**Some General Points**

There has been little work done on new treatments for hookworm disease, and for a better understanding of the types of molecules that are active toward these helminths.

Plant metabolites, or combinations of them, could be as safe and effective as current treatments like mebendazole. They may also overcome increasing resistance to azoles.

We use an *ex vivo* bioassay for testing against the hookworm *Ancylostoma ceylanicum*. *In vivo* testing is done in hamsters...the host/source animals.

Phenolic metabolites of *Dalea* spp. are very structurally diverse, offer characterization challenges, and exhibit wide-ranging bioactivities. This fuels speculation about the (essentially) unknown natural functions of these compounds.

**Dalea parryi**

*Torr. & Gray*

Whole plants, in flower, were collected in south-central Arizona. Roots (112 g) and aerial portions (1149 g) were extracted separately in MeOH leading to 15 g and 135 g of crude extract, respectively.

**Key steps in the Isolation & Characterization**

Initial fractionation of the crude extract of the root portions by vacuum liquid chromatography (over silica gel with mixtures of hexane-EtOAc and CH$_2$Cl$_2$-MeOH) led to eleven fractions; those eluting with 40-80% EtOAc in hexane were of the highest interest. Advanced fractionation was performed by Sephadex LH-20 chromatography in 3:1:1 hexane-toluene-MeOH...later switching to 100% MeOH.

Final purification was by continuous linear gradient or step gradient chromatography over silica gel. Structure determination is primarily by extensive 1D and 2D NMR spectroscopy.

**D. parryi root extracts* are weakly active *ex vivo* toward *A. ceylanicum***

<table>
<thead>
<tr>
<th>day</th>
<th>DMSO control</th>
<th>tefrosin*</th>
<th>root extract 100 µg/mL</th>
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<tr>
<td>1</td>
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<td>90</td>
<td>100</td>
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<tr>
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<tr>
<td>5</td>
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</tbody>
</table>

*The crude extract of aerial portions was inactive. Positive control revealed in earlier work with *D. ornata***

**Needed to finish this work:**

Completion of biological testing on all pure compounds, including *ex vivo* hookworm assay and measurement of toxicity to healthy cells.

Determination of absolute configuration of 4 by Mosher’s method; and known compounds by comparison of specific rotations.

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*We are grateful...*

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