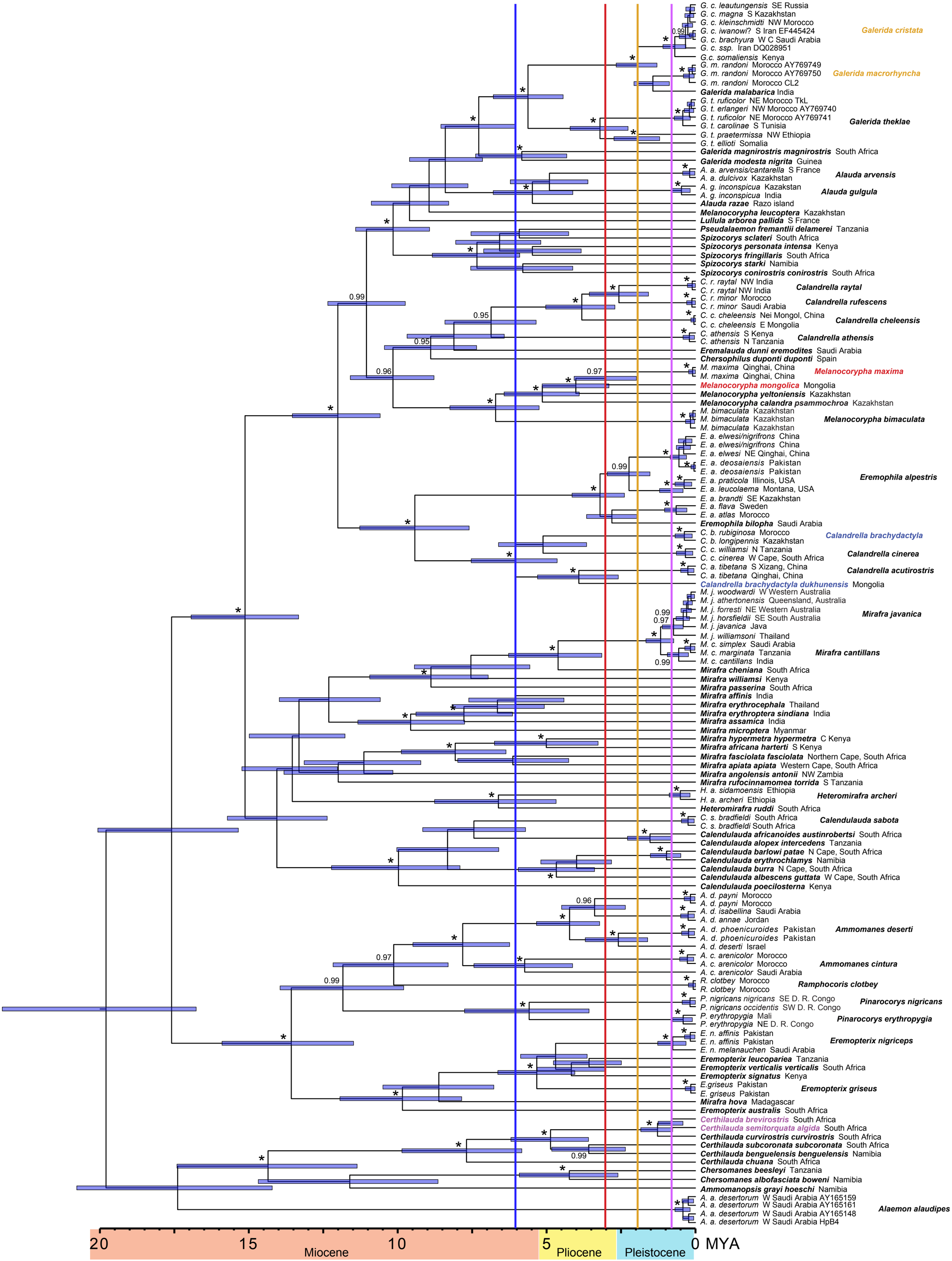
G. c. leautungensis SE Russia
G. c. magna S Kazakhstan
G. c. kleinschmidti NW Morocco
G. c. iwanowi? S Iran EF445424
G. c. brachyura W C Saudi Arabia
G. c. ssp. Iran DQ028951
G.c. somaliensis Kenya
Galerida cristata
G. m. randoni Morocco AY769749
G. m. randoni Morocco AY769750
G. m. randoni Morocco CL2
Galerida macrorhyncha
Galerida malabarica India
G. t. ruficolor NE Morocco TkL
G. t. erlangeri NW Morocco AY769740
G. t. ruficolor NE Morocco AY769741
G. t. carolinae S Tunisia
G. t. praetermissa NW Ethiopia
G. t. ellioti Somalia
Galerida theklae
Galerida magnirostris magnirostris South Africa
Galerida modesta nigrita Guinea
A. a. arvensis/cantarella S France
A. a. dulcivox Kazakhstan
Alauda arvensis
A. g. inconspicua Kazakstan
A. g. inconspicua India
Alauda gulgula
Alauda razae Razo island
Melanocorypha leucoptera Kazakhstan
Lullula arborea pallida S France
Pseudalaemon fremantlii delamerei Tanzania
Spizocorys sclateri South Africa
Spizocorys personata intensa Kenya
Spizocorys fringillaris South Africa
Spizocorys starki Namibia
Spizocorys conirostris conirostris South Africa
C. r. raytal NW India
C. r. raytal NW India
Calandrella raytal
C. r. minor Morocco
C. r. minor Saudi Arabia
Calandrella rufescens
C. c. cheleensis Nei Mongol, China
C. c. cheleensis E Mongolia
Calandrella cheleensis
C. athensis S Kenya
C. athensis N Tanzania
Calandrella athensis
Eremalauda dunni eremodites Saudi Arabia
Chersophilus duponti duponti Spain
M. maxima Qinghai, China
M. maxima Qinghai, China
Melanocorypha maxima
Melanocorypha mongolica Mongolia
Melanocorypha yeltoniensis Kazakhstan
Melanocorypha calandra psammochroa Kazakhstan
M. bimaculata Kazakhstan
M. bimaculata Kazakhstan
M. bimaculata Kazakhstan
Melanocorypha bimaculata
E. a. elwesi/nigrifrons China
E. a. elwesi/nigrifrons China
E. a. elwesi NE Qinghai, China
E. a. deosaiensis Pakistan
E. a. deosaiensis Pakistan
E. a. praticola Illinois, USA
E. a. leucolaema Montana, USA
E. a. brandti SE Kazakhstan
E. a. flava Sweden
E. a. atlas Morocco
Eremophila alpestris
Eremophila bilopha Saudi Arabia
C. b. rubiginosa Morocco
C. b. longipennis Kazakhstan
Calandrella brachydactyla
C. c. williamsi N Tanzania
C. c. cinerea W Cape, South Africa
Calandrella cinerea
C. a. tibetana S Xizang, China
C. a. tibetana Qinghai, China
Calandrella acutirostris
Calandrella brachydactyla dukhunensis Mongolia
M. j. woodwardi W Western Australia
M. j. athertonensis Queensland, Australia
M. j. forresti NE Western Australia
M. j. horsfieldii SE South Australia
M. j. javanica Java
Mirafra javanica
M. j. williamsoni Thailand
M. c. simplex Saudi Arabia
M. c. marginata Tanzania
M. c. cantillans India
Mirafra cantillans
Mirafra cheniana South Africa
Mirafra williamsi Kenya
Mirafra passerina South Africa
Mirafra affinis India
Mirafra erythrocephala Thailand
Mirafra erythroptera sindiana India
Mirafra assamica India
Mirafra microptera Myanmar
Mirafra hypermetra hypermetra C Kenya
Mirafra africana harterti S Kenya
Mirafra fasciolata fasciolata Northern Cape, South Africa
Mirafra apiata apiata Western Cape, South Africa
Mirafra angolensis antonii NW Zambia
Mirafra rufocinnamomea torrida S Tanzania
H. a. sidamoensis Ethiopia
H. a. archeri Ethiopia
Heteromirafra archeri
Heteromirafra ruddi South Africa
C. s. bradfieldi South Africa
C. s. bradfieldi South Africa
Calendulauda sabota
Calendulauda africanoides austinrobertsi South Africa
Calendulauda alopex intercedens Tanzania
Calendulauda barlowi patae N Cape, South Africa
Calendulauda erythrochlamys Namibia
Calendulauda burra N Cape, South Africa
Calendulauda albescens guttata W Cape, South Africa
Calendulauda poecilosterna Kenya
A. d. payni Morocco
A. d. payni Morocco
A. d. isabellina Saudi Arabia
A. d. annae Jordan
A. d. phoenicuroides Pakistan
A. d. phoenicuroides Pakistan
A. d. deserti Israel
Ammomanes deserti
A. c. arenicolor Morocco
A. c. arenicolor Morocco
A. c. arenicolor Saudi Arabia
Ammomanes cintura
R. clotbey Morocco
R. clotbey Morocco
Ramphocoris clotbey
P. nigricans nigricans SE D. R. Congo
P. nigricans occidentis SW D. R. Congo
Pinarocorys nigricans
P. erythropygia Mali
P. erythropygia NE D. R. Congo
Pinarocorys erythropygia
E. n. affinis Pakistan
E. n. affinis Pakistan
E. n. melanauchen Saudi Arabia
Eremopterix nigriceps
Eremopterix leucopariea Tanzania
Eremopterix verticalis verticalis South Africa
Eremopterix signatus Kenya
E.griseus Pakistan
E. griseus Pakistan
Eremopterix griseus
Mirafra hova Madagascar
Eremopterix australis South Africa
Certhilauda brevirostris South Africa
Certhilauda semitorquata algida South Africa
Certhilauda curvirostris curvirostris South Africa
Certhilauda subcoronata subcoronata South Africa
Certhilauda benguelensis benguelensis Namibia
Certhilauda chuana South Africa
Chersomanes beesleyi Tanzania
Chersomanes albofasciata boweni Namibia
Ammomanopsis grayi hoeschi Namibia
A. a. desertorum W Saudi Arabia AY165159
A. a. desertorum W Saudi Arabia AY165161
A. a. desertorum W Saudi Arabia AY165148
A. a. desertorum W Saudi Arabia HpB4
Alaemon alaudipes
0.99
0.95
0.95
0.96
0.97
0.99
0.97
0.99
0.96
0.97
0.99
0.99
20
15
10
5
0 MYA
Miocene
Pliocene
Pleistocene