Table S1: Mean values (± s.e.m.) for all measurements (see Figure 1 for the experimental schedule and for the timing of the different measures performed) for parasite intensities, immune indices, body mass, and repetabilities assorted with their 95% confidence interval (95%CI). Repeatabilities were computed with R package *rptR* (Schielzeth & Nakagawa 2013; R Development Core Team 2014) with either ANOVA-based procedure from Lessells & Boag (1987) for Gaussian data (haematocrit, log-transformed sedimentation rate, square root-transformed WBC, arcsine square root-transformed proportion of lymphocytes, heterophils, monocytes and eosinophiles, square root transformed H/L ratio and body mass) or generalized linear mixed-effects models (GLMM) for link-scale repeatabilities accounting for multiplicative overdispersion following Nakagawa & Schielzeth (2010) for count data (*Philopterus sp.*, *Plasmodium sp.*, *Hymenolepis sp.*, *Isospora turdi*). All 95% CI are above zero, therefore all repeatabilites are significant.

Kind of measure	Day of measure according to the experimental schedule									Repetability
	D-2	D7	D8	D9	D10	D11	D12	D13	D14	
Parasites										
Philopterus sp.	-	14.40 ± 2.41	-	-	-	-	-	-	17.20 ± 2.09	0.64 [0.52; 0.82]
Plasmodium sp.	-	10.92 ± 3.53	-	-	-	-	-	-	11.76 ± 3.81	0.98 [0.90; 0.99]
Hymenolepis sp.	-	-	202.77 ± 30.71	201.13 ± 27.91	194.60 ± 27.18	160.07 ± 23.77	221.20 ± 28.45	210.00 ± 29.06	-	0.62 [0.50; 0.75]
Isospora turdi	-	-	1182.07 ± 289.27	3286.27 ± 653.08	1249.03 ± 286.68	1725.97 ± 513.67	3533.13 ± 693.44	1383.67 ± 282.32	-	0.52 [0.41; 0.72]
Immune indices										
Haematocrit	-	55.10 ± 0.72	-	-	-	-	-	-	55.74 ± 0.66	0.86 [0.79; 0.94]
Sedimentation rate	-	0.375 ± 0.04	-	-	-	-	-	-	0.403 ± 0.05	0.80 [0.69; 0.90]

WBC	-	54.58 ± 3.67	-	-	-	-	-	-	54.50 ± 3.75	0.93 [0.89; 0.97]
Proportion of lymphocytes	-	0.79 ± 0.01	-	-	-	-	-	-	0.80 ± 0.01	0.83 [0.75 ; 0.92]
Proportion of heterophils	-	0.09 ± 0.01	-	-	-	-	-	-	0.09 ± 0.01	0.96 [0.94 ; 0.98]
Proportion of monocytes	-	0.04 ± 0.004	-	-	-	-	-	-	0.04 ± 0.007	0.87 [0.81; 0.94]
Proportion of eosinophiles	-	0.07 ± 0.008	-	-	-	-	-	-	0.06 ± 0.007	0.76 [0.64; 0.88]
H/L ratio	-	0.13 ± 0.02	-	-	-	-	-	-	0.13 ± 0.02	0.97 [0.96; 0.99]
Body mass (g)	87.67 ± 1.00	87.28 ± 0.95	-	-	-	-	-	-	88.05 ± 1.14	0.90 [0.86; 0.95]

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Table S2: Differences among paired measures (see TableS1) tested using either linear mixed-effects (LME) model for Gaussian data (body mass) with R package *nmle* package (R Development Core Team 2014; Pinheiro et al. 2015) or Wilcoxon signed rank tests for non-parametric data (*Philopterus sp.*, *Plasmodium sp.*, haematocrit, sedimentation rate, WBC, proportion of lymphocytes, heterophils, monocytes and eosinophiles, and H/L ratio). LME models based on rank transformation were also used instead of classical non-parametric Friedman tests for *Hymenolepis sp.* and *Isospora turdi* (see Baguley 2012). All tests are provided with their *P*-values. There was no significant decrease or increase in all immune indices or parasite load for each parasite species over the course of the experiment, with the exception of *Plasmodium sp*., showing a slight increase (TableS1), and *Isospora turdi*, showing daily variation with no particular trend, over a one-week time (TableS1). Such daily variation with alternating increases and decreases in *Isospora turdi* oocyst shedding is expected from this species (Filipiak et al. 2009). Parasite load was thus measured every day for one week to get a more relevant estimation of parasite load, using mean oocyst counts (Filipiak et al. 2009). In order to test whether increase in *Plasmodium sp*. infection could bias the results, statistical analyses (simple correlations, see Table 3, and multiple regressions, see Table 4) were run again, considering either parasite load as measured on day 7 or on day 14, and yielded the same results as those obtained using mean *Plasmodium sp*. parasite load.

	Linear mixed-effects models			Wilcoxon signed rank test	
	F	dfs	*P*	V	*P*
Parasites					
Philopterus sp.	-	-	-	159.5	0.08
Plasmodium sp.	-	-	-	67.0	0.02
Hymenolepis sp.	1.39	5, 245	0.23	-	-
Isospora turdi	21.84	5, 245	< 0.0001	-	-
Immune indices					
Haematocrit	-	-	-	434.0	0.08
Sedimentation rate	-	-	-	255.5	0.15
WBC	-	-	-	558.0	0.85
Proportion of lymphocytes	-	-	-	428.0	0.22
Proportion of heterophils	-	-	-	406.5	0.58
Proportion of monocytes	-	-	-	299.0	0.75
Proportion of eosinophiles	-	-	-	547.0	0.13
H/L ratio	-	-	-	262.0	0.75
Body mass	1.43	2, 98	0.24	-	-

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Table S3: Matrice of Spearman's ρ coefficient of correlation between pairs of immune indices (above diagonal) and associated *P*-values (below diagonal). *P*-values in bold remain significant after Benjamini-Yekutieli's correction (Benjamini & Yekutieli 2001). Immune indices were only moderately correlated, and the significant correlations did not hold after a correction for multiple tests, with the exception of the correlations between sedimentation rate (Sed. rate) and haematocrit, and between lymphocyte and heterophil concentrations and H/L ratio. These significant correlations are expected for physical (the relative abundance of erythrocytes affects their sedimentation rate, Sturkie 1986) and computational reasons, respectively, and expected to be relatively strong. This suggests that correlations among immune indices in our data set are not strong enough to justify the use of multivariate instead of univariate analyses.

	Haematocrite	Sed. rate	WBC	Lymphocyte	Heterophil	Monocyte	Eosinophil	H/L	PHA
Haematocrite	-	**-0.46**	0.16	0.13	-0.30	0.30	0.15	-0.30	0.05
Sed. rate	**< 0.001**	-	-0.03	-0.13	0.09	-0.17	0.17	0.08	-0.29
WBC	0.25	0.84	-	-0.06	-0.02	0.04	0.16	0.00	0.10
Lymphocyte	0.35	0.38	0.67	-	**-0.63**	-0.27	-0.26	**-0.66**	0.11
Heterophil	0.04	0.55	0.91	**< 0.0001**	-	-0.13	-0.22	**1.00**	0.02
Monocyte	0.03	0.25	0.76	0.06	0.37	-	-0.16	-0.11	0.03
Eosinophil	0.31	0.24	0.28	0.06	0.12	0.26	-	-0.2	-0.2
H/L	0.03	0.56	0.98	**< 0.0001**	**< 0.0001**	0.45	0.17	-	0.01
PHA	0.75	0.04	0.50	0.44	0.89	0.84	0.17	0.93	-

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