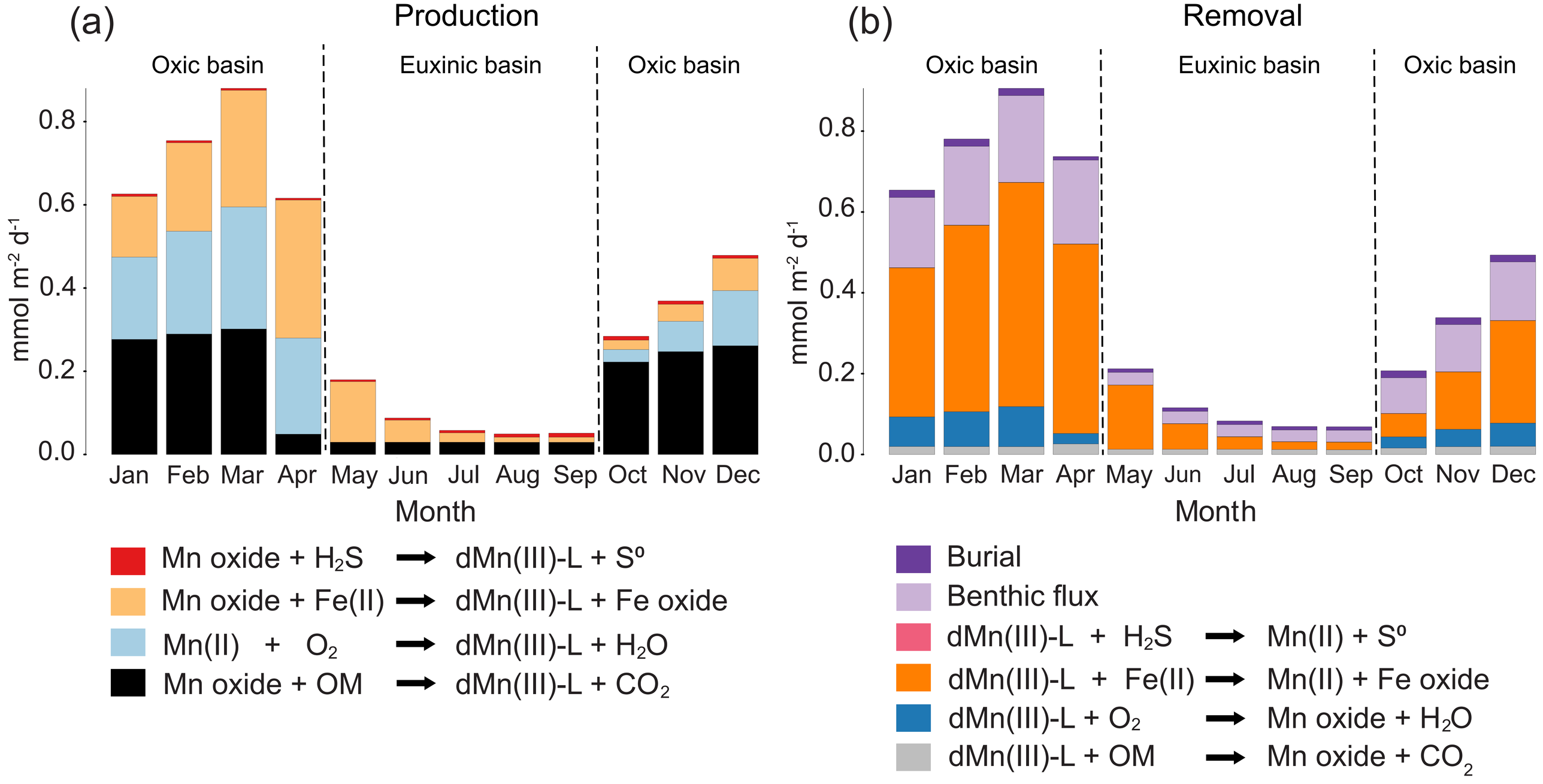
(a)
Production
Oxic basin
Euxinic basin
Oxic basin
mmol m-2 d-1
0.0
0.2
0.4
0.6
0.8
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Month
Mn oxide + H2S → dMn(III)-L + S°
Mn oxide + Fe(II) → dMn(III)-L + Fe oxide
Mn(II) + O2 → dMn(III)-L + H2O
Mn oxide + OM → dMn(III)-L + CO2
(b)
Removal
Oxic basin
Euxinic basin
Oxic basin
mmol m-2 d-1
0.0
0.2
0.4
0.6
0.8
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
Month
Burial
Benthic flux
dMn(III)-L + H2S → Mn(II) + S°
dMn(III)-L + Fe(II) → Mn(II) + Fe oxide
dMn(III)-L + O2 → Mn oxide + H2O
dMn(III)-L + OM → Mn oxide + CO2