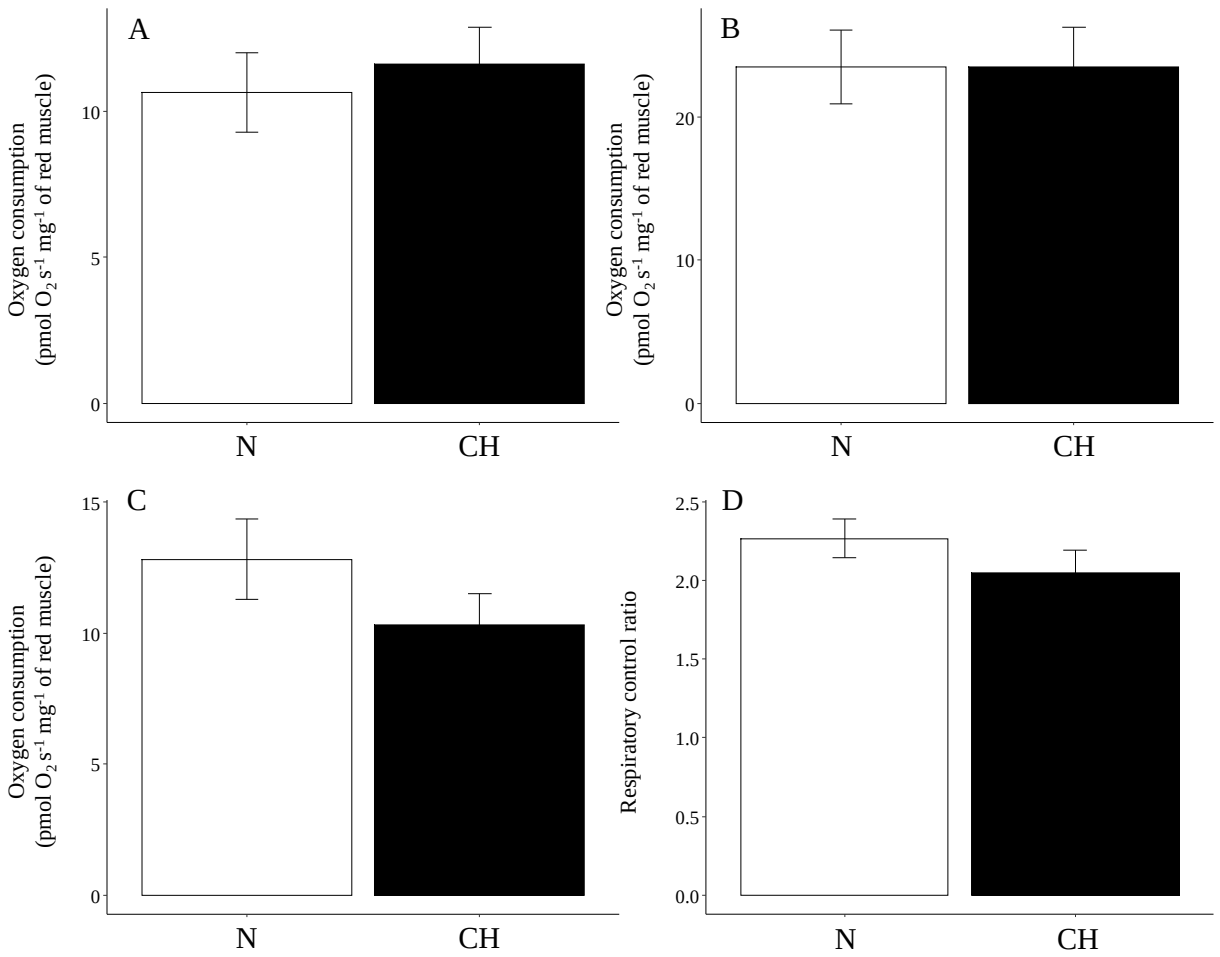


**Fig. S1. Mitochondrial parameters after a full activation of the ETS assayed in fish acclimated to normoxia (N; n=8) or constant hypoxia (CH; n=10; 10% air saturation) for 30 days.** Different parameters are represented : LEAK respiration (A) obtained after inhibiting the electron transport system with oligomycin; OXPHOS respiration (B) after having added pyruvate, malate, glutamate, ADP and succinate; cellular aerobic scope (CAS; C) by removing the LEAK respiration from the OXPHOS respiration and the respiratory control ratio (RCR; D) by dividing the OXPHOS respiration by the LEAK respiration. No effect of treatment was found on any parameter ($P > 0.05$).

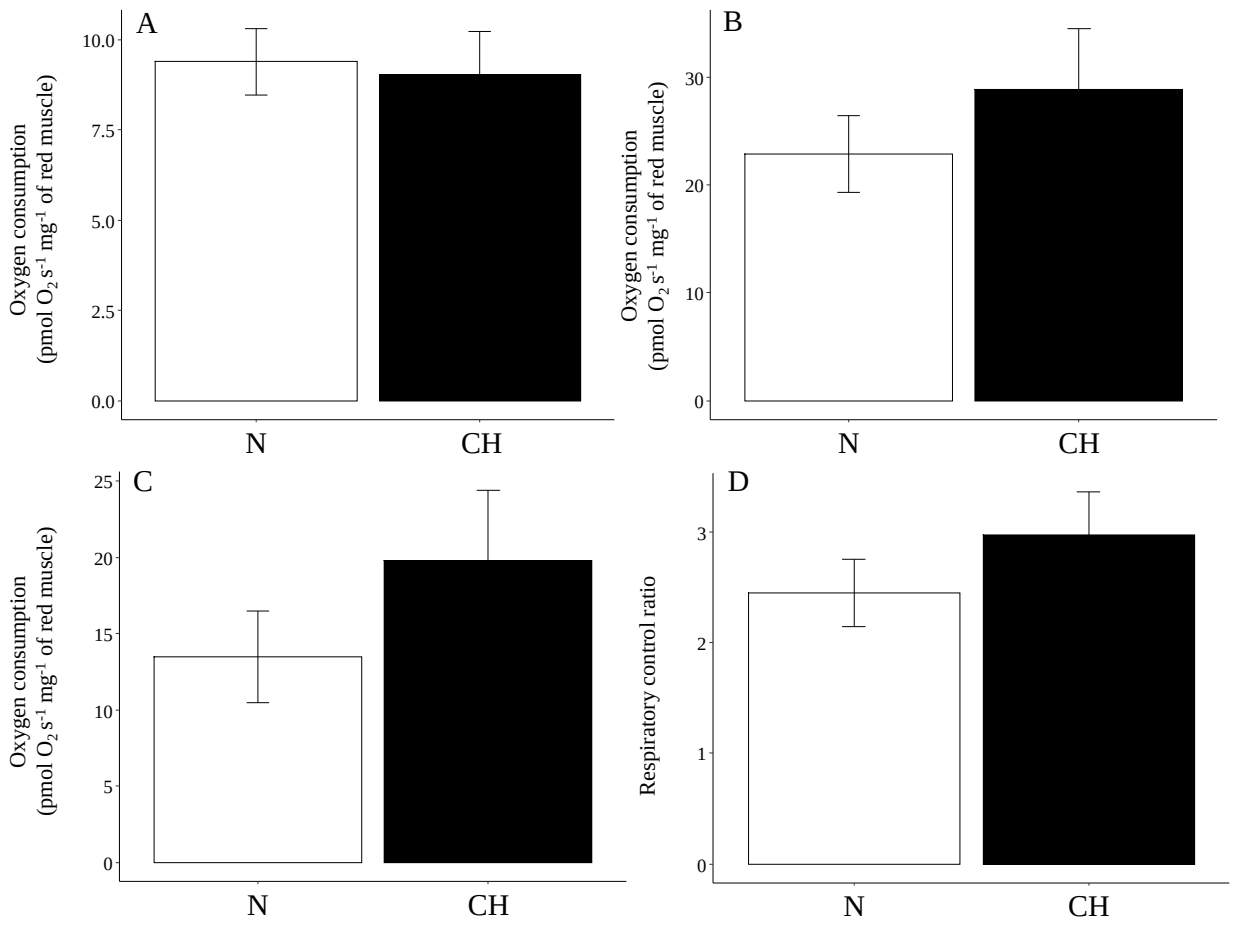


**Fig. S2**. **Mitochondrial parameters assayed in fish (N = 10 per treatment) acclimated to normoxia (N) or constant hypoxia (CH; 10% air saturation) for 10 days before the assays**. Different parameters are represented: LEAK respiration (A) obtained after inhibiting the electron transport system with oligomycin; OXPHOS respiration (B) after having added pyruvate, malate, glutamate, ADP and succinate; cellular aerobic scope (CAS; C) by removing the LEAK respiration to the OXPHOS respiration and the respiratory control ratio (RCR; D) by dividing the OXPHOS respiration by the LEAK respiration. No effect of treatment was found on any parameter ($P > 0.05$).

**Table S1. Mitochondrial respiration measurements of red muscle fibres without substrates ("Fibre"), after adding antimycin A and the statistical results of their comparison (n = 7 – 10).**

| | SN | | SIH | | SCH | | TN | | TIH | |
|---|---|---|---|---|---|---|---|---|---|---|
| Substrate | Glycolytic | Lipidic | Glycolytic | Lipidic | Glycolytic | Lipidic | Glycolytic | Lipidic | Glycolytic | Lipidic |
| Fibre | 0.71 ± 0.36 | 0.72 ± 0.70 | 1.29 ± 0.43 | 1.30 ± 0.45 | 0.84 ± 0.43 | 1.54 0.37 | 1.14 ± 0.40 | 1.36 ± 0.36 | 0.35 ± 0.41 | 0.40 ± 0.29 |
| Antimycin A | 2.55 ± 0.47 | 0.75 ± 0.37 | 2.16 ± 0.55 | 0.93 ± 0.25 | 1.22 ± 0.56 | 0.01 ± 0.37 | 2.25 ± 0.30 | 0.66 ± 0.39 | 1.29 ± 0.54 | 0.30 ± 0.28 |
| Statistical analysis | $P$ = 0.012 | n.s. | n.s. | n.s. | n.s. | n.s. | $P$ = 0.045 | n.s. | n.s. | n.s. |

**Table S2. Parameters of the linear mixed models used in the study.** Except for the $MO_2$ for which groups and hours were considered as fixed effect, the rest of the results are those of the analyses having as fixed effects the treatment (training or not) and the acclimation condition (normoxia, intermittent or constant hypoxia). When the interaction between treatment and acclimation condition was not significant, the analysis was refined to look at the effect of acclimation condition on the sedentary groups (SN, SIH and SCH) on the one hand and the effect of training and intermittent hypoxia on the SN, SIH, TN and TIH groups on the other. The effects shown are those of the first model, and then of the most simplified models.

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