

Five new records of ostracods (Crustacea) from Korea

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We briefly report the observation of five ostracod species: *Scottia birigida* Smith, Matzke-Karasz, Kamiya and Ikeda, 2002; *Codonocera mortenseni* Poulsen, 1962; *Pyrocypris noctiluca* Kajiyama, 1912; *Euconchoecia* cf. *chierchiae* Muller, 1890; and *E. pacifica* Chavtur, 1976. All five species are new records of Korean ostracod fauna. Specimens were collected during the 2014-2016 Korean Indigenous Species project. For three species we also include *mtCOI* sequences. Currently, there are 65 published reports of indigenous Korean ostracod species.

Keywords: freshwater, marine, Myodocopa, Podocopa

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DOI:10.12651/JSR.2017.6(S).220

INTRODUCTION

Korean ostracod fauna are currently described in a total of 65 published species records, 55 of which belong to the subclass Podocopa, and 10 to the subclass Myodocopa. These numbers do not include species reported by Lee *et al.* (2000), because the names were included only in the systematic list, and were not accompanied by any illustration or descriptions. Until the early 1990's only nine ostracods had been reported in Korea, published in three papers (McKenzie, 1972; Kim and Min, 1991a; 1991b). Since the start of the Korean Indigenous Species project, the number of publications that describe Korean ostracod fauna increased to 20 (Chang *et al.*, 2012; Karanovic and Lee, 2012a; 2012b; 2013; 2014; Yoo *et al.*, 2012; 2014; Smith *et al.*, 2012; 2014; 2015; 2017; Karanovic, 2013; Karanovic and Tanaka, 2013; Karanovic and Soh, 2015; Karanovic *et al.*, 2015; 2016; Karanovic and Cho, 2017). Here, we briefly provide diagnosis and illustrations for five ostracods included in the 2014-2016 annual reports of the Korean Indigenous Species project: *Scottia birigida* Smith, Matzke-Karasz, Kamiya and Ikeda, 2002; *Codonocera mortenseni* Poulsen, 1962; *Pyrocypris noctiluca* Kajiyama, 1912; *Euconchoecia* cf. *chierchiae* Muller, 1890; and *E. pacifica* Chavtur, 1976. We also include *mtCOI* sequences for three species. Over the three-year period we reported 40 species, of which some have been described and published, and some are new species awaiting description.

SYSTEMATICS

Phylum Arthropoda Latreille, 1829
Class Ostracoda Latreille, 1802
Subclass Podocopa Sars, 1866
Order Podocopida Sars, 1866
Family Cyprididae Baird, 1845
Subfamily Scottiinae Bronstein, 1947
Genus *Scottia* Brady and Norman, 1889

1. *Scottia birigida* Smith, Matzke-Karasz, Kamiya and Ikeda, 2002 (NIBRIV0000753779) (Fig. 1)

Synonymy. *Scottia birigida* sp. nov.-Smith *et al.* (2002): p. 3, Figs. 1-7.

Locality in Korea. South Korea, Gangwon-do, Inje-gun, Stream, 37°49.854'N 127°59.664'E.

Identifier. Ivana Karanovic

Diagnosis. Small ostracod, less than 1 mm long (Fig. 1A). Dorsal margin highly arched, surface densely covered with sensilla (Fig. 1B). Swimming setae on the second antenna reduced (Fig. 1C). Prehensile palps symmetrical (Fig. 1E, F). Walking leg with long h3 seta (Fig. 1G). Uropodal ramus with long posterior seta, and subequally long claws (Fig. 1D). Hemipenis with erect projection on dorsal lobe of lateral shield (Fig. 1H). Zenker organ (Fig. 1I) with about 17 whorls of spines.

Distribution. Honshu Island (Smith *et al.*, 2002), Korea (present paper).

Gen Bank Number. MG552610

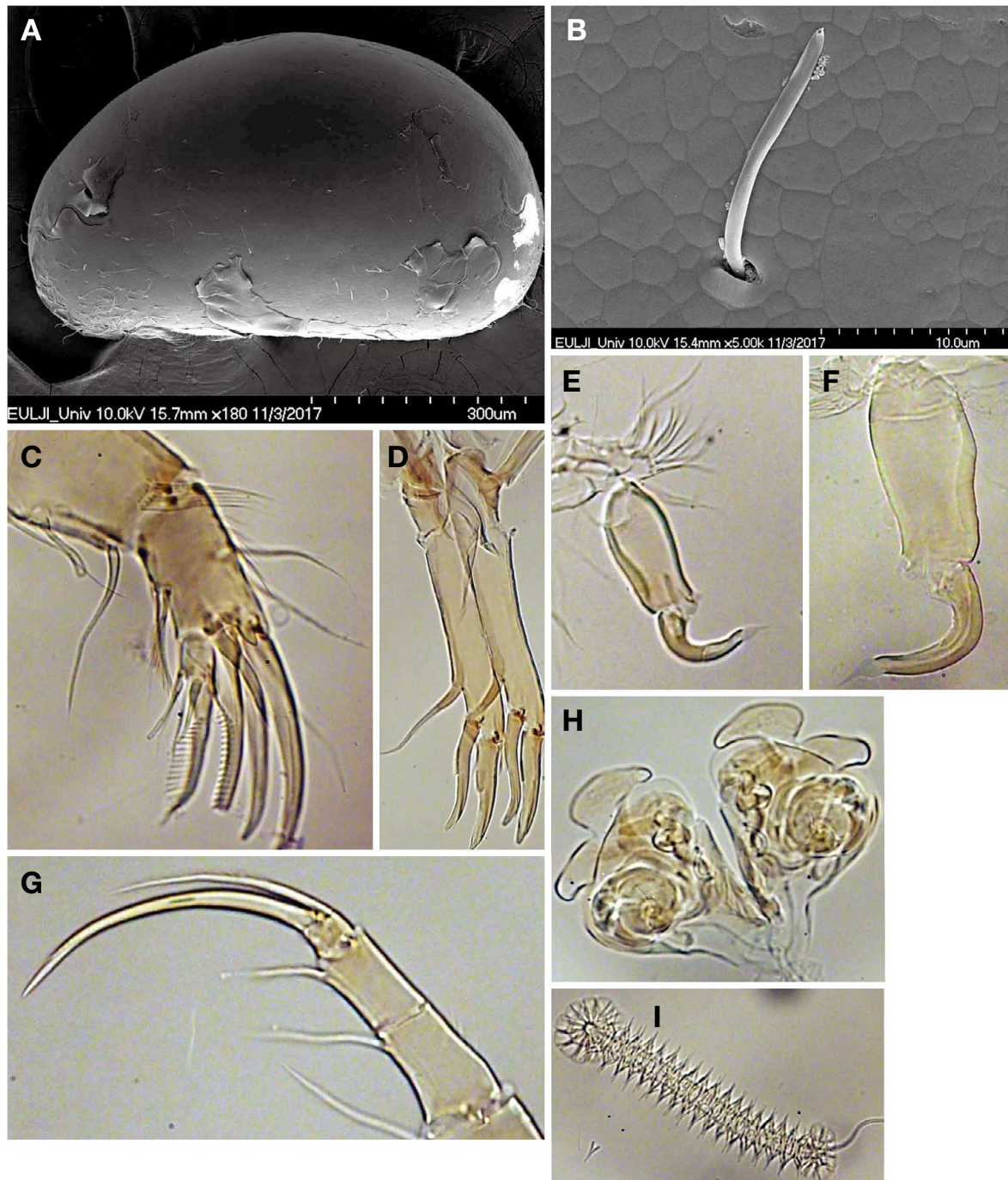


Fig. 1. *Scottia birigida*, male: A - LV, lateral view from the outside; B - carapace surface sensilla; C - second antenna; D - uropodal ramus; E, F - prehensile palps; G - walking leg; H - hemipenis; I - Zemker's organ. C-I, not to scale.

Subclass Order Myodocopa Sars, 1866
Order Myodocopida Sars, 1866
Family Cypridinidae Baird, 1850
Genus *Codonocera* Brady, 1902

2. *Codonocera mortenseni* Poulsen, 1962
(NIBRIV0000325830) (Fig. 2)

Synonymy. *Codonocera mortenseni* sp. nov.-Poulsen
(1962): p. 322, Fig. 146.

Locality in Korea. South Korea, Yeosu, Nam-myeon,
Seogoji harbor, 34°28.63'N 127°47.72'E'.

Identifier. Ivana Karanovic

Diagnosis. Large ostracod, over 3 mm long (Fig. 2A).

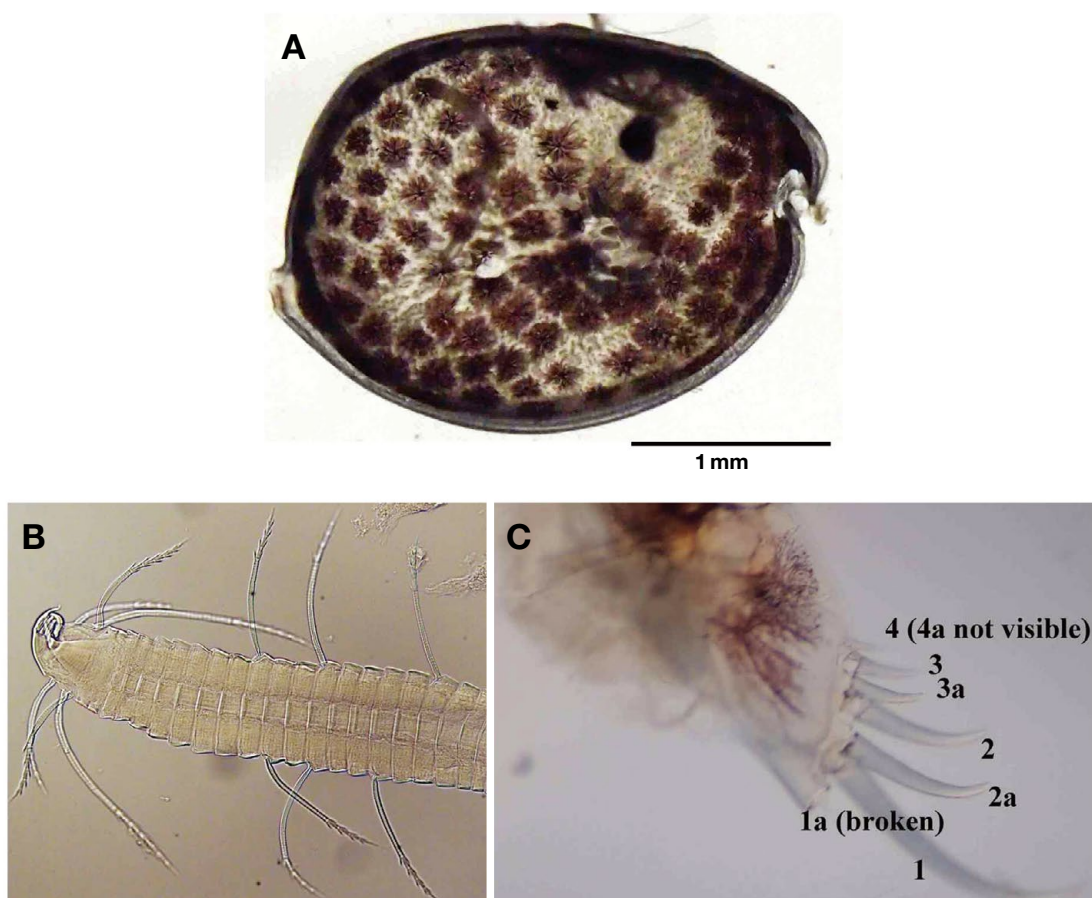


Fig. 2. *Codonocera mortenseni*, female: A - RV, lateral view from the outside; B - cleaning leg; C - uropodal lamellae (numbers indicate claws on left and right lamella). B, C, not to scale.

Posteriorly with a short tail and anteriorly with relatively shallow incisure. Dorsal and ventral margins rounded. Surface covered with star-like pigment spots. Cleaning leg (seventh limb) with three setae in each of the two distal groups and three more scattered on each side of the appendage (Fig. 2B). Uropodal lamella with four claws on each lamella (Fig. 2C) decreasing in size along the appendage.

Distribution. Indo Pacific region (Poulsen, 1960), Korea, South Sea (present paper).

Genus *Pyrocypris* Muller, 1890

3. *Pyrocypris noctiluca* Kajiyama, 1912
(NIBRIV0000753776) (Fig. 3)

Synonymy. *Cypridina* (*Pyrocypris*) *noctiluca* n. sp.-Kajiyama (1912): p. 612, Pl. 9, Fig. 15.

Locality in Korea. South Korea, Jeju Island, Chuja Island, Station 5, 33°43.63'N 126°21.61'E.

Identifier. Ivana Karanovic

Diagnosis. Large ostracod, about 2 mm long (Fig. 3A).

Posteriorly with a cylindrical tail (Fig. 3B) and anteriorly with very shallow incisure (Fig. 3C). Dorsal and ventral margins not broadly rounded. Surface smooth. Uropodal lamellae with eight claws descending in size from dorsal to ventral side (Fig. 3D)

Distribution. According to Tsuji *et al.* (1970) the species is widely distributed along coastal waters in the western Pacific, from southern Japan to Hawaii, Australia and Southeast Asia, also in Indian Ocean.

Gen Bank Numbers. MG552611, MG552612.

Order Halocyprida Dana, 1853

Family Halocyprididae Dana, 1853

Genus *Euconchoecia* G. W. Muller, 1890

4. *Euconchoecia cf. chierchiae* Muller, 1890
(NIBRIV0000753782) (Fig. 4)

Synonymy. *Euconchoecia chierchiae* n. sp.-Muller (1890): p. 277, Pl. 28, Figs. 1-10.

For complete synonymy see Graves (2011).

Locality in Korea. South Korea, Jeju Island, Chuja Is-

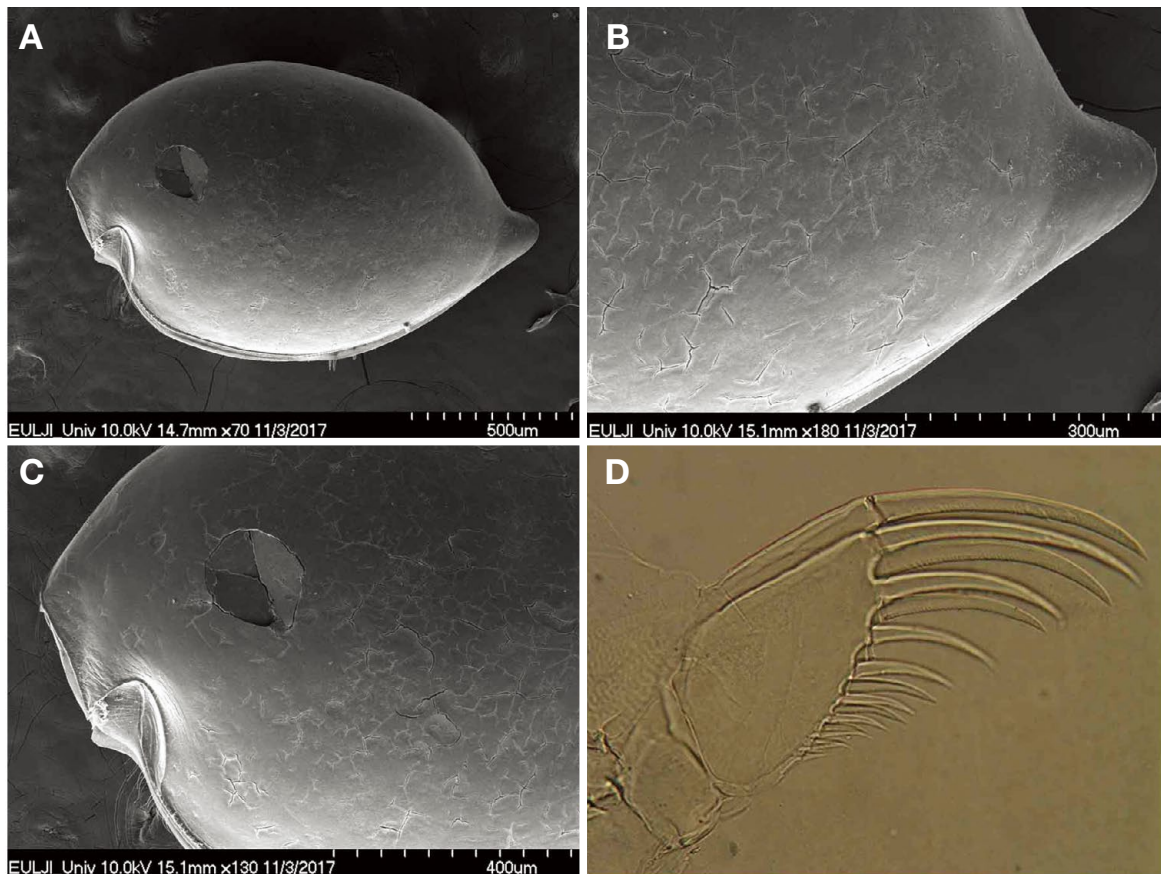


Fig. 3. *Pyrocypris noctiluca*, juvenile female: A - LV, lateral view from the outside; B - posterior end of the carapace; C - rostrum; D - uropodal lamellae. D, not to scale.



Fig. 4. *Euconchoecia chierchie*, female lateral view from the right side.

land, Station 5, 33°43.63'N 126°21.61'E.

Identifier. Ivana Karanovic

Diagnosis. Large ostracod, about 1.2 mm long (Fig. 4). In lateral view elongated, and surface smooth. Ventral margin curved smoothly into posterior margin. Postero-dorsally both valves with a small spine. Anteriorly

rostrum curves ventrally, pointed at the tip. Surface of the shell smooth.

Remarks. We identified the Korean species as *E. cf. chierchie*, because it is slightly slenderer than in the description provided by Graves (2011). According to the same authors, there seems to be a lot of morphological

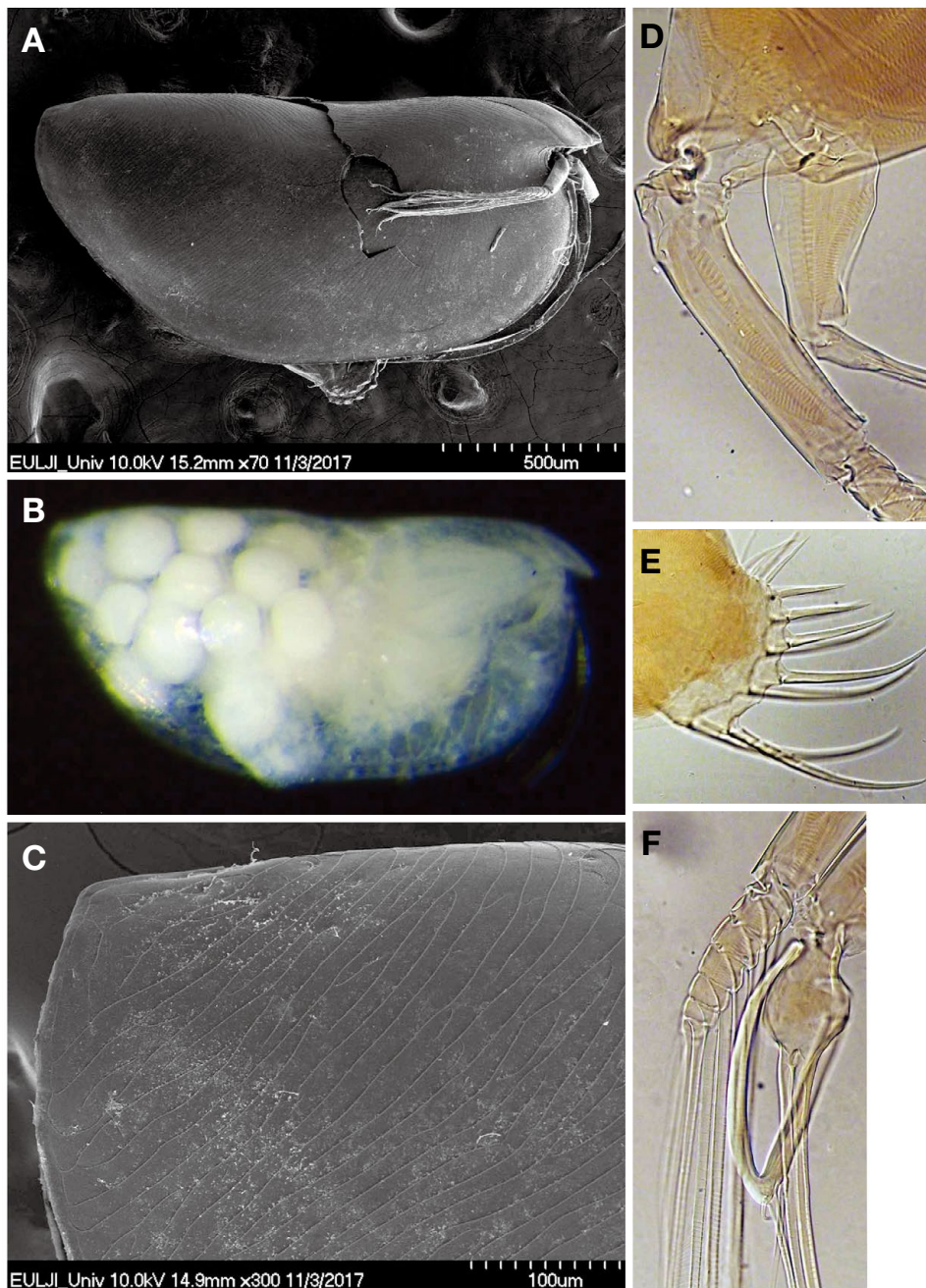


Fig. 5. *Euconchoecia pacifica*, A-D, female; F, male: A - lateral views from the right side; B - lateral view from the right side; C - details of the surface ornamentation; D - details of the antenna; E - uropodal lamellae; F - details of the uropodal lamella. B, D-E, not to scale.

variability in *E. chierchie*, which may indicate several cryptic species.

Distribution. Distributed in all oceans between 40°N and 40°S.

5. *Euconchoecia pacifica* Chavtur, 1976
(NIBRIV0000812250) (Fig. 5)

Synonymy. *Euconchoecia pacifica* n. sp.-Chavtur (1976): p. 101, Figs. 2-4.

Locality in Korea. South Korea, Jeju Island, Chuja Island, Station 2, 33°43.63'N 126°21.61'E.

Identifier. Ivana Karanovic

Diagnosis. Large ostracod, about 1.5 mm long (Fig. 5A, B). In lateral view elongated, and surface striated (Fig. 5C). Ventral margin curved smoothly into posterior margin. Anteriorly rostrum almost straight, pointed at the tip. Endopodite of female second antenna 2-segmented (Fig. 5D), in males with terminal hook (Fig. 5E). Uropo-

dal lamellae with seven claws (Fig. 5F).

Distribution. South East part of the East Sea (Sea of Japan).

Gen Bank Number. MG552613.

ACKNOWLEDGEMENTS

This study was supported by a grant from the National Institute of Biological Resources (NIBR201701201). Sequencing was done as the part of the DNA barcode system for Korean indigenous animal species (NIBR201614102).

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Submitted: November 6, 2017

Revised: November 10, 2017

Accepted: November 13, 2017