Reviewer's report

Title: Antiplasmodial activity of solvent fractions of methanolic root extract of Dodonaea angustifolia in Plasmodium berghei infected mice

Version: 3 Date: 26 September 2014

Reviewer: ROBYN R VAN ZYL

Reviewer's report:

# Major Compulsory Revisions:
58/346/381: The extracts are not significantly more active as compared to the chloroquine control and the % parasitaemia left on day 4 appears to be similar to the untreated control – therefore only the 600mg/kg n-butanol extract is active with 18% left to kill. Why was a combination study not performed to eliminate 100% of the infections? In line 346, compared to what? Definitely not chloroquine, maybe the untreated control?

325: this reference does not convincingly support the fact stated here as the abstract does not mention which phenol or its names and the plants investigated in the paper are different from the one under investigation here.

345: references 29-31 are used to validate that secondary metabolites could have enhanced antimalarial activity by working in combination, but these references are for antioxidant etc activity and not malaria – replace with more suitable references.

# Minor Essential Revisions:
Numerous errors as listed below:

Line:
39 – capital ‘P’ for peters’ suppression
40/146/148: insert ‘the’ before 40: ‘…most active…’ 146: ‘chloroform’; 148: ‘aqueous’
51: comma after ‘55.85%’
59: insert ‘n-’ before ‘butanol’ – occurs several times through script
59: Change wording ‘relatively the most’
60: Delete ‘so, the…’ and join to previous sentence.
68: delete ‘.’
71: lower case ‘control’; delete ‘.’ after ‘two arms’; insert ‘namely’ after ‘two arms’; Anopheles should be italics
83: alter ‘plants medicine’ to ‘phytomedicine’
96: clarify ‘up to 8m high’ – is this ‘to a height of …’
99: move sentence ‘it grows…Ethiopia [13].’ To line 96.
102-105: reword
103: insert ‘s’ after ‘effects’
104: insert ‘It is’ before ‘used’
110: delete ‘According…earlier’. ‘D. angustifolia has been reported to contain several…’
112: replace ‘till’ with ‘until’ throughout text
112-114: should read ‘From the studies conducted on the plant until now, it is known that the methanolic root extract plant has schizonticidal activity as high as 84.52% [12].’
115: italics ‘D. angustifolia’ – check throughout text
137: insert ‘an’ after ‘using’
140: insert space between 140: ‘%’ & ‘w/w’; 143: ‘80’ & ‘(3%)’
141/149: at what temperature and if in the dark?
143: should read ‘The crude extract was dissolved in distilled..tween 80 (3%) shaken in a speartory funnel with the addition of 3 times…fraction was collected.’
148: delete ‘in lypholizer’
150: change heading title to ‘Animal housing’
151: check spacing between numbers
157: insert ethics number
160: should read ‘head blows and the blood collected by heart puncture.’
163: insert ‘a’ before ‘thin’
170/171: what volume of each extract/control were administered to each mouse? Was it the same as the distilled water? If so add in.
171: place dose in brackets behind ‘phosphate’ – how was it determined to use this dose? Insert reference.
173: insert ‘a’ before ‘thin’
174: delete ‘on the microscopic slides’
175: delete ‘the blood films were then’
176: insert ‘microscopically’ before ‘examined’; delete ‘under microscope with an’; insert ‘under’ before ‘oil’; delete ‘objective…(1000x) power’
177: alter to ‘mean % parasitaemia’; check spelling of ‘parasitaemia’ throughout text
179: insert % sign before ‘Parasitaemia’
180: does the total number of red blood cells include the infected and uninfected
– as it should be – if so please state this; replace PRBC ad RBC with the full words and delete abbreviation key under equation.

182: where is the formula?

188/251: insert line space between these two sections.

200: insert ‘A’ before ‘pilot’ .. insert (n-butanol) after ‘active fraction’; delete ‘that’

201: delete ‘(n-butanol fraction)’

206: what about mass/weight? Include how mortality determined – LD50 etc.

214: insert space between ‘value’ and <0.05.

215-219: delete line spacing

225: define LD50 somewhere in methods

237: should read ‘treatment dose, but did significantly prolong the mean’; insert full stop at end of ‘(P<0.05).’

243: standard to one decimal throughout.

254 add in that it was all the fractions (delete bracket text); add in at end of sentence ‘as well as the drug-free and chloroquine controls’

257: insert comma after ‘group’

279: table 1: insert on what day these results are taken from.

A starting % parasitaemia on day 0 would assist with knowing how well the fractions actually worked – use change in % parasitaemia...

293: Table 4: convert to a bar graph and only show change in mass as this is the only result needed to be show and would be easier to visualise; place mg/kg in brackets after dose; insert units after body weight

302: alter to only show % change as this is the only info of importance – possibly on one graph so direct comparison can be made; insert mean – s.d. bars onto diagrams for stats; y-axis label is different in three figs.

323: lower case ‘flavonoids’; insert comma after ‘flavonoids’; alter ‘were’ to ‘are’

325: recheck this fact as ascorbic acid/Trolox (antioxidant agents) do not inhibit haemozoin formation.

332: abbreviations (LD50) should have been placed in methods.

339: throughout discussion – refer to tables/figure

341: delete ‘the mice with’ and add in after ‘dose’ – ‘to the mice’

346/347: hyphenate ‘dose-dependent’

350/351: insert ‘the’ before ‘aqueous’ and ‘number’

351: it is stated that the aqueous fraction was know to contain the least number of secondary metabolites but the reference is for another plant. The activity can occasionally be high in the aqueous extract and is season dependant – use other references to support this statement.

354: delete ‘.’ after ‘results of’
359: Insert reference to support this statement.
370: delete hematocrit packed cell volume as PCV defined earlier

References: all need to be reviewed for standard accepted format by journal, there are numerous disparities to this format and typographical errors – spacing, full stops after author initials, abbreviation of journals, full stops after journal abbreviations etc.

440: author surname is Tekwani BL
442: journal title names need to be capitalised – check all
441/449: invito’ two words
450: ‘plasmodium berghei’ italics and capitalise plasmodium
491: replace ‘xxx-xxx’ with 17: 3229-3256.

# Discretionary Revisions:
279: table 1: consider placing data in another format so data can be more easily compared.

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.