

Supplementary Material 2. Mitochondrial *cox1* gene sequence divergences between closely related congeneric species of parasitic lice

Closely related congeneric species of parasitic lice		Parvorder	<i>cox1</i> divergence	Host divergence time ^A
<i>Haematopinus apri</i> (KC814616, ex <i>Sus scrofa scrofa</i> ^B)	<i>Haematopinus suis</i> (KC814607, ex <i>Sus scrofa domesticus</i>)	Anoplura	6%	11,400 years ago ^C
<i>Heterodoxus macropus</i> (AF270939, ex <i>Macropus agilis</i>)	<i>Heterodoxus spiniger</i> (MW199168, ex <i>Macropus agilis</i>)	Amblycera	10%	Same host species ^D
<i>Franciscoloa pallida</i> (ON016538, ex <i>Cacatua galerita</i>)	<i>Franciscoloa roseicapillae</i> (ON303707, ex <i>Cacatua sanguinea</i>)	Amblycera	10%	9.4 MYA ^E
<i>Franciscoloa pallida</i> (ON016538, ex <i>Cacatua galerita</i>)	<i>Franciscoloa funerei</i> (ON016537, ex <i>Calyptorhynchus funereus</i>)	Amblycera	16%	24.7 MYA
<i>Pthirus pubis</i> (HM241898, ex <i>Homo sapiens</i>)	<i>Pthirus gorilla</i> (MW803126, ex <i>Gorilla gorilla</i>)	Anoplura	16%	Host switch 3-4 MYA ^F
African elephant lice (current study, ex <i>Loxodonta africana</i>)	Asian elephant lice (current study, ex <i>Elephas maximus</i>)	Rhynchopthirina	~17%	8.4 MYA

<i>Pediculus humanus</i> (HM357247, ex <i>Homo sapiens</i>)	<i>Pediculus schaeffi</i> (KC241887, ex <i>Pan troglodytes</i>)	Anoplura	20%	6.4 MYA
<i>Columbicola columbae</i> (MT113914, ex <i>Columba livia</i>)	<i>Columbicola passerinae</i> (MT094270, ex <i>Columbina cruziana</i>)	Ischnocera	22%	26.9 MYA
<i>Bovicola ovis</i> (MH001203, ex <i>Ovis aries</i>)	<i>Bovicola caprae</i> (MH001178, ex <i>Capra hircus</i>)	Trichodectera	27%	9.3 MYA

Notes: ^AMedian host divergence time obtained from TimeTree (Kumar et al. 2017) unless otherwise referenced; ^BGenBank accession number and host species name in parentheses; ^CVigne et al. 2009; ^D*Heterodoxus spiniger* also present in nine carnivoran species; ^EMYA – million years ago; ^FReed et al. 2004.