## Entities, Attributes, and Keys

1. **Enclosure**
    - **Attributes**:
        - enclosure_id (Primary Key)
        - habitat_type (e.g., forest, tundra)
        - size (square metres)
        - main_feature (e.g., stream, cave)
    - **Key**:
        - enclosure_id (Unique identifier for each enclosure)
2. **Animal**
    - **Attributes**:
        - animal_id (Primary Key)
        - name
        - date_of_birth
        - diet
        - description
    - **Key**:
        - animal_id (Unique identifier for each animal)
3. **Animal_Enclosure**
    - **Attributes**:
        - animal_id (Foreign Key referencing Animal)
        - enclosure_id (Foreign Key referencing Enclosure)
        - start_date
        - end_date (nullable, for current enclosure)
    - **Key**:
        - (animal_id, enclosure_id, start_date) (Composite key to track an animal's enclosure history)
4. **ZooKeeper_Note**
    - **Attributes**:
        - note_id (Primary Key)
        - animal_id (Foreign Key referencing Animal)
        - note
        - date
    - **Key**:
        - note_id (Unique identifier for each note)
5. **Species**
    - **Attributes**:
        - species_name (Primary Key)
        - description
        - habitat_type
    - **Key**:
        - species_name (Unique identifier for each species)
6. **Species_Compatibility**
    - **Attributes**:
        - speciesA (Foreign Key referencing Species)

        - speciesB (Foreign Key referencing Species)
        - compatibility_rating (1 to 5 scale)
    - **Key**:
        - (speciesA, speciesB) (Composite key to represent compatibility between species)
7. **Enclosure_Capacity**
    - **Attributes**:
        - enclosure_id (Foreign Key referencing Enclosure)
        - species_name (Foreign Key referencing Species)
        - max_animals
    - **Key**:
        - (enclosure_id, species_name) (Composite key to prevent overcrowding in enclosures)

## Summary of Keys

- **Primary Keys**:
    - enclosure_id (for Enclosure)
    - animal_id (for Animal)
    - note_id (for ZooKeeper_Note)
    - species_name (for Species)
- **Foreign Keys**:
    - animal_id (in Animal_Enclosure and ZooKeeper_Note)
    - enclosure_id (in Animal_Enclosure and Enclosure_Capacity)
    - speciesA, speciesB (in Species_Compatibility)
    - species_name (in Enclosure_Capacity)

This structure allows for effective management of the various relationships and constraints within the zoo, including tracking animals, their enclosures, and compatibility.