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Remnant of the Atlantic Forest system near Iguazu National Park in Brazil. Agriculture is increasingly replacing natural environments, a pattern that reduces diversity and threatens the stability of the ecosystems upon which all life depends. For more on “ecosystem Earth” stressors and possible solutions, see the special section beginning on page 258. Photo: © Frans Lanting

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Imaging New Details of the Cell Niche
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- RESEARCH ARTICLE SUMMARY: FOR FULL TEXT: dx.doi.org/10.1126/science.aal3485

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