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Iztok Banic and Judy Anita Kennedy* (judy.kennedy@lamar.edu), PO Box 10047, Department of Mathematics, Lamar University, Beaumont, TX 77710, and Uros Milutinovic and Piotr Minc. Characterizations of \mathcal{P} -like continua that do not have the fixed point property.

We give two new characterizations of \mathcal{P} -like continua X that do not have the fixed point property. Both characterizations are stated in terms of open covers of X and fixed-point-free mapping patterns. An earlier characterization of \mathcal{P} -like continua with the fixed point property was given by Feuerbacher in 1994 based on a 1963 result of Mioduszewski. The Mioduszewski-Feuerbacher characterization is expressed in terms of almost commutative inverse diagrams. In contrast, our approach is more geometric, and it may potentially lead to new methods in the elusive search for a planar tree-like continuum without the fixed point property. (Received September 17, 2019)