. More detection examples are shown below (Fig. 1 to Fig. 5):

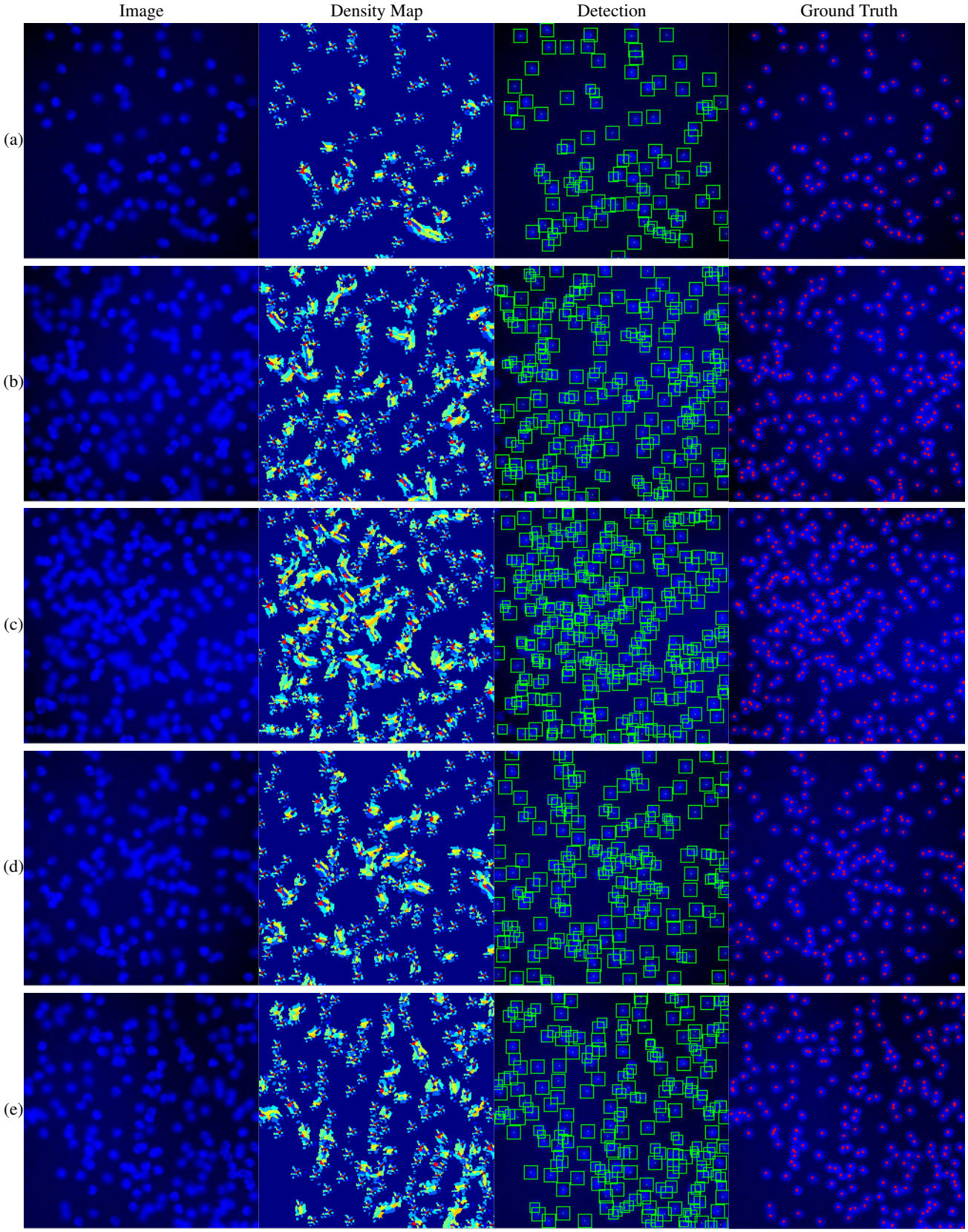


Figure 1. Results of the proposed detection method on synthetic cells. The green boxes are the detection results and red dots are the ground truth locations.

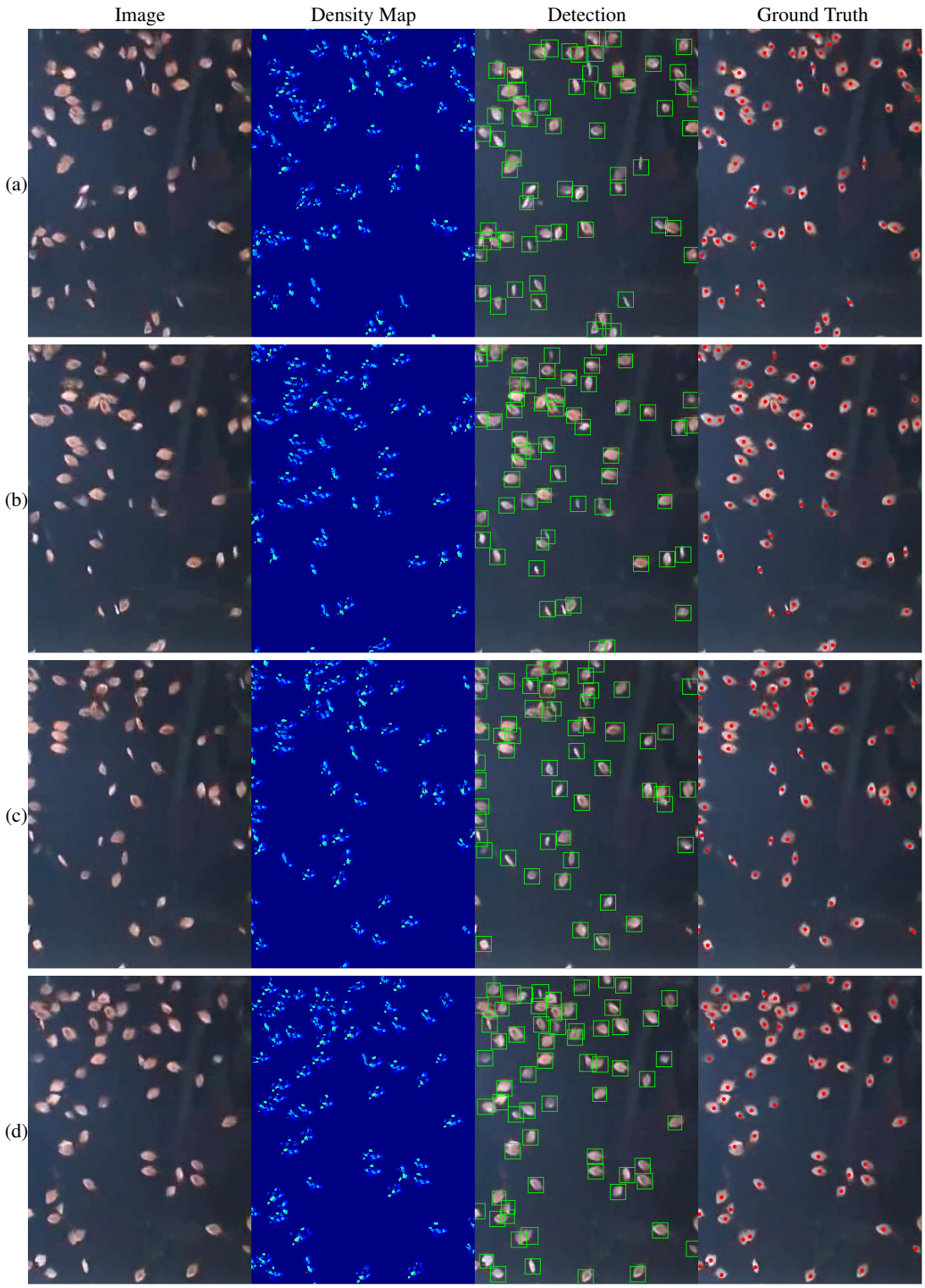


Figure 2. Results of the proposed detection method on fish. The green boxes are the detection results and red dots are the ground truth locations.

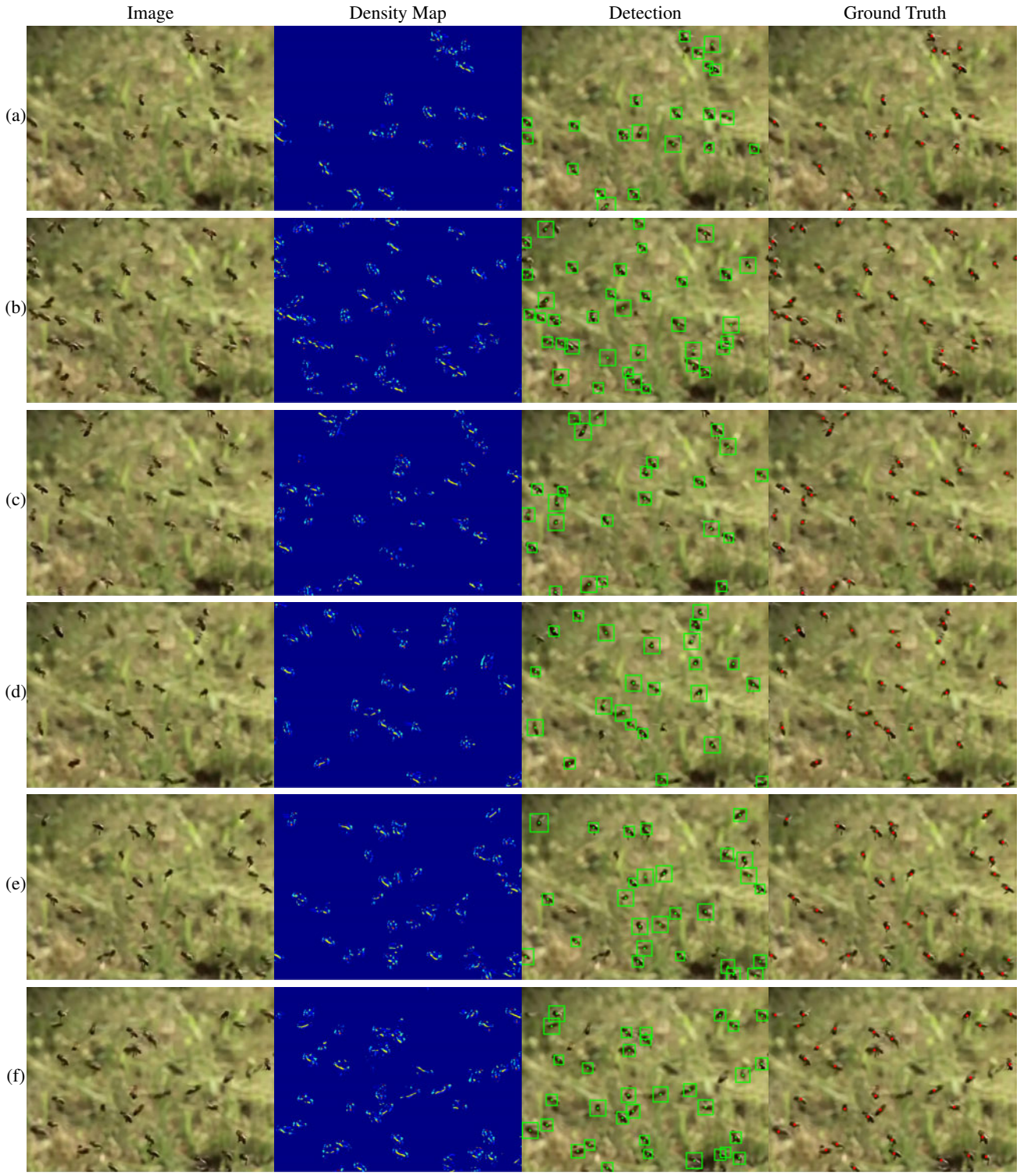


Figure 3. Results of the proposed detection method on honeybees. The green boxes are the detection results and red dots are the ground truth locations.

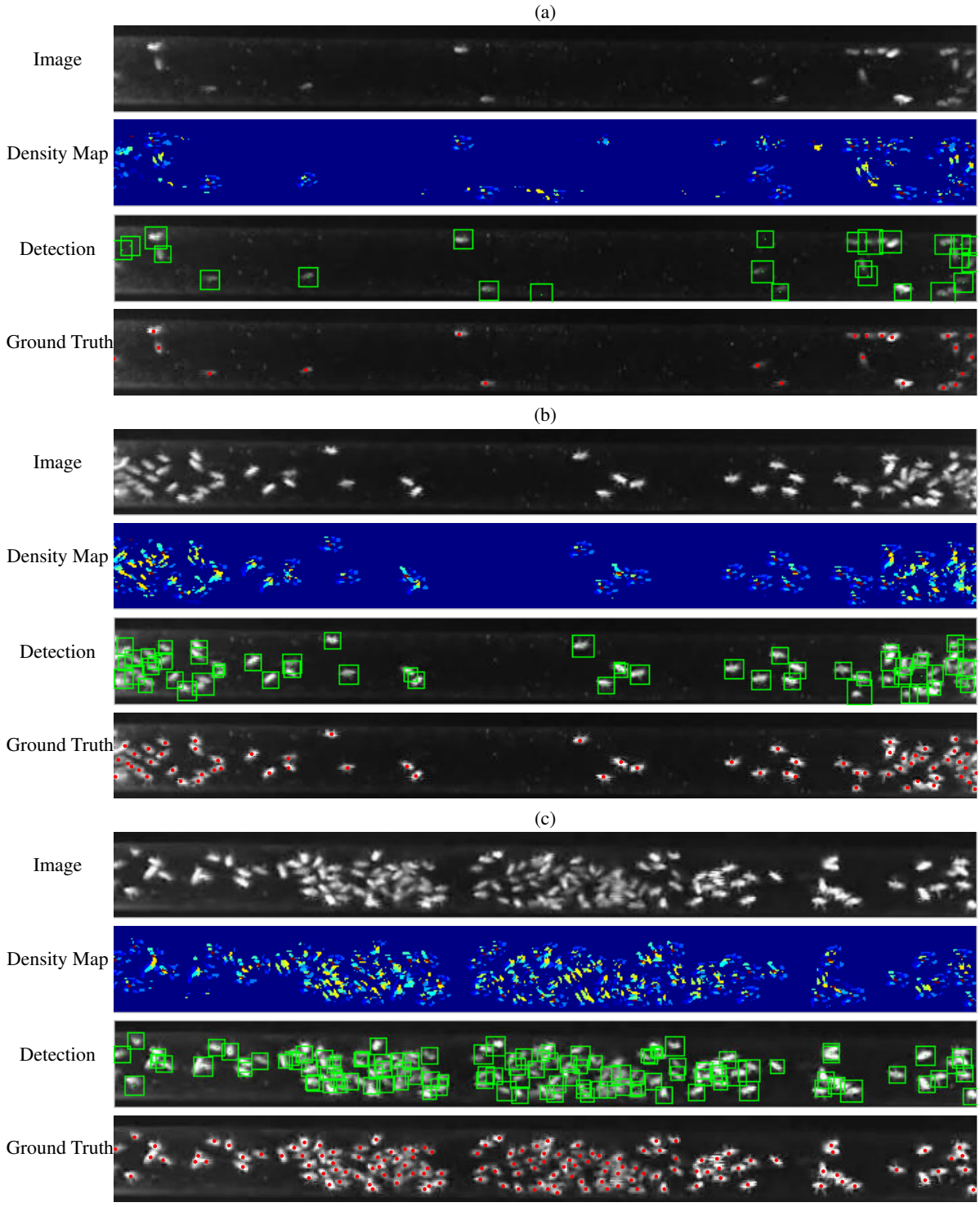


Figure 4. Results of the proposed detection method on flies. The green boxes are the detection results and red dots are the ground truth locations.

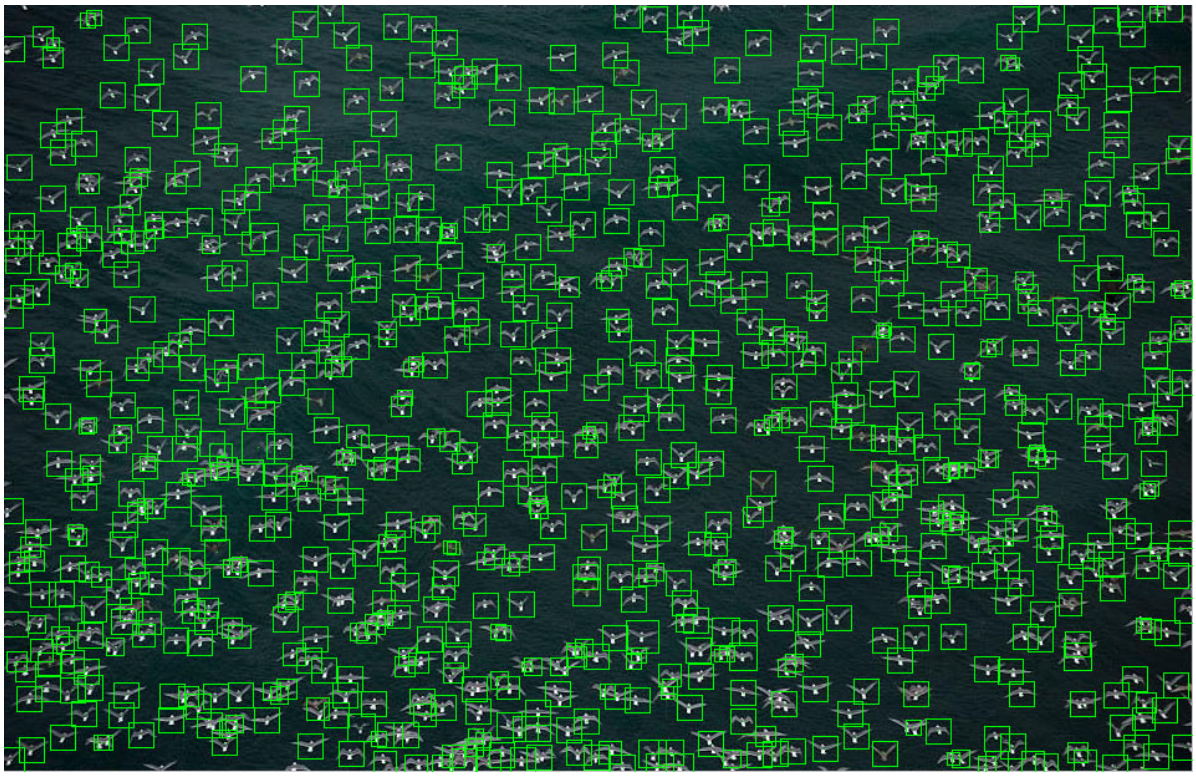


Figure 5. Results of the proposed detection method on seagulls. The green boxes are the detection results.