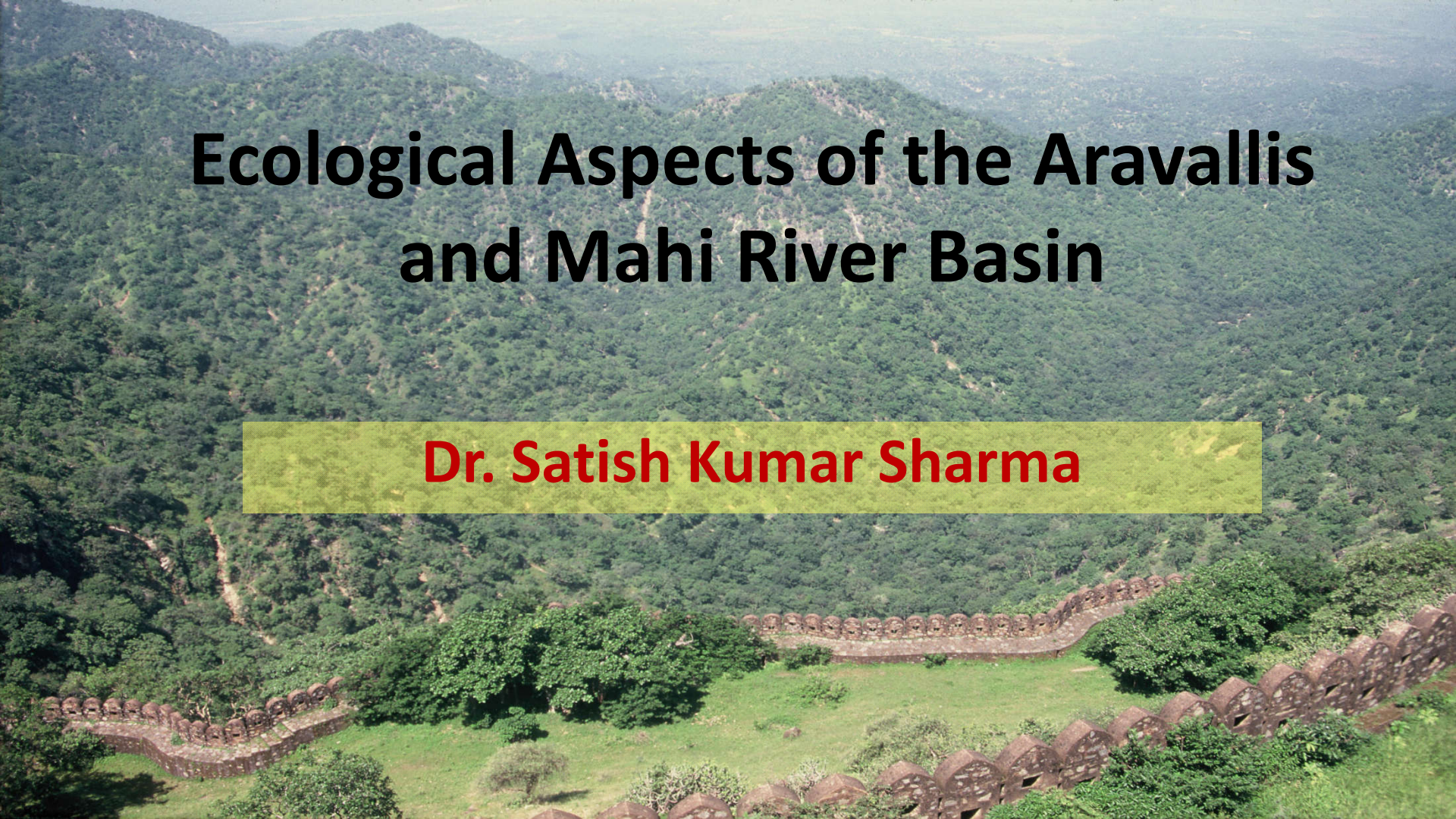


Ecological Aspects of the Aravallis and Mahi River Basin

Dr. Satish Kumar Sharma



Part – A

The Aravallis

- Oldest folded range (Palaeozoic time)
- Re-uplifted in the Mesozoic era
- Banded Gneissic complex and Bundelkhand gneiss are pre-Aravalli formation, are concealed at great depth
(* Bundelkhand gneiss is the oldest in India)
- Crossing four states – Gujarat, Rajasthan, Haryana and Delhi



Major Ecosystems in Rajasthan

| Ecosystem | Extent | Sub-types |
|---------------------------------------|---|---|
| Desert Ecosystem | West of Aravallis | <ul style="list-style-type: none"> i) Canal Command Area ii) Non-command Area iii) Luni Basin |
| Aravalli Hill Ecosystem | Alwar, Jaipur, Dausa, Sikar, jhunjhunu, Ajmer, Bhilwara, Tonk, Nagaur, Udaipur, Rajsamand, Sirohi, Banswara, Dungarpur, Chittorgarh, Pali, Jalore | <ul style="list-style-type: none"> i) Northern Aravallis ii) Central Aravallis iii) Southern Aravallis |
| Eastern Plain Ecosystem | East of Aravallis | <ul style="list-style-type: none"> i) Banas Basin ii) Mahi Basin iii) Banganga Basin iv) Sahibi Basin v) Gambhiri Basin vi) Barah Basin |
| Hadoti Plateau and Riverine Ecosystem | Kota, Baran, Dholpur, Bundi, Jhalawar, Sawai Madhopur | <ul style="list-style-type: none"> i) Chambal Basin ii) Dang Area |

Northern Aravallis

- Delhi to northern parts of Ajmer district
- Soil absent on slopes
- Many gaps present
- Dry thorny and dry-deciduous forest present
(**Northern Type**)

Central Aravallis

- Southern parts of Ajmer district to Rajsamand
 - Soil layer absent or very thin
 - Dry thorny and dry-deciduous forest present
- (Northern Type)**

Southern Aravallis

- Udaipur to northern Gujarat
- Soil layer of varying depth present on slopes
- Dry-deciduous (**Southern** and **Northern Type**) and Semi-evergreen forests present
- Dry bamboo break and teak forest present
- Many southern elements present in the forest

Main Forest Types of Aravallis

- 5A – Southern tropical dry-deciduous forest
- 5B – Northern tropical dry-deciduous forest
- 6B – Northern tropical thorny forest
- 8A – Southern sub-tropical broad-leaved hill forest

Main Grassland Types of Aravallis

- S-N Grassland (Main type)
- S-C-L Grassland (towards western edge)



OUR TROPICAL FOREST



Importance of Aravallis

- Checking eastward extension of desert
- Origin site of rivers
- Influence rainfall pattern
- Rich in biodiversity

Some Interesting Faunal Diversity of Aravallis

- Tiger
- Leopard
- Sloth Bear
- Deer
- Antelopes (* Four-horned antelope)
- Fowls
- White-naped Tit
- Tree Frog
- Painted frog
- Tree Snakes
- Arboreal Birds
- Arboreal Ants
- Arboreal Spiders



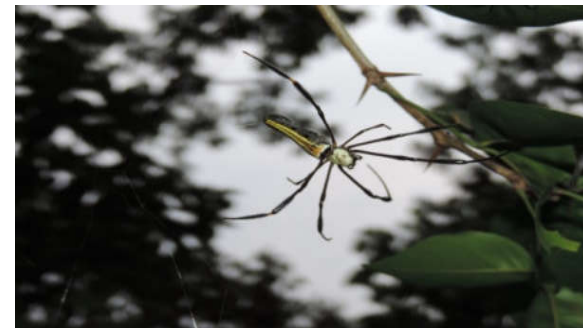
MICROHYLA ORNATA



Indian Balloon Frog



Indian Moon Moth



Giant Wood Spider



Some Interesting Floral Diversity of Aravallis

- Teak
- Mahuwa
- Bamboo
- Charoli
- Mango (wild)
- Aritha
- Jamun
- Fath Jamun
- Parasitic plants
- Orchids
- Tuberous plants
- Climbers and Lianas



Part – B

About Mahi Ecosystem

- A fluvial ecosystem
- Crossing three states – Madhya Pradesh, Rajasthan & Gujarat
- A westward flowing river
- Semi-perennial in nature
- Few big dams are getting water from this river

Problems

- Destruction of riparian forest
- Destruction of ravinous banks
- Over-use of water
- Damming towards upstream (this is damaging ecology of downstream)
- Over fishing
- Siltation
- Change in bank, span and island ecology

Suggested Solutions

- Catchment protection and restoration
- Bank protection and riparian forest restoration
- Check on over-fishing
- Check on high anicuts on lower orders of streams
- Island protection

Thanks

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