

RESULTS

Details of the performance of the transmitters and sizes of study individuals are given in table 1.

Individual	Date attached	CCL (cm)	CCW (cm)	Duration (days) of Transmissions	Number of locations	Destination
A	21/11/01	103	95	105	285 (73)	Banc D'Arguin
B	23/11/01	100	91	95	90 (5)	Banc D'Arguin
C	23/11/01	110	96	75	172 (40)	Banc D'Arguin
D	23/11/01	110	102	82	121 (20)	Banc D'Arguin
E	22/11/01	nm	nm	34	45(2)	Senegal/ Bijagós
F	21/11/01	102	94	22	87 (7)	Poilão/ Bijagós
G	22/11/01	108	100	30	26 (2)	Poilão/Senegal
H	23/11/01	99	95	20	85 (5)	Poilão/ Bijagós
I	23/11/01	99	96	30	56 (12)	Bijagós
J	21/11/01	92	83	17	57 (6)	Poilão

Table 1. Summary data of individual females and performance of PTTs. Numbers in parentheses are the number of locations of the highest accuracy classes: 1, 2 or 3. (nm: not measured as attachment carried out within deep undergrowth).

The tracks of individual females (A-J) are illustrated in figures 2-11.

The detailed biological ramifications of the data gathered will be explored in scientific papers (to request copies please e-mail MTN@swan.ac.uk or contact Dr. B. Godley, contact details on front cover). The most important aspects of our findings are summarised below:

Four Females Travelled to Mauritania Following Nesting

Following the completion of nesting, four females A-D (Figs 2-5) migrated from Poilão to the Park National du Banc D'Arguin, Mauritania, where they remained until the transmitter units failed. This involved travel of >1000km in all cases.

Two Females Made Shorter Range Movements Following Nesting

Two individuals (E Fig 6 and G Fig 8) travelled to Senegalese waters where transmissions for individual G ceased when its position was >200km from Poilão. Turtle E was tracked as it moved >400km away from Poilão before it returned to waters of the Bijagós Archipelago, some 60km away from the nesting site.

Four Individuals Remained in the Bijagos Region for the Duration of Tracking

The last four individuals (F Fig 7, H-J Fig 9-11) were recorded making short range movements within the waters of Guinea Bissau. Unfortunately, premature cessation of transmissions, before turtles were demonstrated as resident for any length of time in the same foraging location, prevent us from ascertaining the final destinations for these turtles. The short transmission duration was probably due to damage to the units, a common problem when turtles remain in coastal waters. Their movements do, however, highlight the fact that it is likely that the Bijagós Archipelago hosts foraging habitats, as well as the nesting, inter-nesting and migratory habitats for the largest green turtle population in West Africa. This augments anecdotal accounts of large adult turtles being observed and captured throughout the archipelago throughout the year, including during periods when nesting is exceptional.

Insights Were Obtained into Inter-nesting Habitats

Turtles lay multiple nests in any given season and although efforts were made to select females which had been tagged earlier in the season, only 4 individuals left immediately following the nesting of attachment. We were thus able to record the utilisation of the Bijagós Archipelago by all the 6 other individual turtles during one inter-nesting interval (Individuals B (Fig 3) F (Fig 7), G (Fig 8), H (Fig 9), I (Fig 10), J (Fig 11)). For five individuals this meant most if not all of their time between nesting was spent within the boundaries of the João Vieira and Poilão National Marine Park (Fig 1). This was in marked contrast to Individual H (Fig 9) which made a concerted movement towards the mainland before heading back to lay another clutch. Unfortunately transmissions were lost from two of these individuals (Individuals H and J) immediately following the subsequent nesting.

Insights Regarding Foraging Behaviour were Obtained.

Data gathered gave insights into the habitat utilisation patterns at one of Africa's most important national parks at Banc D'Arguin. For the duration of transmissions, individual turtles showed remarkable fidelity to discrete foraging areas (Fig. 12). These data will help managers in Banc D'Arguin focus their efforts.

These combined findings lead us to make the following research recommendations:

Regional:

1. Support should be given for additional studies which, through telemetry or molecular techniques, allow a fuller assessment of the location of additional important foraging areas for green turtles in West Africa.
2. Given the migratory nature of this species it is important that threats, especially direct and incidental catch in both artisanal and industrialised fisheries, be assessed throughout the region.
3. Research recommendations should feed into a regional management plan such has already been drafted (Anon 2002)

Site specific:

4. It is clear from these and other findings that the João Vieira and Poilão National Marine Park (Guinea Bissau) and the Park National du Banc D'Arguin (Mauritania) constitute two key elements of the range of the single largest green turtle nesting aggregation in West Africa. Further studies should be undertaken in the Park National du Banc D'Arguin and throughout the Bijagos Archipelago to gain a fuller appreciation of the ecology of all species of marine turtle residing in their waters.
5. Ongoing monitoring of marine turtles at Poilão should be undertaken to allow a fuller assessment of the current status and trend in population size especially since green turtle populations have been demonstrated as showing profound inter-annual variation in nesting numbers (Broderick *et al.* 2001).

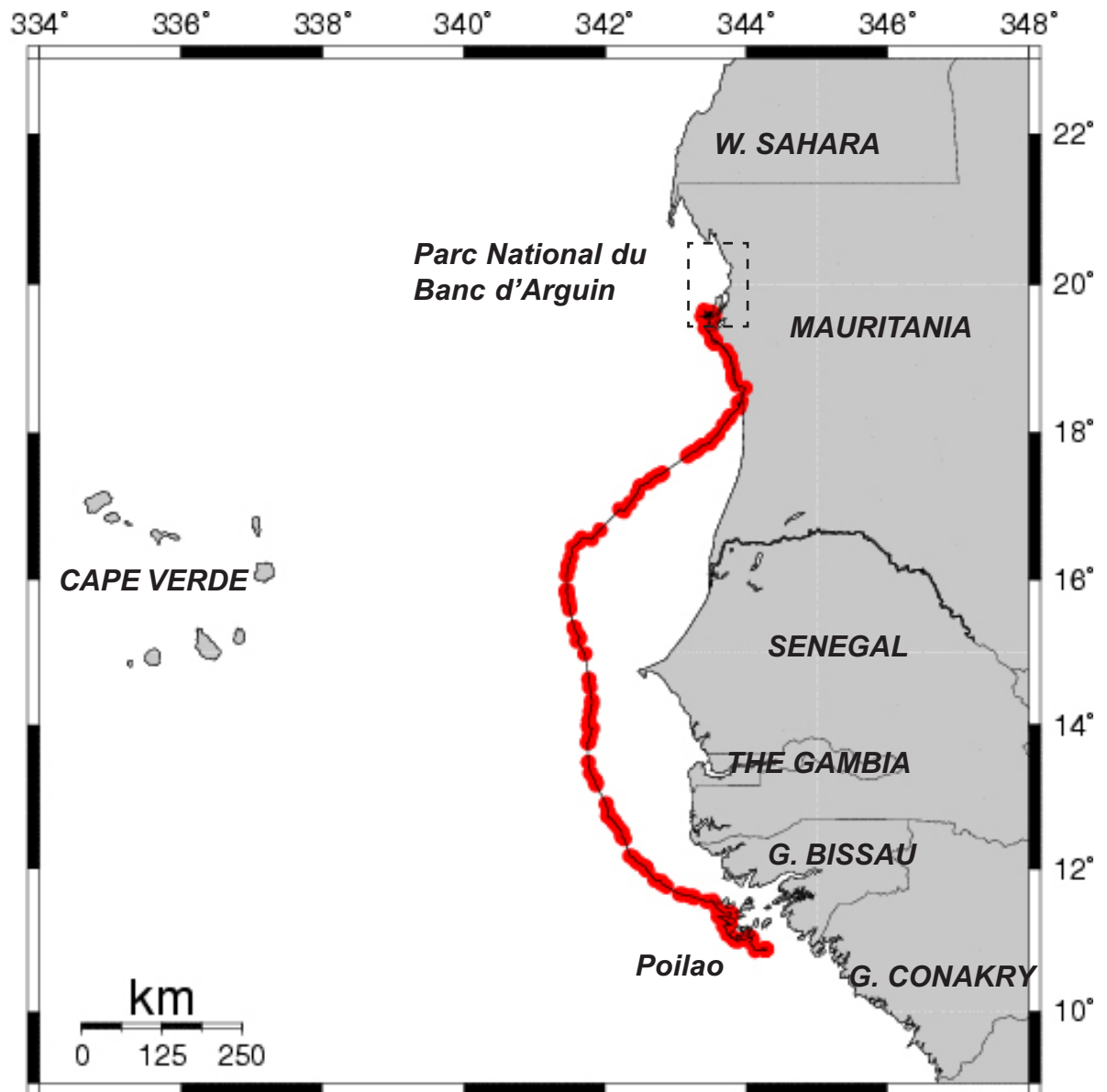


Figure 2. Track of individual A from Poilão to Mauritania. Locations shown are corrected as per Godley *et al.* (2002).

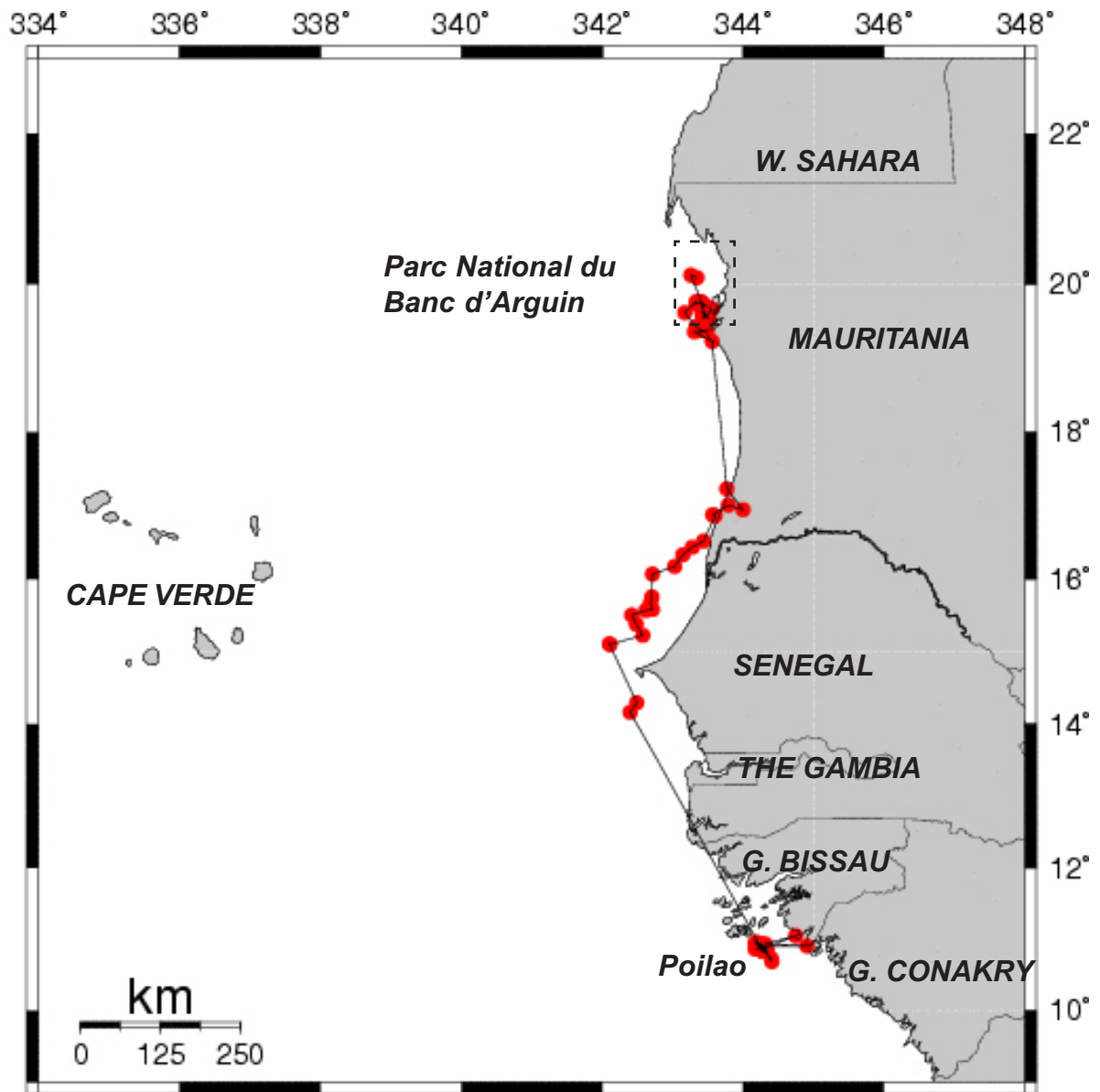


Figure 3. Track of individual B from Poilão to Mauritania. Locations shown are corrected as per Godley *et al.* (2002).

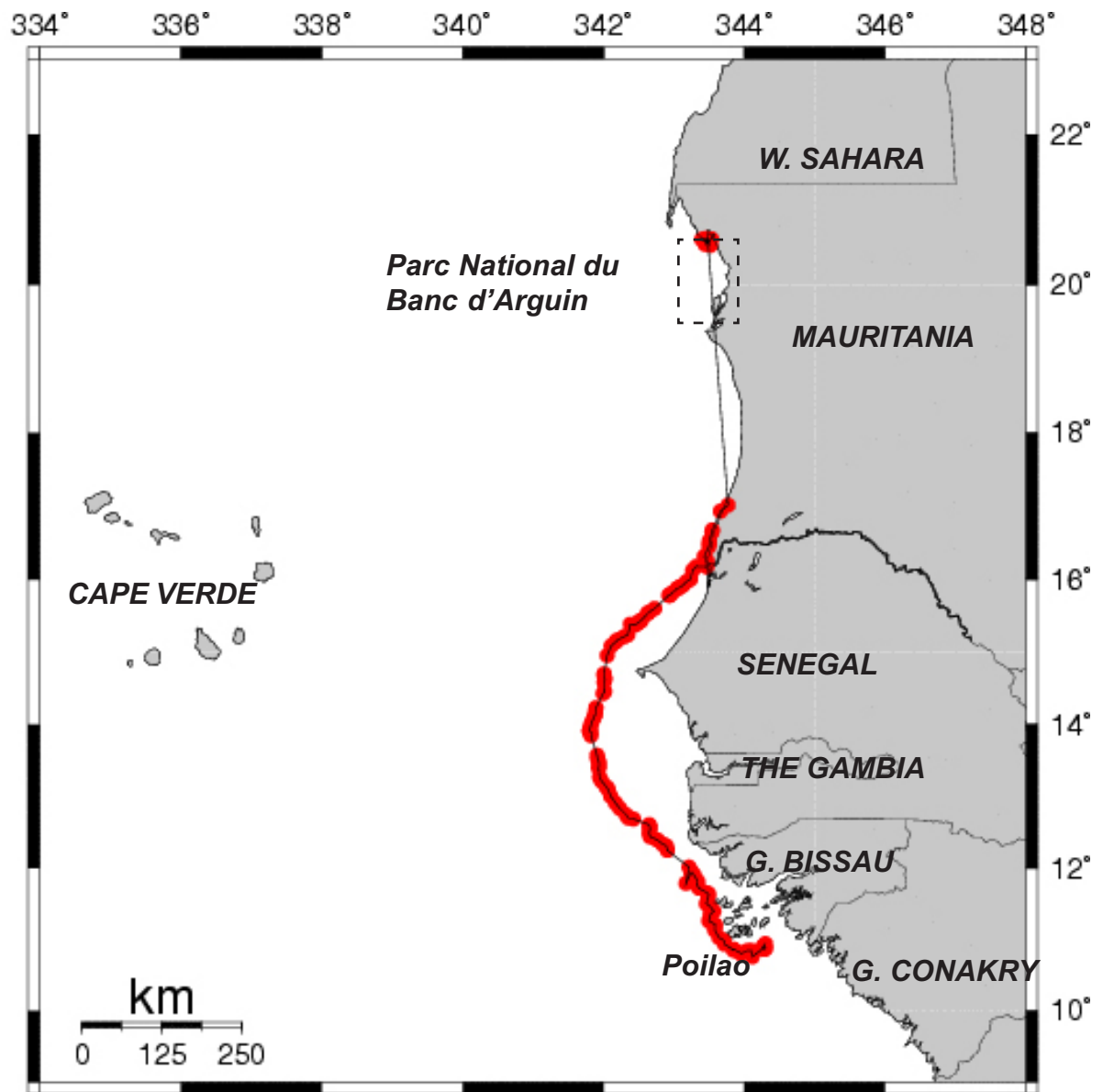


Figure 4. Track of individual C from Poilão to Mauritania. Locations shown are corrected as per Godley *et al.* (2002).

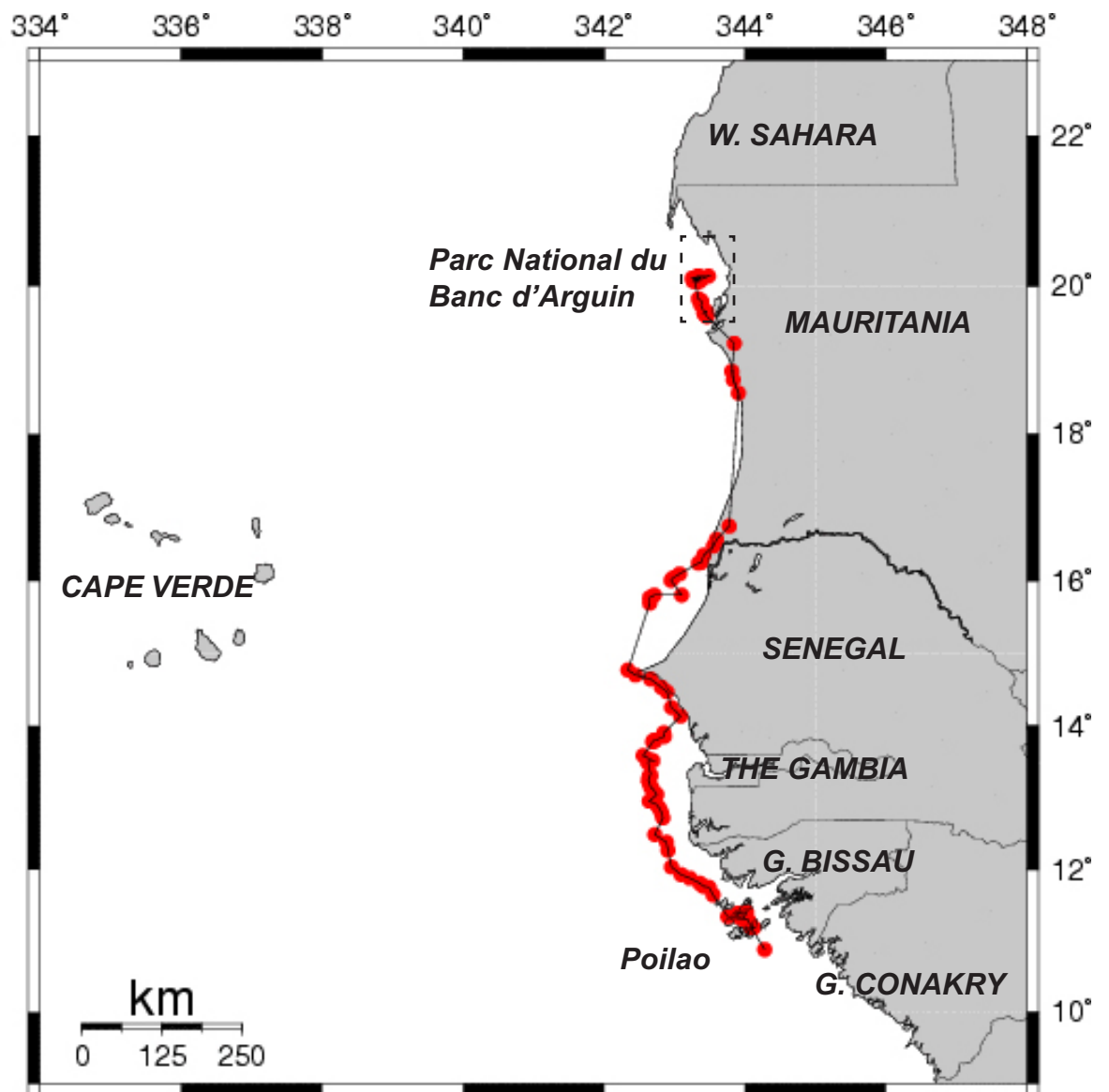


Figure 5. Track of individual D from Poilão to Mauritania. Locations shown are corrected as per Godley *et al.* (2002).

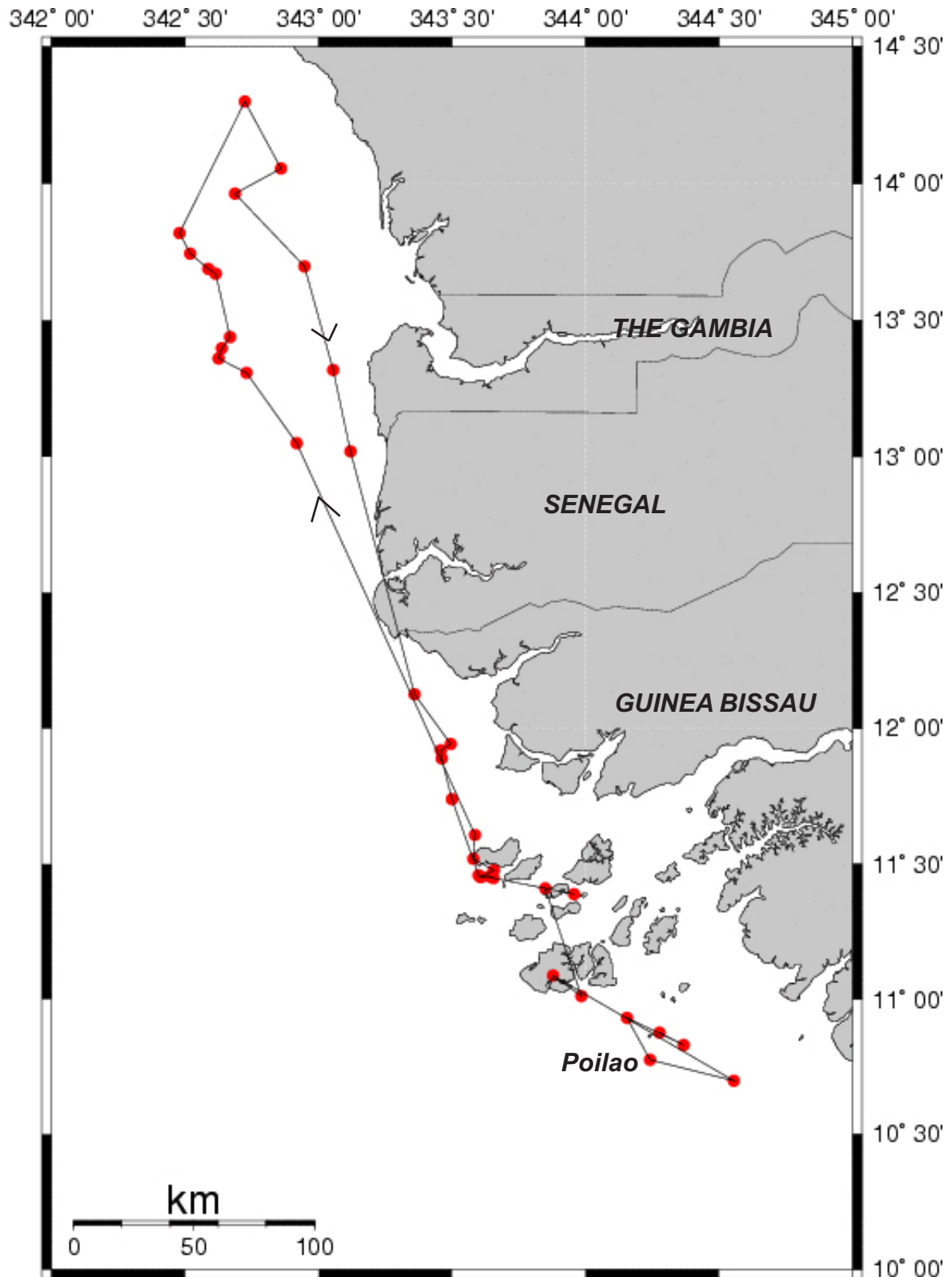


Figure 6. Track of individual E from Poilão to Senegal and returning to the Bijagos. Locations shown are corrected as per Godley *et al.* (2002).

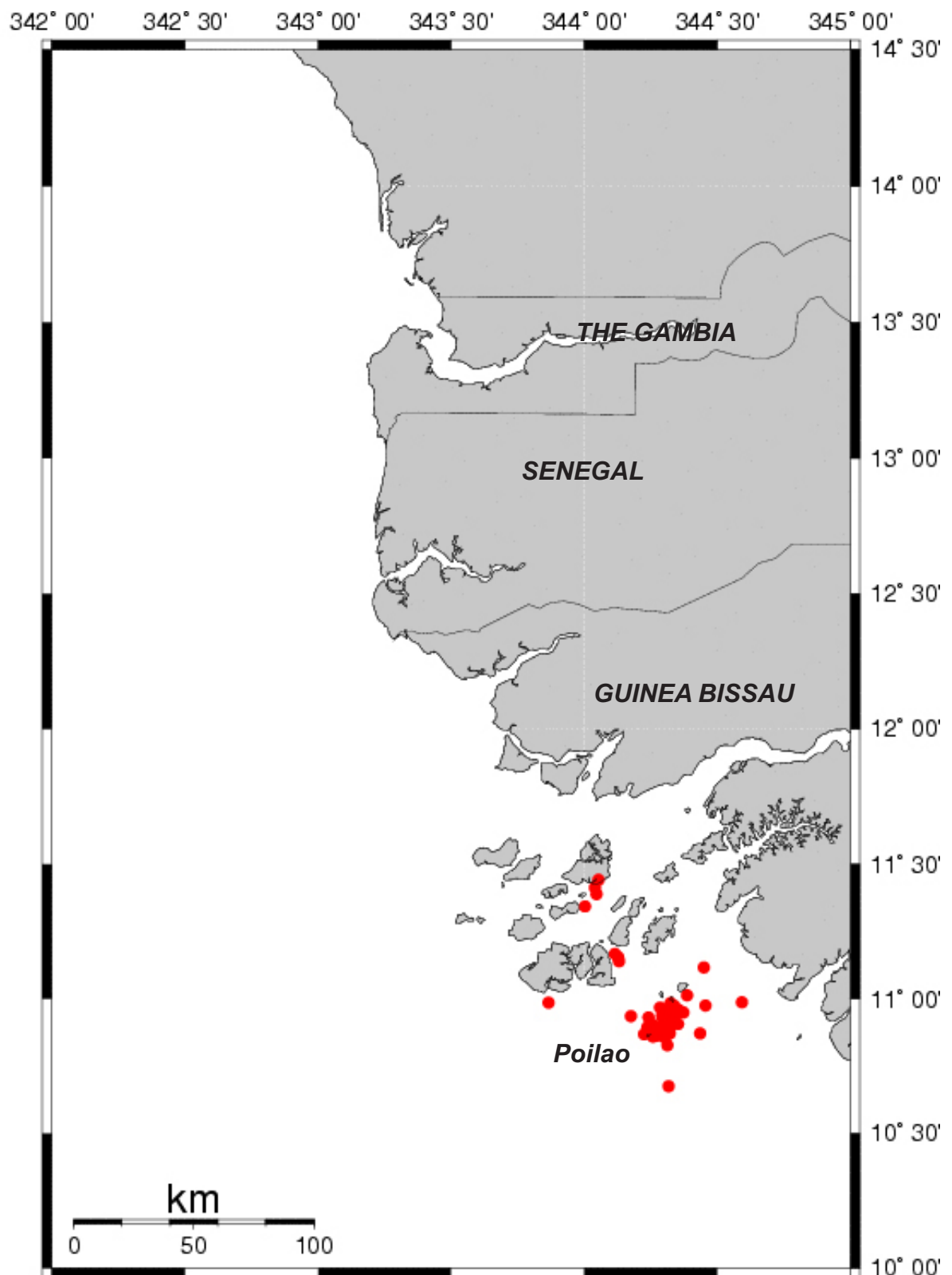


Figure 7. Track of individual F around Poilão and the Bijagos Archipelago. Locations shown are classes 1, 2, 3 and A.

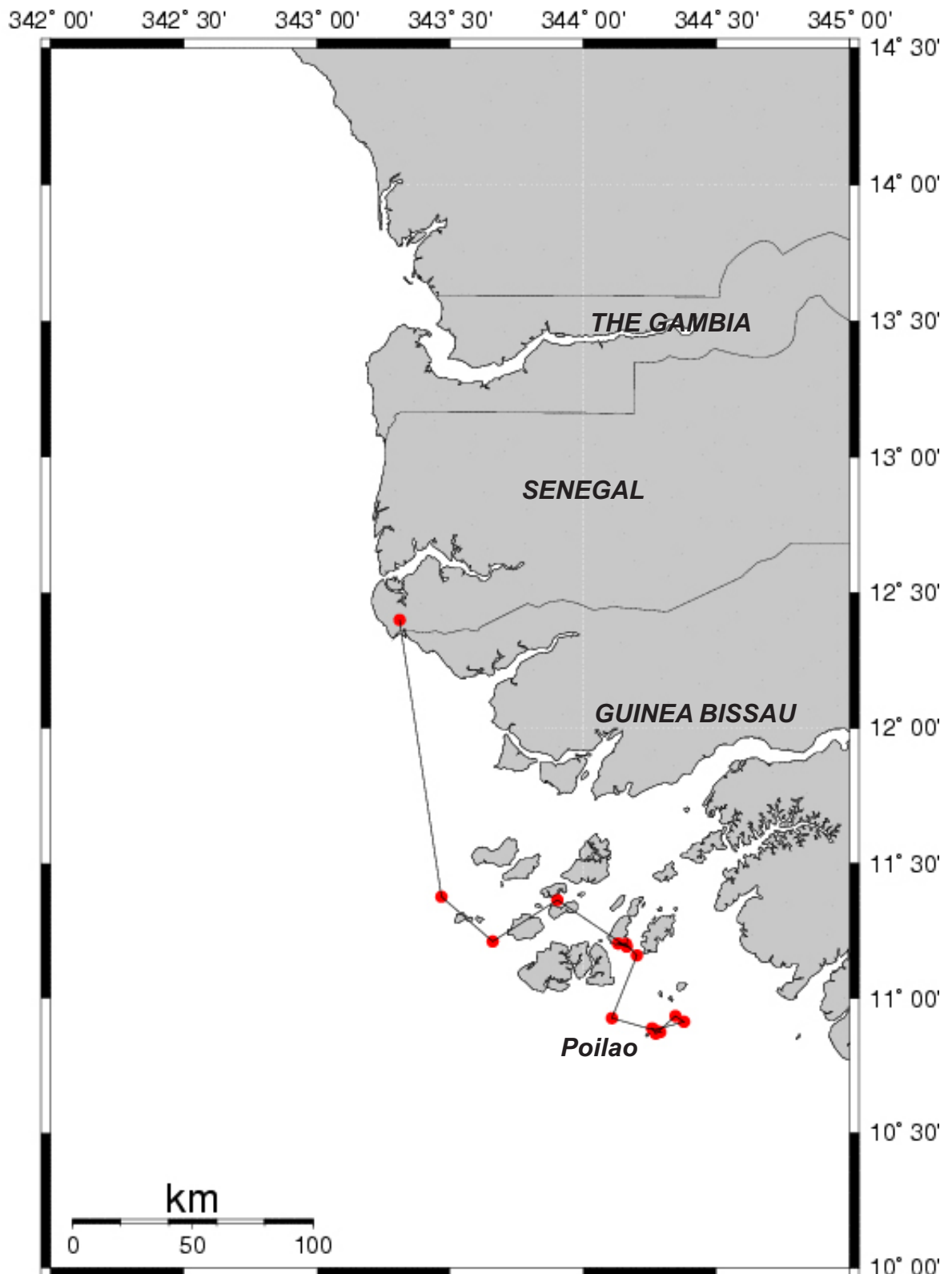


Figure 8. Track of individual G from Poilão north into Senegalese waters. Locations shown are classes 1, 2, 3 and A.

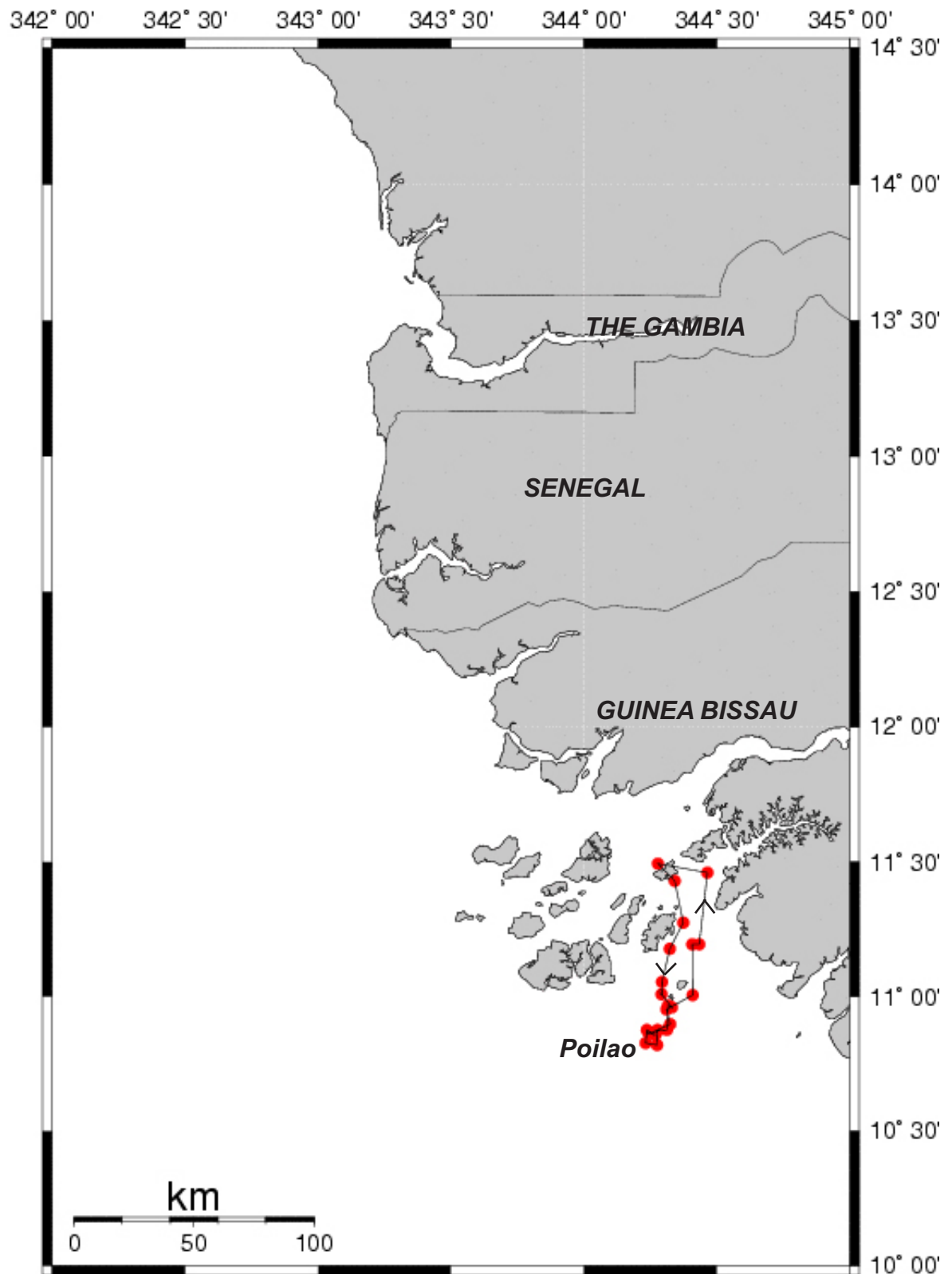


Figure 9. Track of individual H from Poilão, towards the mainland and back to Poilão. Locations shown are classes 1, 2, 3 and A.

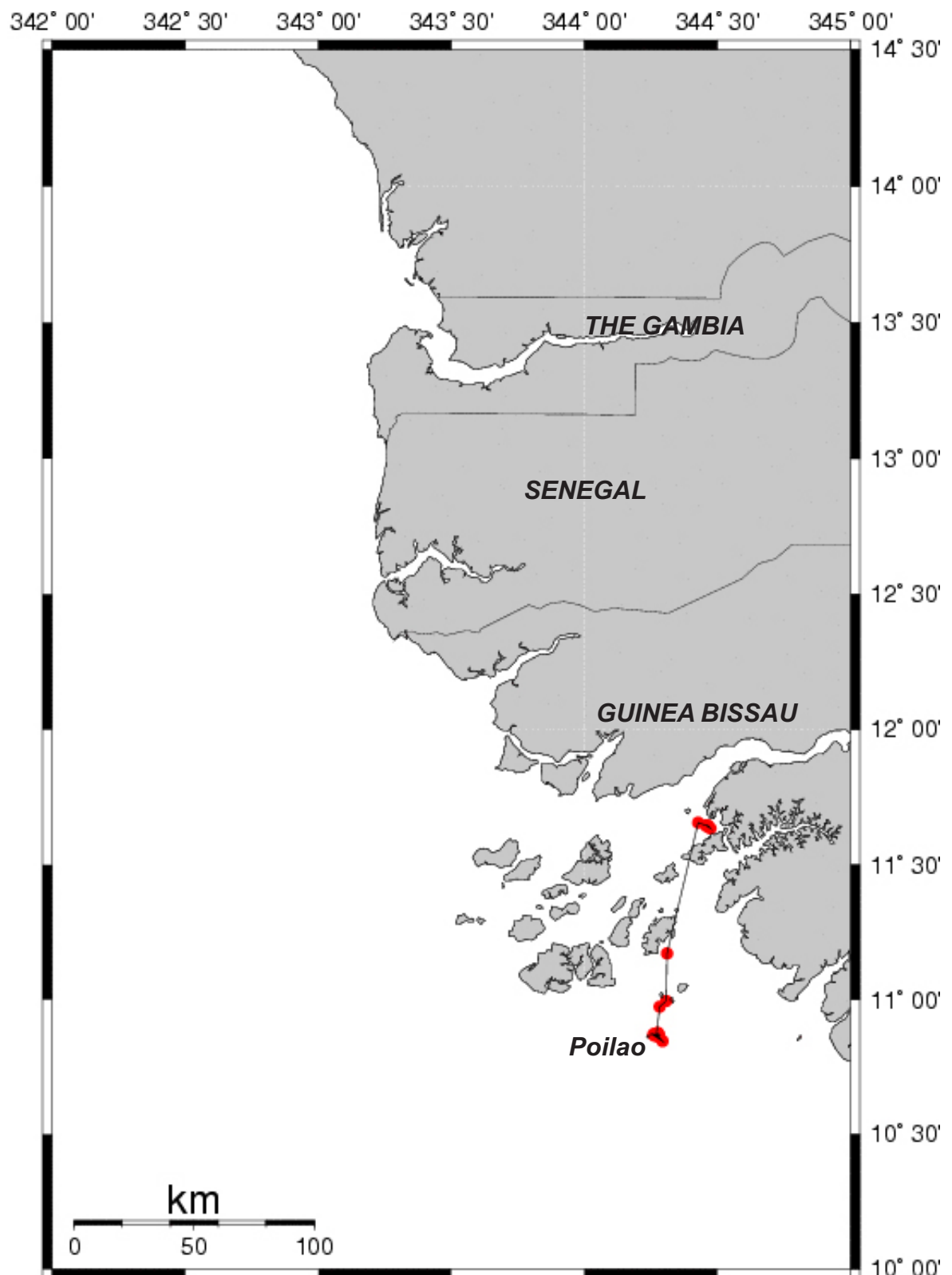


Figure 10. Track of individual I from Poilão to the mainland. Locations shown are classes 1, 2, 3 and A.

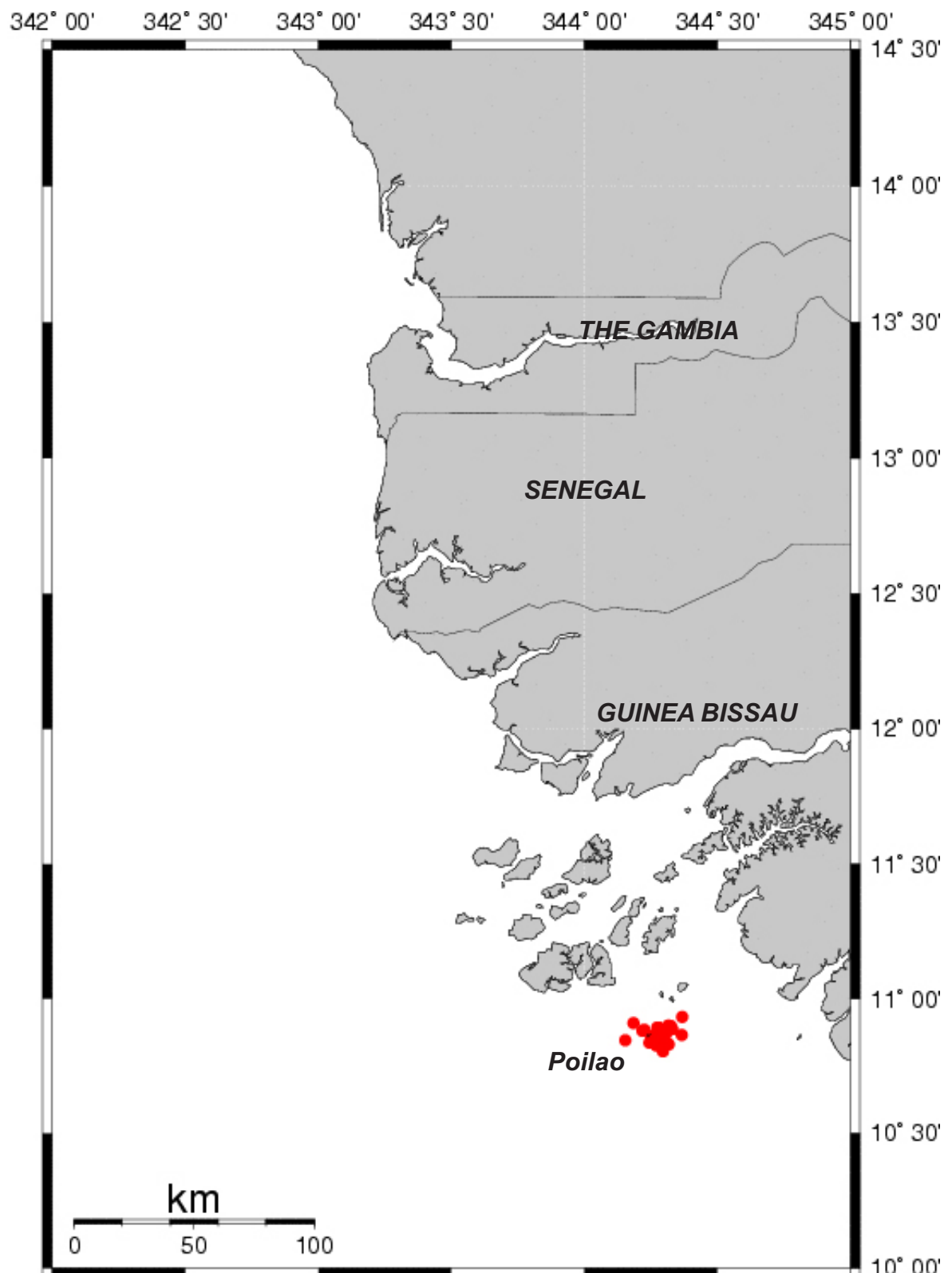


Figure 11. Track of individual J around Poilão. Location classes 1, 2, 3 and A are shown.

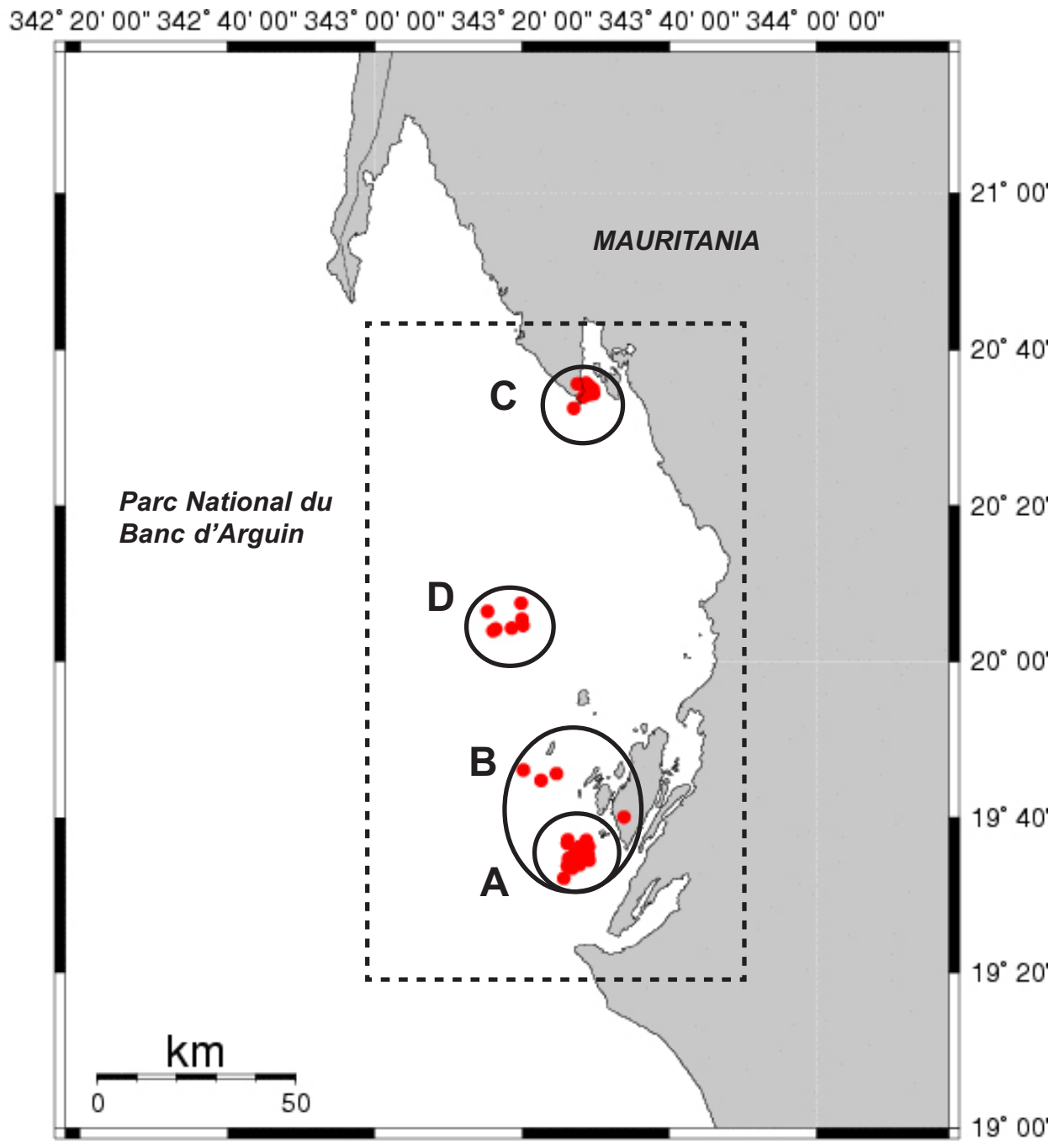


Figure 12. Foraging arease of individuals A-D in the Parc National du Banc D'Arguin. Location Classes shown are 1, 2, 3 and A.