

# USING SENECIO LYRATIPARTITUS AS A HAND DISINFECTANT AFTER ANAL ABLUTION



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#### Diarrhea



• Project is based on how to control diarrhea



ODiarrhea is responsible for over 1.8 m deaths worldwide annually



•2 billion cases of diarrhea every year







#### Major causes of diarrhea



- Presence of enterogenic pathogens in food
- Water













Contamination takes place through:

- Surface running water picking fecal material
- Overflowing latrines spilling water
- Flies landing on stool and depositing pathogens on food and food serving objects



- Handling residual stool after defecation
- Toilet paper usage
- ii. Leaves, other cellulosic materials
- iii. Anal ablution





### Means by which Anal Ablution Infect Humans



- •Bare hands come in direct contact with stool
- •Small quantities of water are used
- Very little hand washing afterwards



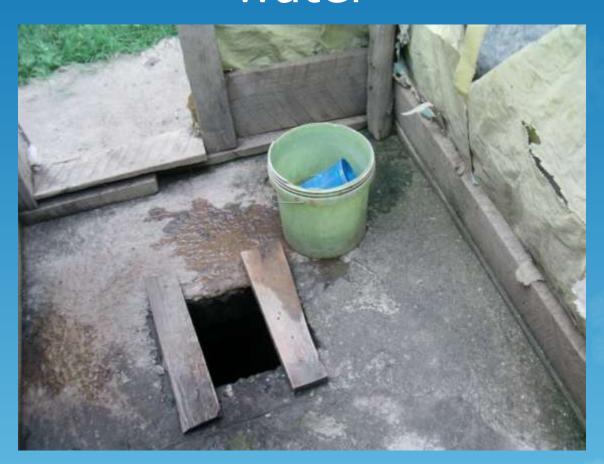






### Picture of latrine with ablution water















#### Table of countries which practice anal ablution and diarrhea deaths



WORLD REGION	ESTIMATES OF DEATHS	% OF WORLD TOTAL	TOTAL POPULATION IN MILLION)
Africa	760,037	40	1,070
Americas (Including Western Europe)	63,403	3	962
Eastern Mediterranean	567,111	25	273
South East Asia	681,457	26	1,585
Western Pacific	125,644	6	644

### Preventive measures after anal ablution

- OUse of hand disinfectants
- •Alcohol based disinfectants
- •Synthetic benzylalkylamommonium salts
- Senecio lyratus(lyratipartitus)









### Zone of inhibition in mm (± SE) of 500 mg/ml of various extracts of Senecio lyratus(lyratipartitus) and control drugs, and selected biocides against selected bacteria

Organisms	Escherichia	Salmonella	Enterobacter	Klebsiella sp.
Antimicrobials	coli	sp.	Sp.	<b>*</b> * * * * * * * * * * * * * * * * * *
Senecio lyratus Methanol	17 ± 0.40	19 ± 0.58	16 ± 1.15	15 ± 0.57
Extract			~ · ·	<b>★</b> 下
Senecio lyratus Ethyl Acetate	16 ± 0.37	17 ± 0.29	14 ± 0.59	14 ± 0.52
Extract				700
Senecio lyratus Hexane Extract	15 ± 0.20	17 ± 0.36	14 ± 0.65	14 ± 0.39
Senecio lyratus Chloroform	17 ± 0.49	20 ± 0.52	19 ± 0.55	18 ± 0.90
Extract				
Senecio lyratus Butanol Extract	11 ± 0.51	12 ± 0.41	13 ± 0.35	11 ± 0.36
Senecio lyratus Aqueous Extract	7 ± 0.36	12 ± 0.98	8 ± 0.89	12 ± 0.62
Benzyldimethylhexadecylammo	20 ± 0.41	19 ± 0.49	18 ± 0.36	17 ± 0.24
nium chloride				3
Benzyldimethylhexylammonium	22 ± 0.44	18 ± 0.69	20 ± 0.57	19 ± 0.32
chloride				<b>*</b>
Gentamycin	34 ± 1.35	32 ± 0.47	33 ± 1.39	31 ± 1.08
Chloramphenicol	34 ± 0.40	33 ± 1.19	34 ± 0.40	32 ± 1.15

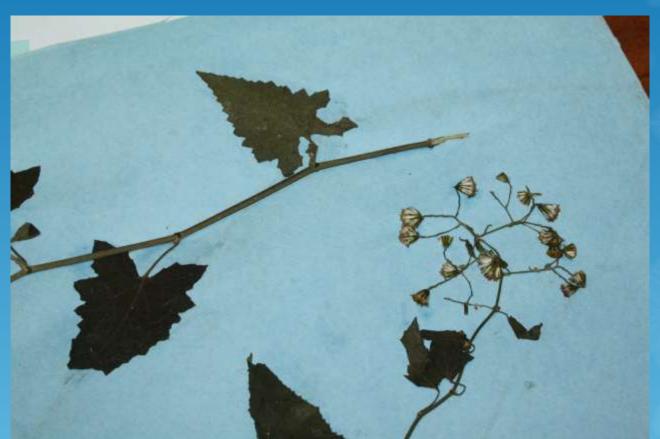
## Minimum Inhibitory Concentration (MIC) in mg/mL of various extracts of Senecio lyratus (lyratipartitus) and antimicrobial agents against selected bacteria



	Escheric	Salmonel	<b>Enterobac</b>	Klebsiella	Ji -
Organisms	hia coli	la sp.	ter sp.	sp.	
Antimicrobials					7
Senecio lyratus	15.63	1.95	1.95	31.25	*
Methanol Extract					
Senecio lyratus Ethyl	15.63	1.95	15.63	15.63	
Acetate Extract					
Senecio lyratus Hexane	3.91	15.63	15.63	3.91	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Extract					7
Senecio lyratus	1.95	1.95	1.95	1.95	
<b>Chloroform Extract</b>					
Senecio lyratus Butanol	15.63	7.81	15.63	15.63	
Extract					
<b>Senecio lyratus Aqueous</b>	62.5	31.25	62.5	31.25	1
Extract					
Benzyldimethylhexadecy	0.98	0.98	0.98	0.98	
lammonium chloride					
Benzyldimethylhexylam	0.98	0.98	0.98	0.98	1
monium chloride					
Chloramphenicol	7 μg/mL	7 μg/mL	7μg/mL	7 μg/mL	. \
Gentamicin	20 μg/mL	20µ/mL	20 μg/mL	20 μ/mL	$\Rightarrow$



#### Picture of Senecio lyratus(lyratipartitus)













#### The Senela Hand Sanitizer











