Weekly Progress Report (Jan 20 – Jan 26, 2026)

https://github.com/anisanazim/ACIS-iChatBio

What Did You Do?

- **Fixed LSID Caching Mechanism** - Changed from @lru_cache decorator (created new cache per instance) to module-level dictionaries
- **Implemented Clarification Guard for Failed Resolution** - Provides specific reason message with alternatives
  Before: Tool fails with "No valid species identifier"
  After: User sees clarification request before tool execution

What Problems Are You Facing?

- **Empty API Responses**: Distribution API returns content-length=0, causing JSON parse errors. Users see technical errors ("API response was not JSON") instead of explanations
  Partially fixed for distribution API; other endpoints still need similar treatment

What New Capabilities Does Your Agent Have?

Capability	Before	After
Cache Transparency	Silent failures	[Resolver CACHE] HIT/MISS logged each call
Failed Resolution	Generic error mid-execution	Early clarification: "Could not identify 'wombat'. Please provide complete species name..."
Empty Responses	ConnectionError: API response was not JSON	User message: "Distribution data not available. This doesn't mean the species doesn't exist..."

What Will You Do Next Week?

- Apply same empty-response handling pattern to other API endpoints (search_species_occurrences, get_species_images, get_occurrence_breakdown)
- Add explicit empty-result checks with user-friendly messages for all tools
- Test cache stability with extended multi-species queries over longer sessions