

TABLE ERRATA TO
“FACTORS OF GENERALIZED FERMAT NUMBERS”

ANDERS BJÖRN AND HANS RIESEL

ABSTRACT. We note that three factors are missing from Table 1 in *Factors of generalized Fermat numbers* by A. Björn and H. Riesel published in Math. Comp. **67** (1998), 441–446.

In Table 1 in Björn–Riesel [2] there are unfortunately three factors missing. Fougeron [3] discovered that

$$31246291 \cdot 2^{52} + 1 \mid 11^{2^{51}} + 1 \quad \text{and} \quad 33797295 \cdot 2^{65} + 1 \mid 10^{2^{62}} + 3^{2^{62}}.$$

He also verified that no other factors are missing for $30 \leq n \leq 703$, given the search ranges mentioned in [2].

M. Schroeder [4] and later N. S. de Araújo Melo [1] discovered that $3 \cdot 2^{54792} + 1$ is a prime. This number is missing in the list of primes given in Young [5], a list which had kindly been made available to us when we wrote [2] and which we used without checking. This number is therefore also missing in Table 1 in [2]. The number $3 \cdot 2^{54792} + 1$ is a factor in

$$\begin{array}{cccc} 3^{2^{54787}} + 1, & 5^{2^{54786}} + 1, & 5^{2^{54787}} + 3^{2^{54787}}, & 7^{2^{54790}} + 1, \\ 7^{2^{54790}} + 3^{2^{54790}}, & 7^{2^{54790}} + 5^{2^{54790}}, & 4^{2^{54790}} - 2^{2^{54790}} + 1, & 8^{2^{54790}} + 3^{2^{54790}}, \\ 8^{2^{54790}} + 5^{2^{54790}}, & 8^{2^{54787}} + 7^{2^{54787}}, & 9^{2^{54785}} + 5^{2^{54785}}, & 9^{2^{54790}} + 7^{2^{54790}}, \\ 9^{2^{54790}} + 8^{2^{54790}}, & 11^{2^{54791}} + 2^{2^{54791}}, & 11^{2^{54791}} + 6^{2^{54791}}, & \text{and } 11^{2^{54791}} + 10^{2^{54791}}. \end{array}$$

REFERENCES

- [1] N. S. de Araújo Melo, *Private communication*, 2004.
- [2] A. Björn and H. Riesel, *Factors of generalized Fermat numbers*, Math. Comp., **67** (1998), 441–446. MR1433262 (98e:11008)
- [3] J. Fougeron, *Private communication*, 2003.
- [4] W. Keller, *Private communication*, 2004.
- [5] J. Young, *Large primes and Fermat factors*, Math. Comp., **67** (1998), 1735–1738. MR1484904 (99a:11010)

DEPARTMENT OF MATHEMATICS, LINKÖPINGS UNIVERSITET, SE-581 83 LINKÖPING, SWEDEN
E-mail address: anjbo@mai.liu.se

DEPARTMENT OF NUMERICAL ANALYSIS AND COMPUTER SCIENCE, ROYAL INSTITUTE OF TECHNOLOGY, SE-100 44 STOCKHOLM, SWEDEN
E-mail address: riesel@nada.kth.se

Received by the editor February 21, 2005.

2000 *Mathematics Subject Classification*. Primary 11-04; Secondary 11Y05, 11Y11.

Key words and phrases. Factorization, Fermat numbers, primes.