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CORRECTION TO: STRUCTURE OF p-SOLVABLE GROUPS WITH THREE p-REGULAR CLASSES

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There is unfortunately an error in the proof of Lemma 3.1 in [1] and so there are missing groups in the list of Theorem B. This was kindly pointed out to me by J. B. Olsson and his student Madsen. Let G be a finite p-nilpotent group with $O_p(G) = \{1\}$. If $r_{p'}(G) = 3$, then it is clear that $\left|\pi\left(O_{p'}(G)\right)\right| \leq 2$. In the Theorem below, we give all the isomorphism classes of finite p-nilpotent groups G with $r_{p'}(G) = 3$ under the assumption that $\left|\pi\left(O_{p'}(G)\right)\right| = 2$. By adding six types of groups given in the theorem to the list of Theorem B, we obtain all the finite p-solvable groups G with $O_p(G) = \{1\}$ which have exactly three p-regular classes. The details can be found in the author's paper [2].

THEOREM. *Let G be a finite p-nilpotent group with $O_p(G) = \{1\}$. Suppose $r_{p'}(G) = 3$. If $\left|\pi\left(O_{p'}(G)\right)\right| = 2$ then one of the following holds:*

(1) $p \neq 2$ *and* $G \simeq \mathbb{Z}_r \rtimes (\mathbb{Z}_2 \times \mathbb{Z}_{p^n})$, *where* $r = 2p^n + 1$ *is a prime.*

(2) $p \neq 2, 3$ *and* $G \simeq E_{3^\ell} \rtimes (\mathbb{Z}_2 \times \mathbb{Z}_{p^n})$, *where* $3^\ell = 2p^n + 1$.

(3) $p = 2$ *and* $G \simeq E_{5^2} \rtimes H$, *where* $H = \langle w, a\rangle$; $w^3 = a^8 = 1$, $a^{-1}wa = w^{-1}$.

(4) $p = 2$ *and* $G \simeq E_{5^2} \rtimes H$, *where* $H = \langle w, a, b\rangle$; $w^3 = a^8 = b^2 = 1$, $a^{-1}wa = w$, $b^{-1}wb = w^{-1}$, $b^{-1}ab = a^5$.

(5) $p = 2$ *and* $G \simeq E_{3^4} \rtimes H$, *where* $H = \langle w, a, b\rangle$; $w^5 = a^8 = 1$, $b^4 = a^4$, $a^{-1}wa = w$, $b^{-1}wb = w^2$, $b^{-1}ab = a^3$.

(6) $p = 2$ *and* $G \simeq E_{3^4} \rtimes H$, *where* $H = \langle w, a, b\rangle$; $w^5 = a^{16} = b^4 = 1$, $a^{-1}wa = w$, $b^{-1}wb = w^2$, $b^{-1}ab = a^{11}$.

In part (10) of Theorem B, "$G \simeq \mathbb{Z}_{q^2} \rtimes P$" should read "$G \simeq E_{q^2} \rtimes P$". In line 13 of page 563, "$a + b = n$" should read "$a + b = m$".

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1. Y Ninomiya, *Structure of p-solvable groups with three p-regular classes*, Canad J Math **43**(1991), 559–579

2. Y Ninomiya, *Structure of p-solvable groups with three p-regular classes II*, Math J Okayama University, to appear

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