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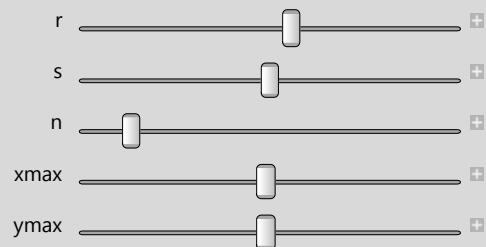
In[25]:= Panel[Style[Manipulate[Module[{Orb, m = Max[{xmax, ymax}], LV},
  Iterate[f_, x_, n_] := Nest[Evaluate[f[#] &], x, n];
  Orbit[f_, x_, n_, nskip_: 0] := If[n > 0,
    NestList[Evaluate[f[#] &], Iterate[f, x, nskip], n],
    {Iterate[f, x, nskip]}];
  LV[{x_, y_}] := {x Exp[r - r x - s y], x Exp[r - s x - r y]};
  Orb = Orbit[LV, {p[[1]], p[[2]]}, n];
  Column[{ListPlot[Orb, AxesLabel → {"x", "y"}, PlotRange → {{0, xmax},
    {0, ymax}}, ImageSize → {300}, PlotLabel → "Orbity"], ListPlot[
    Table[Orb[[i, 1]], {i, 1, n}], PlotRange → {{0, n}, {0, m}}, AxesLabel →
    {"n", "x"}, ImageSize → {300}], ListPlot[Table[Orb[[i, 2]], {i, 1, n}],
    PlotRange → {{0, n}, {0, m}}, AxesLabel → {"n", "y"}, ImageSize → {300}]]],
  Style["Lotka-Volterra\n\n  $x_{n+1} = x_n e^{r - r x_n - s y_n}$ \n  $y_{n+1} = y_n e^{r - r y_n - s x_n}$ \n\n", 18, Bold],
  {{r, 2.257, "r"}, 0.01, 4.0}, {{s, 2.01, "s"}, 0.01, 4},
  {{p, {1.0, 1.0}}, Locator}, {{n, 200}, 1, 2000, 1}, {{xmax, 2.5}, 0.1, 5},
  {{ymax, 2.5}, 0.1, 5}, ControlPlacement → Left], DefaultOptions →
  {Panel → {Background → LightGray}}], FrameMargins → {{-3, -2}, {-2, -3}}]

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Lotka–Volterra

$$x_{n+1} = x_n e^{r - r x_n - s y_n}$$

$$y_{n+1} = y_n e^{r - r y_n - s x_n}$$



Out[25]=

