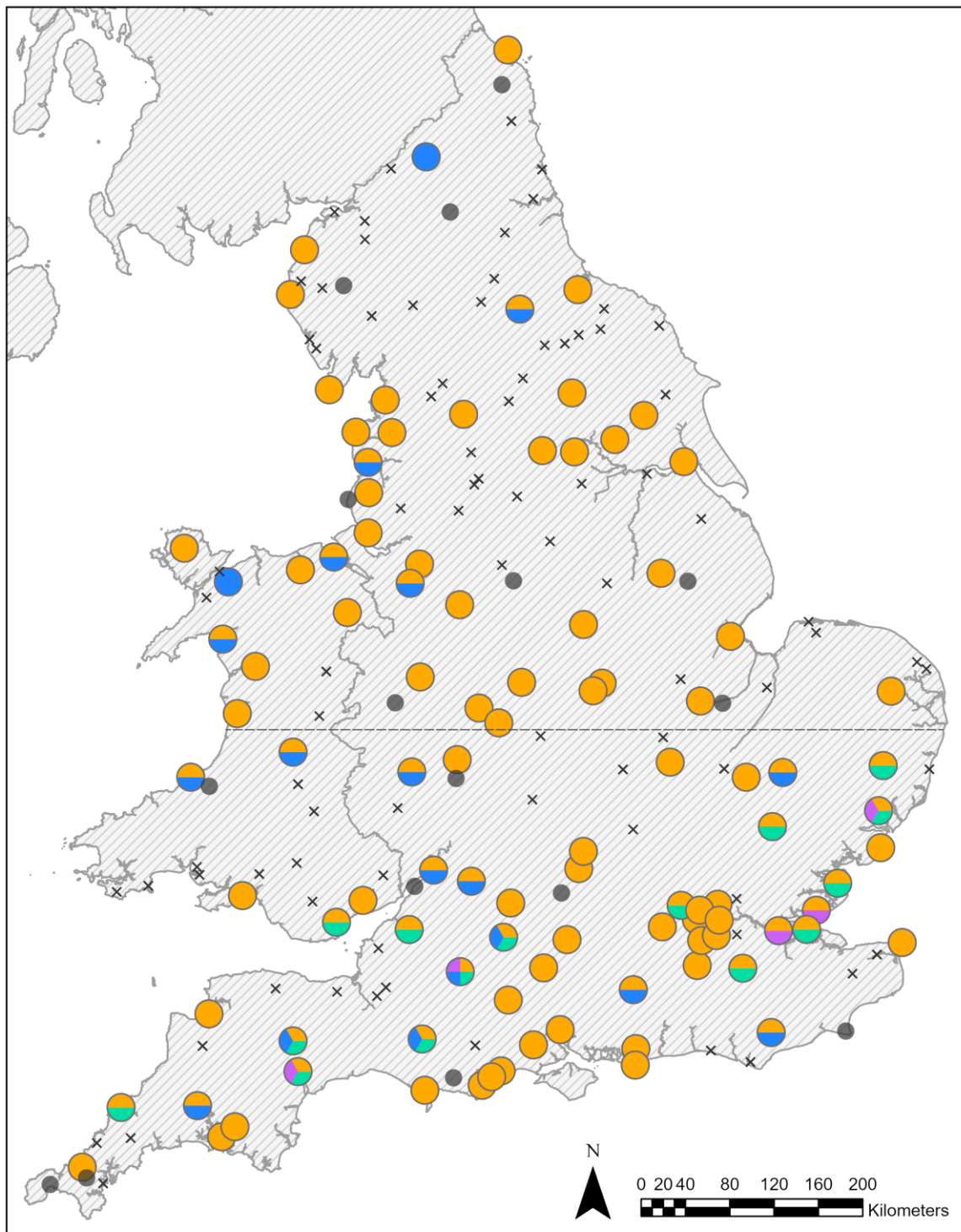


Supplementary information

Mosquito species or biotype	Number of adults caught during July 2023
<i>Culex pipiens</i> complex only	79
<i>Culex pipiens</i> biotype <i>pipiens</i>	1,478
<i>Culex pipiens</i> biotype <i>molestus</i>	5
<i>Culex pipiens/molestus</i> hybrids	22
<i>Culex torrentium</i>	38
<i>Culex modestus</i>	0
<i>Aedes cantans/annulipes</i>	16
<i>Aedes cinereus</i>	2
<i>Aedes detritus</i>	6
<i>Anopheles atroparvus</i>	1
<i>Anopheles claviger</i>	8
<i>Anopheles maculipennis s.l.</i>	16
<i>Anopheles plumbeus</i>	19
<i>Coquillettidia richiardii</i>	82
<i>Culiseta annulata</i>	97
<i>Culiseta litorea</i>	1
<i>Culiseta morsitans</i>	3

Table S1. The numbers of *Culex* and non-*Culex* mosquito species identified by molecular and morphological means during the July 2023 field survey.

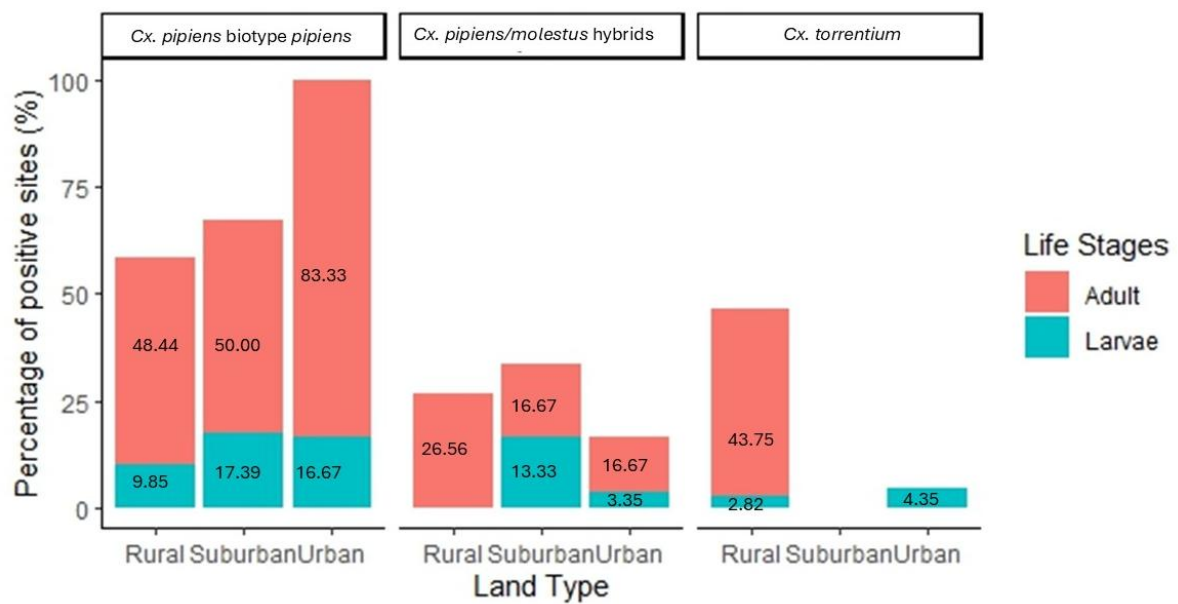
Presence of four *Culex* species across England and Wales



Legend

- | | |
|---|--|
|  <i>Cx. p. biotype pipiens</i> |  <i>Cx. torrentium</i> |
|  <i>Cx. p. biotype molestus</i> |  No unambiguous results |
|  <i>Cx. p. biotype pipiens/Cx. p. biotype molestus</i> hybrids |  No <i>Culex</i> mosquitoes |

S2. A map showing an equal divide of each of the four *Culex* species found at each site, i.e. pure orange squares represent sites where only *Cx. pipiens* was found, whilst orange, pink, green and blue circles represent sites where all four of the *Culex* species were found. The dashed line represents the divide between trap sites visited by the northern and southern teams.



S3. A graph showing the percentage of each land type that was positive for adults or larvae of *Cx. pipiens* biotype *pipiens*, *Cx. pipiens/molestus* hybrids and *Cx. torrentium*. The data presented here is from the southern sampling.



S4. Example photos of the BG-PRO and BG-GAT traps set up during the July 2023 *Culex* field collections. At all sites, both traps were placed within 1 m of each other. The traps were normally placed in sheltered areas. A. view of trap site from public footpath (the trap is visible just below centre), B and C. images of traps placed next to one another.