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Global dynamics of a competition-parasitism-mutualism model
characterizing plant–pollinator-robber interactions

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Highlights:

1. A new parasitism model is established and its stability is exhibited.
2. Global dynamics of a three-dimensional system are completely shown.
3. A three-dimensional saddle-node bifurcation is shown.
4. Necessary and sufficient conditions are given for effectiveness of competitive exclusion principle.
5. Pollination-mutualisms promote survival of the robber and initial densities play a role.

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