

## Description of two new Gastropod species and one sub-species from the lacustrine sediments of Neogene age Afyon, Turkey

Afyon'daki Neojen yaşlı lacustrin sedimanlardan iki yeni gastropod türünün ve bir alt türünün tanımlanması

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**ABSTRACT:** Systematic descriptions of two newly discovered *Pyrgula* and *Corymbina* fossil species from Afyon-Gürleyik area are given.

Samples of *Pyrgula* species are collected from the Lower Pliocene and *Corymbina* species from overlying beds. *Pyrgula* species are different from the species collected from Paratethys and West Anatolian region (Denizli). Therefore two new species: *Pyrgula hoyrani* n.sp., *Pyrgula costata* n.sp. are proposed. All of the specimens of our *Corymbina rhodensis* Bukowski show sinistral features; a new sub-species, *Corymbina rhodensis senestris* n.ssp. is proposed.

**ÖZ:** Bu yazımızın konusu olan fosiller Afyon-Gürleyik (Hoyratı gölü kuzeyi) deki Neojen yaşlı sedimentlerden toplanmıştır.

Numunelerden *Pyrgula* cinsine ait olanlar Pliyosen'in alt seviyesinden» *Corymbina*'lar ise bunların üzerindeki tabakalardan gelmektedir. *Pyrgula*'lar gerek Paratetise ve gerekse Batı Anadolu'ya (Denizli) ait türlerden ayrıcalıklar göstermektedir, *Pyrgula hoyrani* n.sp., *Pyrgula costata* n.sp. türlerinin doğuşu bu nedene dayanmaktadır. *Corymbina lax* ise hemen tümüyle senestr özellik göstermesi nedeniyle *Corymbina rhodensis* Bukowski'ye bağlı yeni bir alt tür yapılmıştır.

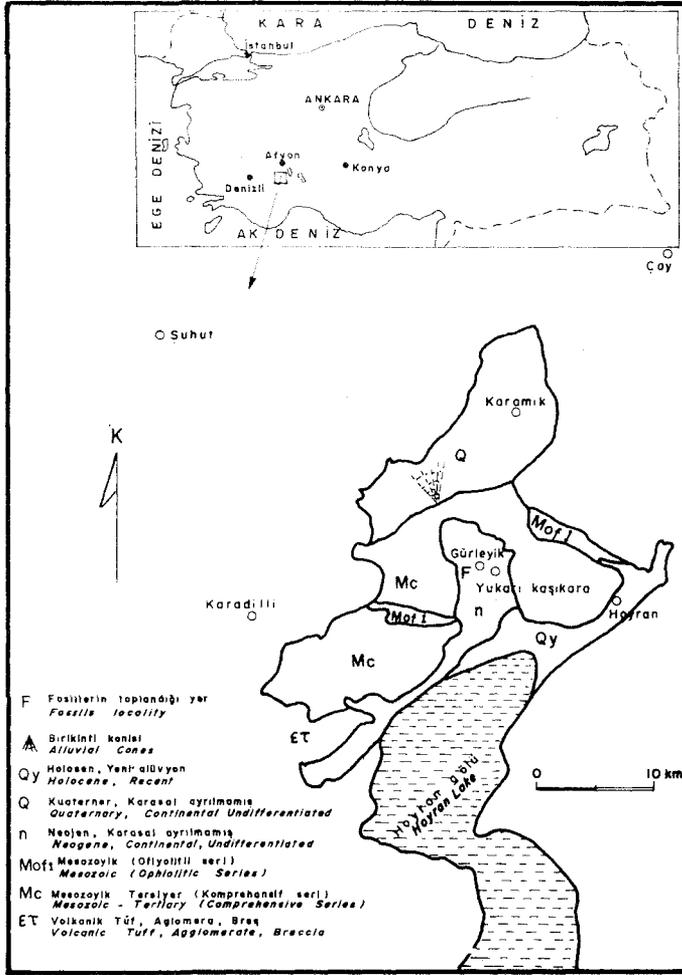


Figure 1: Location and geological map.

Sekil 1: Yer buldu ve bölge jeoloji haritası.

## INTRODUCTION

Two new species of *Pyrgula* and sub-species of *Corymbina* have been discovered in the specimens collected from Gürleyik (SE Afyon) by Aydoğan Akbulut. The brackish facies and uppermost part of Early Pliocene are indicated by *Pyrgula* species. The *Oorymbina* species indicate the lacustrine facies and the lowermost part of Late Pliocene age.

According to 1/500 000 scaled geological map of Turkey the specimens were collected from the Neogene areas (figure 1).

## SYSTEMATIC STUDY

Class	: Gastropoda Cuvier, 1797
Subclass	: Prosobranchia Milne Edwards, 1848
Order	: Mesogastropoda Thiele, 1929
Superfamily	: Rissoacea Adams and Adams, 1854
Family	: Truncatellidae
Subfamily	: Pyrgulinae
Genera	: <i>Pyrgula</i> Christofori and Jan, 1832

### *Pyrgula hoyrani* n.sp. (plate I, figure 1-2)

#### Derivatio-nominis

It is derived from the name of the Hoy ran, a lake from Afyon region.

#### Diagnose

Test small, high conical, spirally coiled; 7 whorls with protoconch, smooth first whorls; later whorls with rounded keel and thin lines of growth. Aperture is oval.

#### Description

Test is small, the shape is high cone and the height of the last whorl is smaller than the 1/2 of the height of the test. The number of the whorls (including protoconch) is seven. Protoconch and the two first whorls are smooth on the surface; in the third whorl appear thin lines of growth and in the fourth whorl there is rounded keel at the lower part of the suture line. The number of the keel is only one at every whorl but two at the last whorl. Aperture is oval. It is rounded at the lower part and angulated at the upper part. It is turned-down and stuck on the last whorl at the columellar edge. It is more distinctly curved outwards at upper part where it is angulated.

Measurements of holotype: Height 6,45 mm, width 3,10 mm, angle of apex 38°.

Average measurements: Height 6,11 mm, width 2,94 mm.

#### Comparisons and Remarks

This species is compared with the *Pyrgula* species of Classic Central European Neogene (Wenz, 1942) (Jekelius, 1932 and 1944) and Denizli basins of West Anatolian (Taner, 1974). There is not resemblance of *P. hoyrani* with the *Pyrgula* species of these basins.

#### Locality

Afyon-Gürleyik village.

#### Stratigraphical level

Upper levels of the Lower Pliocene.

### *Pyrgula castata* n.sp. (plate I, figure 3-4)

#### Diagnose

Test small with eight whorls including protoconch first whorl with smooth surface. Following whorls keeled and ribbed. Aperture rounded at the lower part and angulated at the upper part.

#### Description

Test is small and high conical, the height of the last whorl is 1/3 of the height of the test. 8 whorls are counted,

including protoconch. The surface of protoconch and of the first whorls are smooth. Test has thin lines of growth on the following whorls. From the fourth whorl, up to the last, appear under the suture line a keel noticeable ribs. These ribs start from the keel, cross the whorl and end at the end of the each whorl. The number of the ribs on one whorl is about 14-16. Aperture is rounded at the lower part and angulated at the upper part. It is turned-down and stuck on the last whorl at the columellar edge.

Measurements of holotype: Height 5,25 mm, width 2,10 mm, angle of apex 38°.

Average measurements: Height 5,75 mm, width 2,22 mm.

#### Comparisons and Remarks

It is distinguished from *P. hoyrani* n.sp. by having more ribbed whorls, less noticeable keel and pseudonodose shape of the keel at the beginning of it. We cannot find similar forms when it is compared with *Pyrgula* species collected from European and West Anatolian basins (Denizli).

#### Locality

Afyon-Gürleyik village.

#### Stratigraphical level

Upper levels of Lower Pliocene.

Class : Gastropoda Cuvier, 1797  
 Subclass : Euthyneura Spengel, 1881  
 Order : Basommatophora Keferstein, 1864  
 Superfamily : Lymnaeacea  
 Family : Lymnaeidae  
 Subfamily : Lymnaeinae  
 Genera : *Corymbina* Bukowski, 1892

*Corymbina rhodensis senestris* n.ssp.

(plate I, figure 5-8)

#### Diagnose

Medium test, with rather thick shell, short spire; four whorls including protoconch, separated last whorl from the spire. First whorls with smooth surface, the rest with ribs parallel to each other (transversal folds), sinistral aperture, with columellar edge compressed and thickened.

#### Description

Medium size test has thick shell. The number of the whorls including protoconch is four. Test has a short spire.

Surface of the first whorls are smooth. Thin growth lines are seen on the following whorls. On the surface starting from the third whorl up to the last, there are parallel ribs. These ribs starting from suture lines, continue regularly towards the front forming a convex arch. The space between the ribs are equal. The last (the fourth) whorl is separated

from the spire. The suture line can be seen up to the aperture. Aperture is sinistral, round and slightly compressed from both sides. Outer lip (labrum) is elongated as a shovel to the opposite side of the columellar edge. In some samples this labrum is slightly curved outwards. The inner part of the aperture is thickened and the ribs become thinner to form a wrinkled pattern.

Measurements of holotype: Height 17,35 mm, width 10,35 mm.

Measurements of paratype: Height 12,30 mm, width 7,40 mm.

#### Coinparisons and Remarks

It resembles to *Corymbina rhodensis* Bukowski but it differs from it by having more shorter spire, to have the last whorl more far away from the columellar axis and to be sinistral rather than dextral as *Corymbina. rhodensis* Bukowski (Bukowski, 1893).

#### Xiocality

Afyon-Gürleyik village.

#### Stratigraphical level

Lower levels of Upper Pliocene.

#### CONCLUSIONS

The systematic and palaeogeographic study of these fossils give the following results:

1) The abundance of *Pyrgula* species shows the characteristics of the facies of Ponti-Caspic, specially Dasic basins of the Paratethys. This proves that the southern border of Paratethys can be drawn further southwards from the presently accepted border.

2) Two new species of *Pyrgula* and one new sub-species of *Corymbina* are established.

**Yayma verildiği tarih:** Nisan, 1975

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## PLATE I

*Pyrgula hoyrani* n.sp.

- Figure 1: Holotype (Aİ. 1), Apertural view,  $\times 8$   
 Figure 2: Holotype (Aİ. 1), Abapertural view,  $\times 8$

*Pyrgula costata* n.sp.

- Figure 3: Holotype (Aİ. 2), Apertural view,  $\times 8$   
 Figure 4: Holotype (Aİ. 2), Abapertural view,  $\times 8$

*Corymbina rhodensis senestris* n.ssp.

- Figure 5: Holotype (Aİ. 3), Apertural view,  $\times 3$   
 Figure 6: Holotype (Aİ. 3), Abapertural view,  $\times 3$   
 Figure 7: Paratype (Aİ. 4), Apertural view,  $\times 3,5$   
 Figure 8: Paratype (Aİ. 4), Abapertural view,  $\times 3,5$

## LEVHA I

*Pyrgula hoyrani* n.sp.

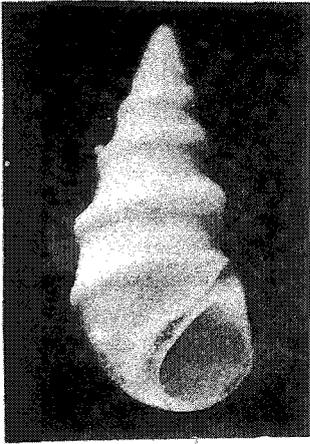
- Şekil 1: Holotip (Aİ. 1), Önden görünüşü,  $\times 8$   
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*Pyrgula costata* n.sp.

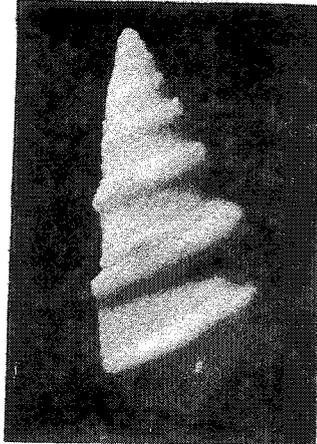
- Şekil 3: Holotip (Aİ. 2), Önden görünüşü,  $\times 8$   
 Şekil 4: Holotip (Aİ. 2), Arkadan görünüşü,  $\times 8$

*Corymbina rhodensis senestris* n.ssp.

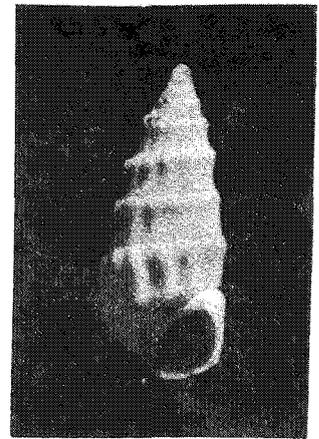
- Şekil 5: Holotip (Aİ. 3), Önden görünüşü,  $\times 3$   
 Şekil 6: Holotip (Aİ. 3), Arkadan görünüşü,  $\times 3$   
 Şekil 7: Paratip (Aİ. 4), Önden görünüşü,  $\times 3,5$   
 Şekil 8: Paratip (Aİ. 4), Arkadan görünüşü,  $\times 3,5$



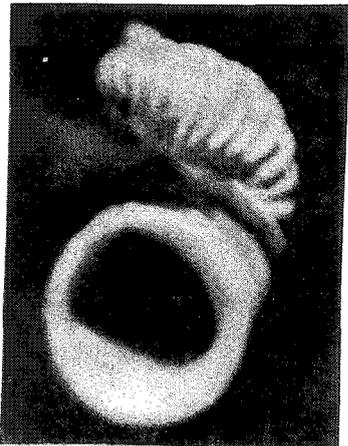
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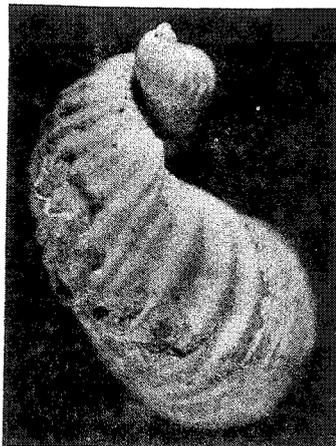
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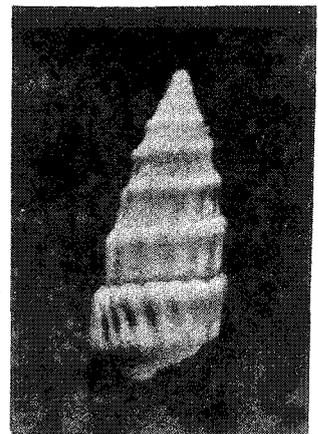
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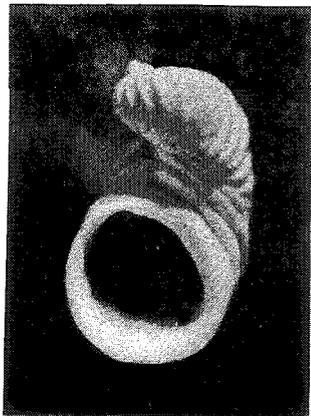
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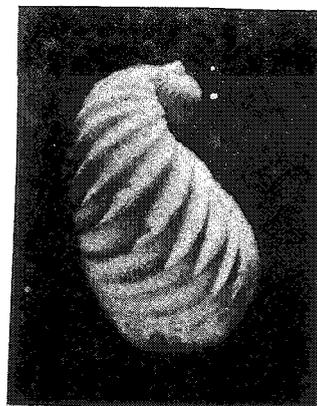
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