

Supplementary Information

Figure S1. Relationship between (\log_{10}) muscle mass and (\log_{10}) bird mass for each individual muscle. Red line indicates linear fit of reduced major axis regression. Grey lines indicate 95 % confidence intervals of the regression. Abbreviations: ILTC – Iliotibialis cranialis; A – Ambiens; FTE – Femorotibialis externus; FTM – Femorotibialis medius; FTA – Femorotibialis accessorius; FTI – Femorotibialis internus; ILTL – Iliotibialis lateralis; FCM – Flexor cruris medialis; FCL – Flexor cruris lateralis; CF – Caudofemoralis; PIF – Pubo-ischio-femoralis; OM – Obturatorius medialis; ILF - Iliofibularis; G - Gastrocnemius; FPPD3 – Flexor perforans et perforatus digiti III; FPD3 – Flexor perforatus digiti III; FPD4 – Flexor perforatus digiti IV; FDL – Flexor digitorum longus; FL – Fibularis longus; TC – Tibialis cranialis; EDL – Extensor digitorum longus

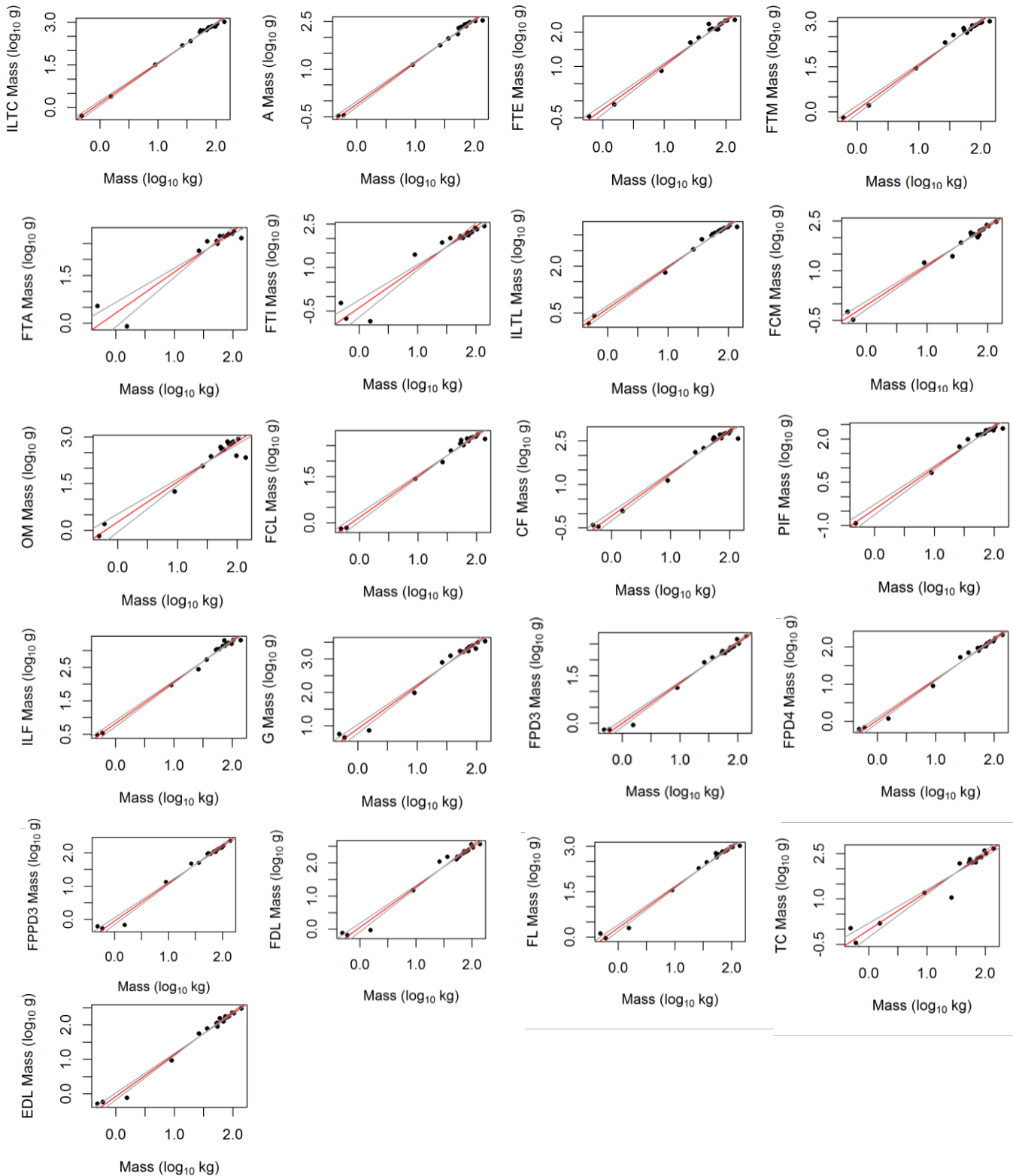


Figure S2. Relationship between (\log_{10}) muscle length and (\log_{10}) bird mass for each individual muscle. Red line indicates linear fit of reduced major axis regression. Grey lines indicate 95 % confidence intervals of the regression. Abbreviations: ILTC – Iliotibialis cranialis; A – Ambiens; FTE – Femorotibialis externus; FTM – Femorotibialis medius; FTA – Femorotibialis accessorius; FTI – Femorotibialis internus; ILTL – Iliotibialis lateralis; FCM – Flexor cruris medialis; FCL – Flexor cruris lateralis; CF – Caudofemoralis; PIF – Pubo-ischio-femoralis; OM – Obturatorius medialis; ILF – Iliofibularis; G - Gastrocnemius; FPPD3 – Flexor perforans et perforatus digiti III; FPD3 – Flexor perforatus digiti III; FPD4 – Flexor perforatus digiti IV; FDL – Flexor digitorum longus; FL – Fibularis longus; TC – Tibialis cranialis; EDL – Extensor digitorum longus

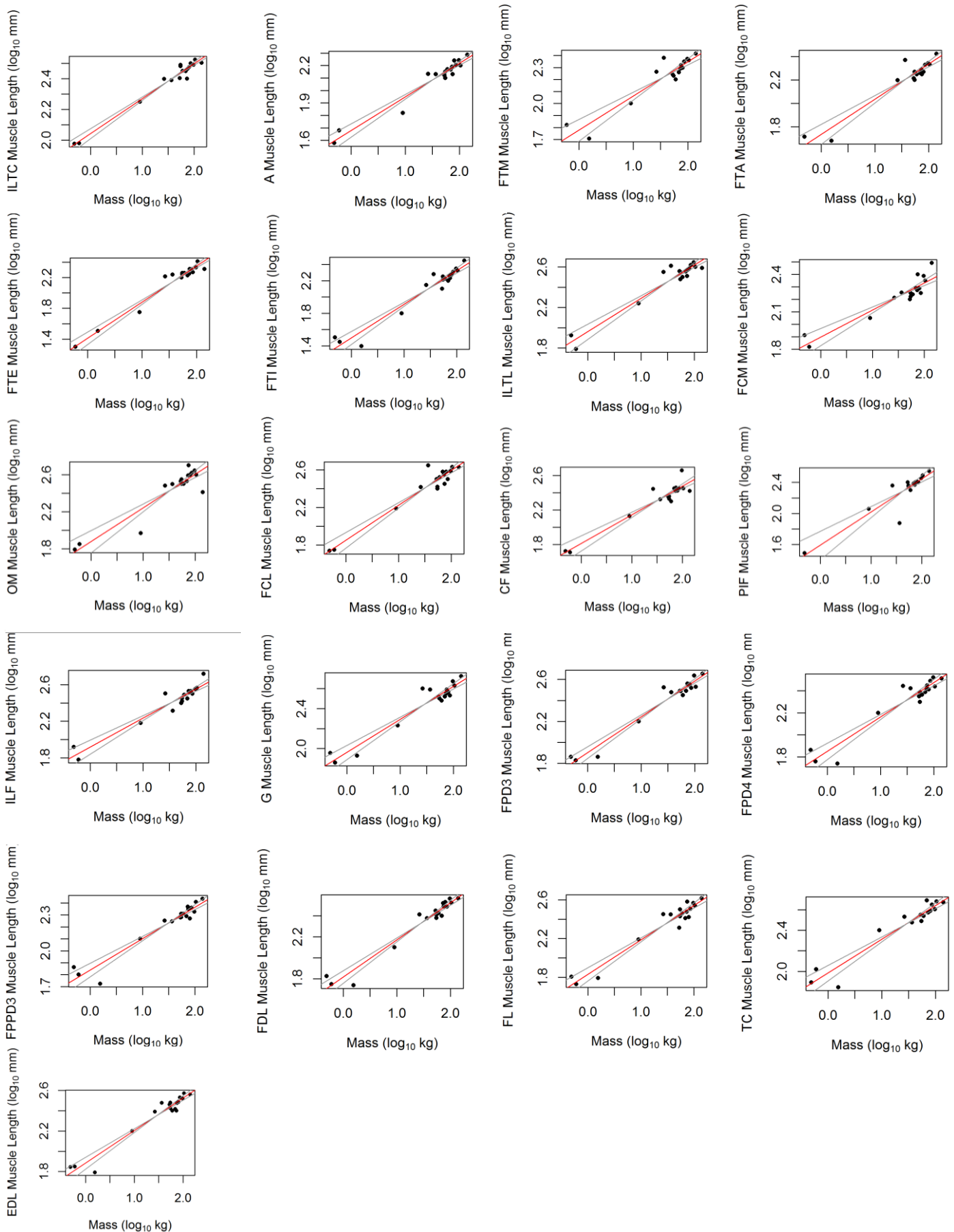


Figure S3. Relationship between (\log_{10}) mean muscle fibre length and (\log_{10}) bird mass for each individual muscle. Red line indicates linear fit of reduced major axis regression. Grey lines indicate 95 % confidence intervals of the regression. Abbreviations: ILTC – Iliotibialis cranialis; A – Ambiens; FTE – Femorotibialis externus; FTM – Femorotibialis medius; FTA – Femorotibialis accessorius; FTI – Femorotibialis internus; ILTL – Iliotibialis lateralis; FCM – Flexor cruris medialis; FCL – Flexor cruris lateralis; CF – Caudofemoralis; PIF – Pubo-ischio-femoralis; OM – Obturatorius medialis; ILF – Iliofibularis; G - Gastrocnemius; FPPD3 – Flexor perforans et perforatus digiti III; FPD3 – Flexor perforatus digiti III; FPD4 – Flexor perforatus digiti IV; FDL – Flexor digitorum longus; FL – Fibularis longus; TC – Tibialis cranialis; EDL – Extensor digitorum longus

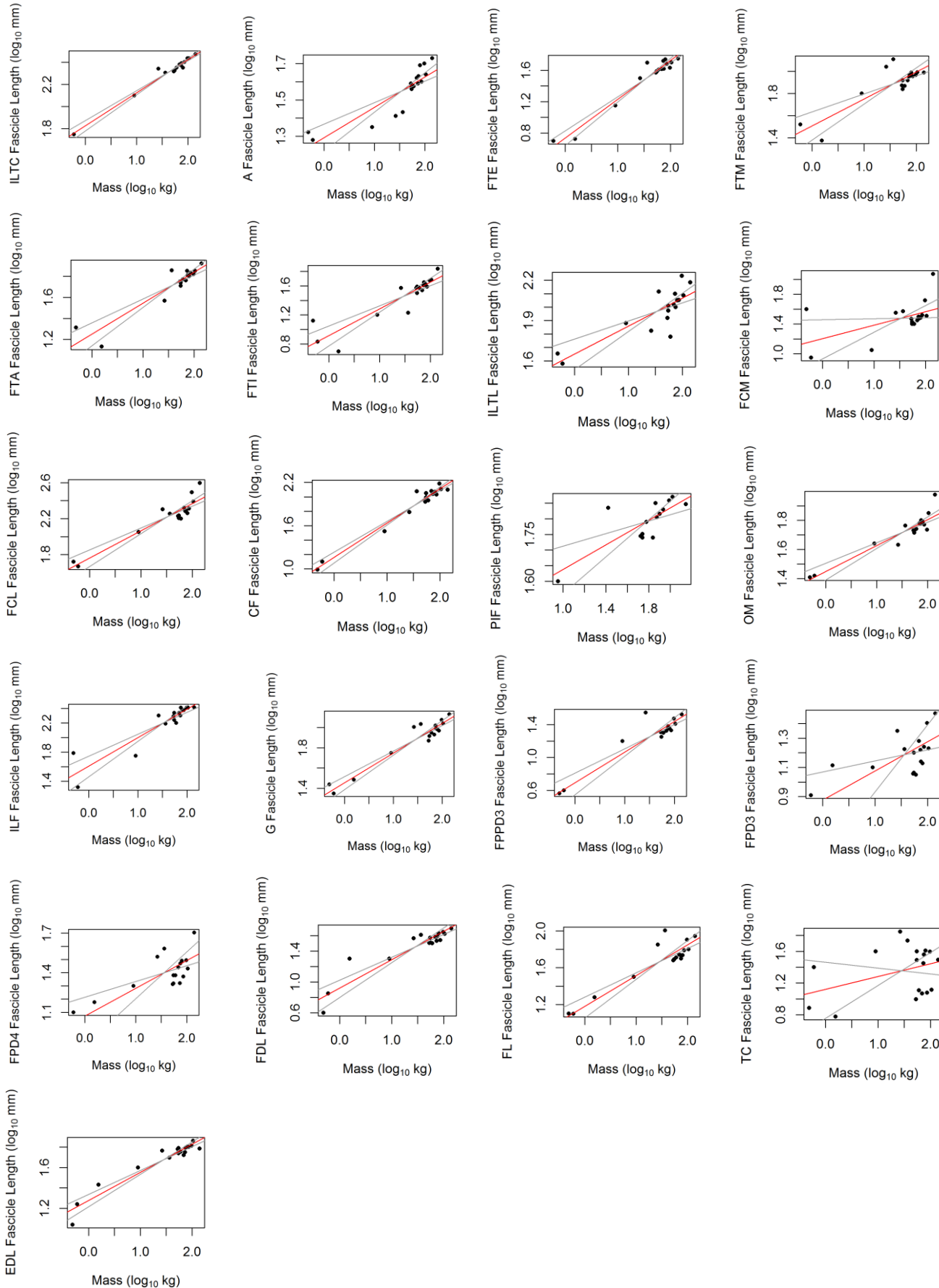


Figure S4. Relationship between (\log_{10}) Muscle Physiological Cross Sectional Area (PCSA) and (\log_{10}) bird mass for each individual muscle. Red line indicates linear fit of reduced major axis regression. Grey lines indicate 95 % confidence intervals of the regression. Abbreviations: ILTC – Iliotibialis cranialis; A – Ambiens; FTE – Femorotibialis externus; FTM – Femorotibialis medius; FTA – Femorotibialis accessorius; FTI – Femorotibialis internus; ILTL – Iliotibialis lateralis; FCM – Flexor cruris medialis; FCL – Flexor cruris lateralis; CF – Caudofemoralis; PIF – Pubo-ischio-femoralis; OM – Obturatorius medialis; ILF - Iliofibularis; G - Gastrocnemius; FPPD3 – Flexor perforans et perforatus digiti III; FPD3 – Flexor perforatus digiti III; FPD4 – Flexor perforatus digiti IV; FDL – Flexor digitorum longus; FL – Fibularis longus; TC – Tibialis cranialis; EDL – Extensor digitorum longus

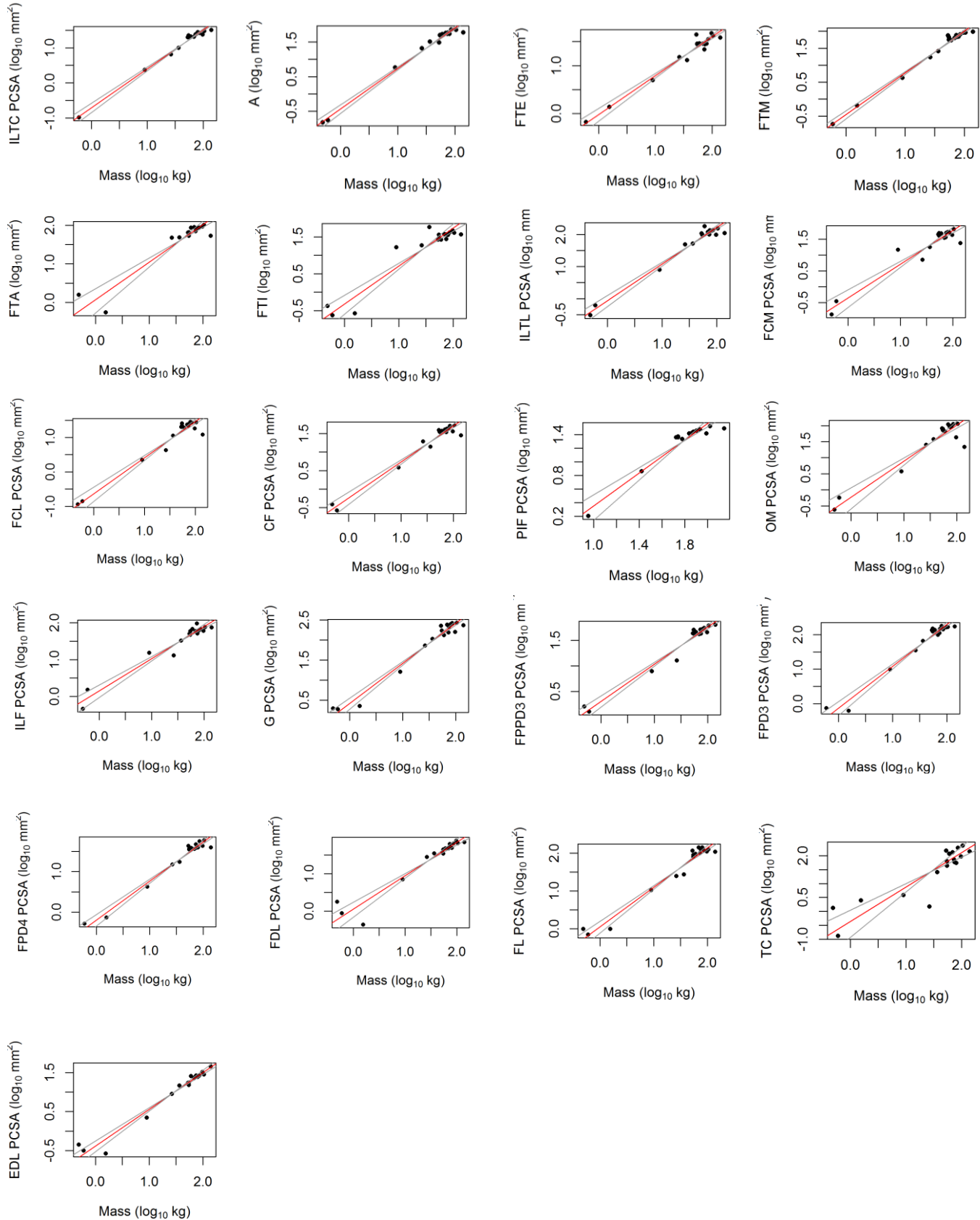
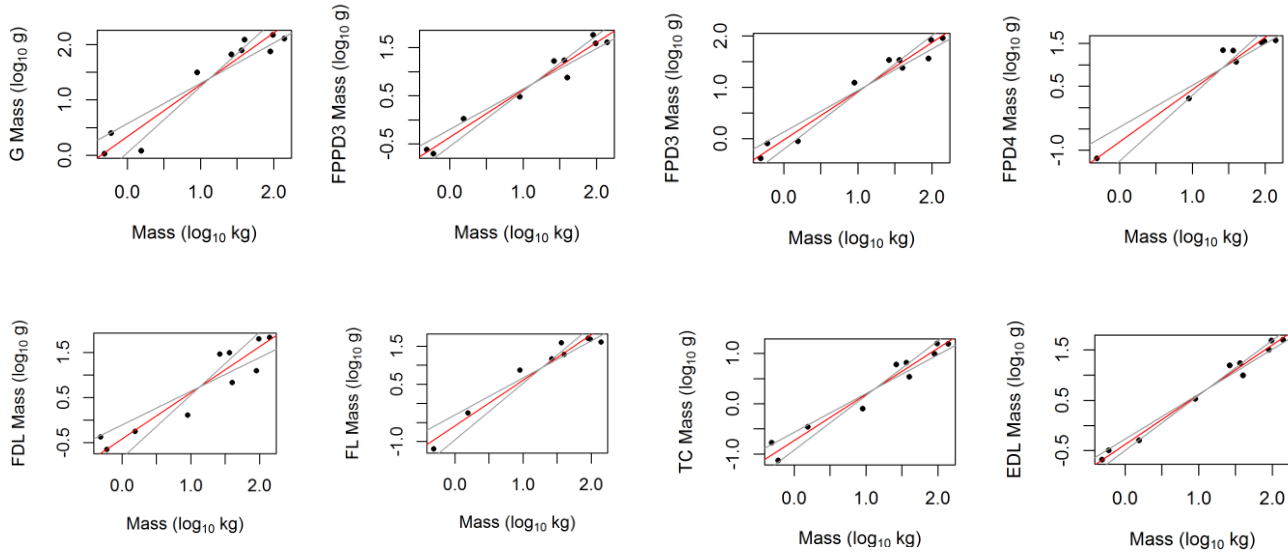
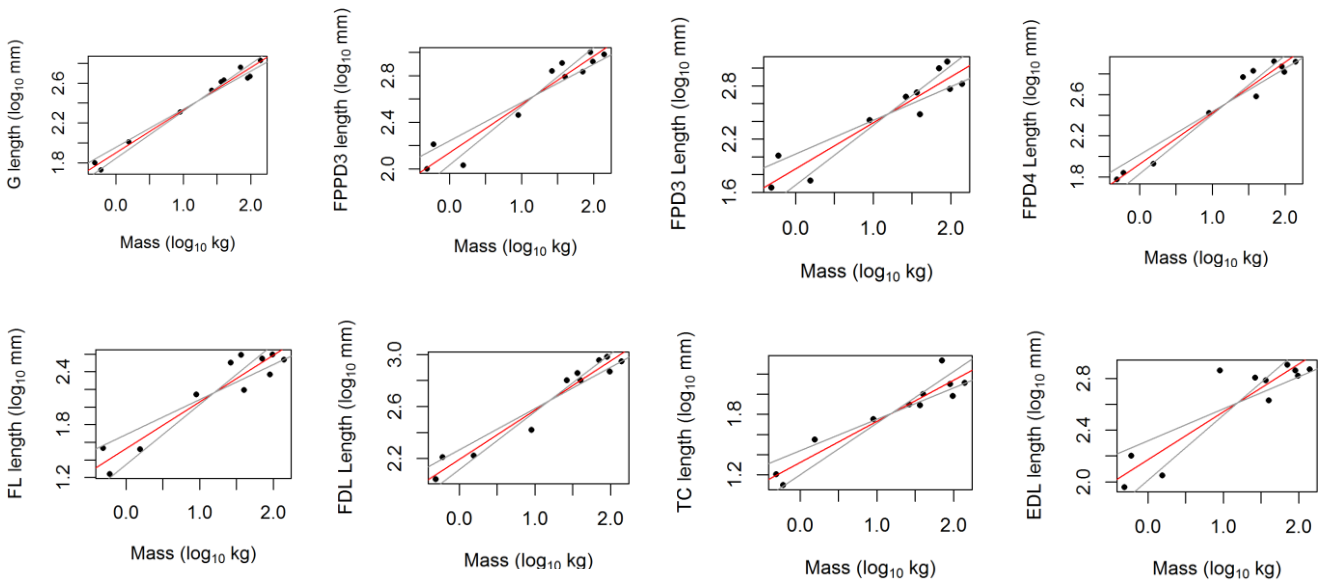


Figure S5. Relationship between (a) (\log_{10}) tendon mass and (\log_{10}) bird mass; (b) (\log_{10}) tendon length and (\log_{10}) bird mass; and (c) (\log_{10}) tendon cross sectional area (CSA) and (\log_{10}) bird mass for each individual tendon. Red line indicates linear fit of reduced major axis regression. Grey lines indicate 95 % confidence intervals of the regression. Abbreviations: G - Gastrocnemius; FPPD3 – Flexor perforans et perforatus digiti III; FPD3 – Flexor perforatus digiti III; FPD4 – Flexor perforatus digiti IV; FDL – Flexor digitorum longus; FL – Fibularis longus; TC – Tibialis cranialis; EDL – Extensor digitorum longus

A



B



C

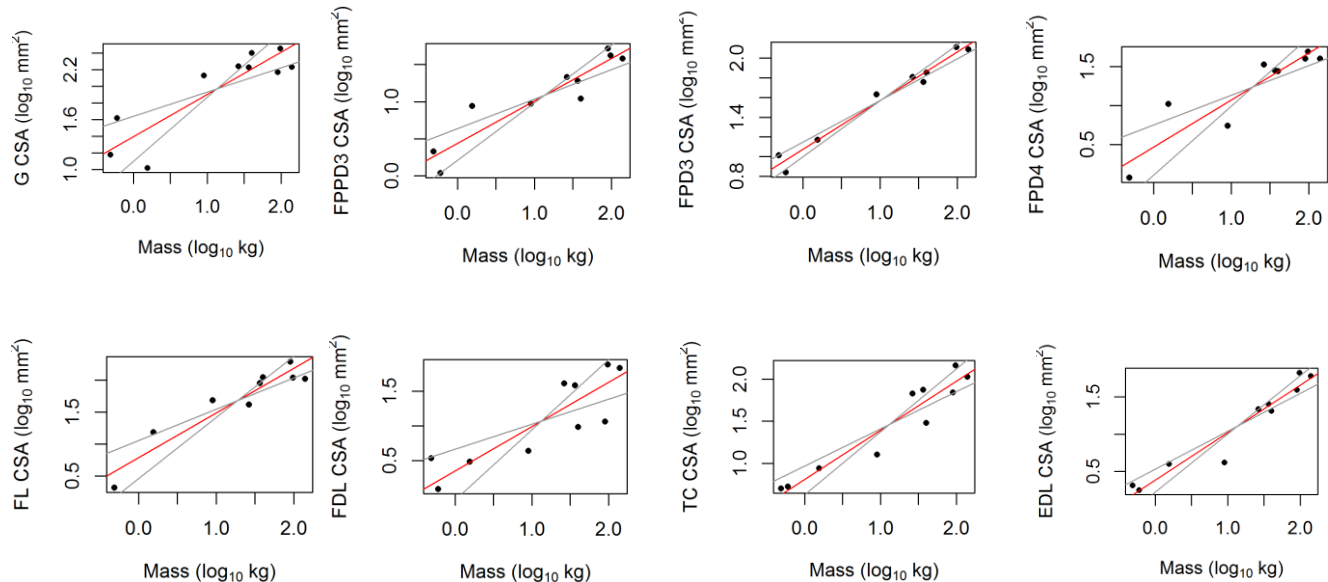


Figure S6. Relationship between (\log_{10}) bird mass and (a) (\log_{10}) tendon cross sectional area (CSA_B); (b) (\log_{10}) tendon stiffness; (c) (\log_{10}) tendon Young's Modulus; (d) (\log_{10}) tendon energy storage; (e) (\log_{10}) tendon energy return; and (f) (\log_{10}) tendon hysteresis for each individual tendon used for mechanical testing. Red line indicates linear fit of reduced major axis regression. Grey lines indicate 95 % confidence intervals of the regression. Abbreviations: FPD3 – Flexor perforatus digiti III; FPD4 – Flexor perforatus digiti IV; EDL – Extensor digitorum longus

