This paper describes a study to quantify the probability of functional dispersal of a tick within a colony of nesting gulls. The study constitutes one of the few attempts to undertake mark-recapture study on tick vectors and provides novel results of this aspect of the demography of this species. The experimental design and statistical analysis of the study are both robust. I believe the study makes a worthy contribution for PCI ecology and will be of interest to many readers and researchers. I do however have several reservations and comments that need to be addressed before I can recommend this study.

Major comments

1. It is not clear whether ticks are able to disperse between nests independently of hosts or only via host movement. Indeed in the discussion you actually contradict yourself in this respect: you first write "*Dispersal of O. maritimus via host movement is of course possible, but was considered unlikely because of the short duration of the blood meal and the limited movements of yellow-legged gulls within the colony during the breeding period*", but then subsequently write "*As this tick seems to depend entirely on passive movements via the host for dispersal…*"
   a. This is obviously a critical point for the interpretation of the findings of this paper and should clarified from the outset.
   b. For example, if the ticks are dispersed by their hosts, and nest failure triggers the host to abandon the nest (see comment below under DISCUSSION), then lower dispersal in failed nests would be expected.
2. A key component of this study (and quite a lengthy component of the discussion) centres on inferring epidemiological consequences of tick dispersal in this colony. You write in the discussion: "*In contrast to predictions based on the distribution of infectious agents within the colony (Dupraz et al. 2017), overall inter-nest dispersal rates of O. maritimus were very low*". I'm not sure I follow the logic here, as the distribution of pathogens within ticks would also depend on the distribution of pathogens within the host, which it seems has not been sampled, and is not known. Moreover, if any of these pathogens can be transmitted by a non-vectored route (e.g. vertical transmission from mother to offspring) then this offers a route for pathogen transmission to be less strongly coupled to tick movements.
   a. Given that much of the disease dynamics and vector biology remain unknown in this system, I suggest the authors temper their inferences regarding the epidemiological consequences of their findings, acknowledge the numerous areas that remain unknown about disease dynamics in this system, and substantially reduce this section in the discussion.
   b. Please change the quoted sentence above to read "*In contrast to predictions based on the distribution of infectious agents* IN TICKS *within the colony (Dupraz et al. 2017), overall inter-nest dispersal rates of O. maritimus were very low".* And elsewhere in the manuscript.

Minor comments

1. Could you please replace the word "circulation" throughout with "transmission" as this is the correct epidemiological term.
2. METHODS
   a. Could you add information on the lifespan of an adult tick (and other life stages if this is known) as this would help in the interpretation of results and study design.

b. Page 3/top of second column = I assume that when you say "feeding rapidly" – this means that they spend less total time on their hosts compared with hard ticks? Please state this if that is what is meant.

c. GPS – should be capitalised.

d. Only 30 adult and nymphal ticks from each nest were marked. Could you comment on why you limited the number of marked ticks to this many, and not simply mark all the ticks in a nest? Could you also state what proportion of the ticks in a nest this constituted (on average)? This is also relevant in terms of the effect on tick density of adding 30 ticks from nearby nests. Could increasing the density in this way have affected survival of these ticks (competition for blood meals, etc)?

e. Could you include a table (or summary in the text) of distances among nests in a group vs between nests from different groups

f. What was the average clutch size in this colony? Did this vary greatly among the "successful" nests?

g. Could you verify that nests that were left to be successful (ie where the eggs were not removed), did actually go on to be successful nests (i.e. they produced young).

3. RESULTS

a. The results for the transition parameters estimated as 1.00 with no Cis available indicate problems with estimation of the parameters at the boundaries. It seems to me that there were too few data (observed transitions) to obtain meaningful estimates for these parameters, and that thus you should not try and obtain inferences from them.

b. In the table legends for the CMR results could you add – "Only the top five models of XXX that were included in the candidate set are presented".

c. In figure 2 → Could you add another example of colour coding for a tick that was captured in those same nests but in trip 2 and 4 – i.e. for capture history 12020. This would make it clearer how the colours for visits and nests align/differentiate.

4. DISCUSSION

a. Page 9/2nd column, 2nd paragraph → nymphs constituted only 24% of your "captured" ticks (not "recaptured" as you write). The recapture rates for nymphs and adults were approximately equal as indicated by the model results (only 1 of the top 5 models included an effect of life stage on recapture rates) and the raw numbers themselves. So I don't believe there is very strong evidence for different recapture rates of the two life stages. Yet you go on to discuss this at length.

i. Do you know anything about the demographic structure of this tick population? Are nymphal stages less abundant than adult stages? Why? Do the gulls remove ticks somehow?

b. The behaviour of gulls at failed nests almost certainly differs from their behaviour at successful nests yet this is never discussed. Do the adults at failed nests remain and try and nest again? Or do they leave immediately?

i. This information is needed to help interpret tick survival at/dispersal from failed nests, and could also explain why the detection probability of soft ticks was higher in failed nests (i.e. if the configuration/maintenance of failed nests differed due to different host behaviour associated with nest failure and success, which led to more ticks being detected?).