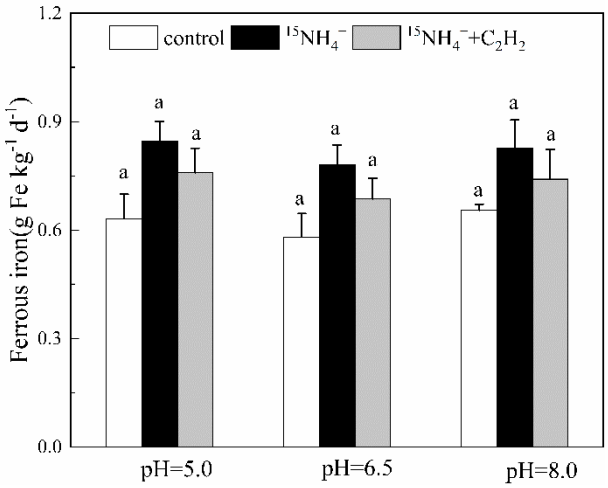

Figure S1. Fe(III) reduction rates measured in the isotope tracer incubations. The different small letters above the column denote statistically significant (P<0.05) differences in different pH groups.

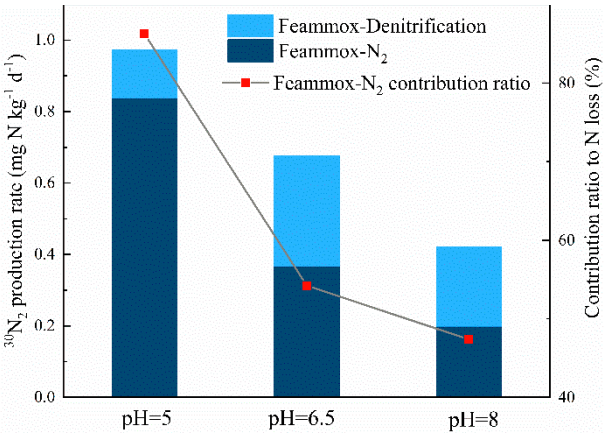

Figure S2. The contribution of Feammox to N_2 pathway (Feammox-N_2) to gaseous N loss.

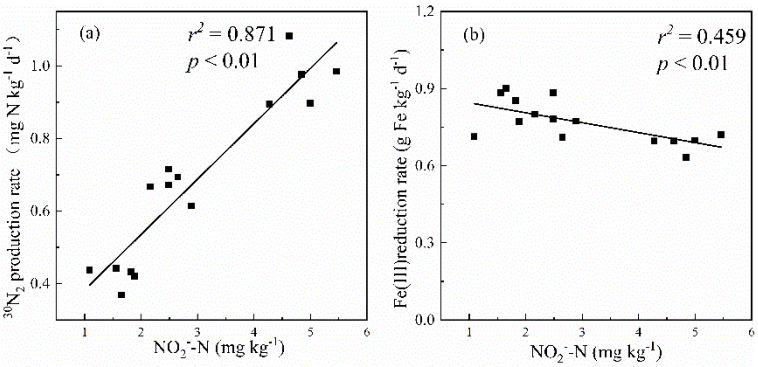

Figure S3. Pearson's correlations of nitrite concentrations with both Feammox rates (a) and Fe(III) reduction rates (b).

Table S1 Researches on Feammox in natural environments

	Soil pH	Microbially reducible Fe(III) /g kg^{-1}	Total Fe /g kg^{-1}	Fe reduction rate /g Fe kg^{-1} d^{-1}	Feammox rates /mg N kg^{-1} day^{-1}
Tropical forest [6]	4.27	-	6.2	-	0.48
Paddy soils [7]	4.7-5.7	0.54-4.5	26-65	0.02-0.86	0.04-0.44
Yangtze Estuary [8]	8.32-8.75	0.48-1.08	-	0.17-0.24	0.24-0.36
Riparian zone [9]	7.23-7.43	0.94-1.53	-	0.19-0.26	0.16-0.33
Mangrove [19]	7.49-7.70	1.04	7.66	0.28-0.44	0.38-0.48
This study	5.0-8.0	2.7	87.7	0.39-0.83	0.42-0.94