Erratum to “Unique range sets in positive characteristic”
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by

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Ta Thi Hoai An was kind enough to point out to us an error in [1].
Theorem 3.1 is false as stated. The condition (A2) must be replaced by the
stronger assumption: (A2) \((n,m) = 1\). Thus, we need \(n\) and \(m\) relatively
prime in either version of the theorem. Our mistake is on page 187. From
the formula,

\[ g^{n-m} = a \frac{h^m - 1}{h^n - 1}, \]

we conclude that if \(h\) is constant, then \(g\) must also be constant. Of course, the
other possibility is that \(h\) is simultaneously an \(n\) and \(m\)th root of unity. But,
if \(n\) and \(m\) are relatively prime, then there are no non-trivial \(n\)th roots of
unity which are also \(m\)th roots of unity, and our proof is correct in that case.

Fortunately, our main application of Theorem 3.1, namely showing there
exist unique range sets of all finite cardinalities \(\geq 4\) in all characteristics,
remains valid. That is because in all of our applications of Theorem 3.1, \(e.g.,\)
Corollary 3.2, it was always the case that \((n,m) = 1\).

References

[1] A. Boutabaa, W. Cherry and A. Escassut, Unique range sets in positive characteristic,